

COVID-19 pandemic digitisation lessons for rural women-owned Micro and Small Enterprises



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ARTICLE INFO

Article history:

Received 13 May 2024

Received in rev. form 22 June 2024

Accepted 25 July 2024

Keywords:

COVID-19, Digitisation, Micro And Small Enterprise, Rural Women Entrepreneurs

JEL Classification:
M13

ABSTRACT

The world economy and ecology have undoubtedly been impacted by the coronavirus disease (COVID-19) epidemic. Female-owned micro and small enterprises (MSEs), particularly those operating in marginalised rural economies, are major victims of the COVID-19 outbreak, mostly due to their restricted usage of digital technologies. Digitalisation thus opens up new opportunities for rural women-owned MSEs and can help them remain competitive. The study explored COVID-19 pandemic digitisation lessons for rural women-owned micro-and small-enterprises. Even though the literature on Women Entrepreneurship is well covered, to the best of our knowledge, the intersection between rural women entrepreneurship and digitisation remains largely unexplored, particularly in African economies. A qualitative approach using personal insights to provide COVID-19 pandemic digitisation lessons for women-owned MSEs was used to guide the collection and analysis of the data. The data was collected from a purposive sample of seven women entrepreneurs operating MSEs in the Raymond Mhlaba Local Municipality located in South Africa's Eastern Cape Province and analysed through thematic analysis. The results highlight the critical importance of incorporating digital technology into business operations, stressing the need to prioritise data security, adopting a mobile-first approach, recognising the significance of an online presence, and innovatively developing digital or digitally enhanced offerings. The study's insights provide data-informed insights, as we continue to advocate for inclusive and effective responses to crises such as the COVID-19 pandemic. For rural women-owned MSEs in South Africa, it is clear that digital platforms have been helpful, and while digitalisation alone is insufficient, this research can inform the recovery strategies and policies needed after the pandemic.

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Introduction

In the wake of unprecedented global challenges brought about by the COVID-19 pandemic, the imperative for adaptability and resilience within diverse sectors of society has never been more apparent. As nations grappled with the far-reaching impacts of this public health crisis, one critical facet that demanded meticulous attention is the fate of rural women-owned MSEs. Situated at the intersection of gender, entrepreneurship, and the digital divide, women-owned enterprises have emerged as focal points for understanding the intricate dynamics of economic survival in the face of the pandemic's disruptions (Hadryś-Nowak, 2021). The rapid spread of digital technologies, according to Prlić, Vučković, and Vujačić (2015), created new opportunities for the growth and development of women's small businesses, especially in developing countries. For instance, according to a new report by UN Women (2020), there is clear evidence that digitalisation and the use of technology have helped businesses, particularly female

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owners of micro and small businesses (MSBs), to survive the economic downturn caused by the pandemic. Olsson and Bernhard (2021) reported that, digital transformation offers unique opportunities for entrepreneurial women and opens them up to a digital world in which access to information, innovative business ideas, and employment opportunities are at their grasp. These reports suggest that digital entrepreneurship can be a powerful avenue for women's inclusion in the digital economy, with new business opportunities, efficiency gains, and better access to markets and global value chains (Ojo, Mafimisebi & Arndt, 2022).

Of concern, however, is the fact that women entrepreneurs are much less represented in the digital economy than men, especially in developing economies (Olawejaju & Fernando, 2020). This gender gap is due to several factors, including gender bias, lower participation in decision-making processes, limited digital skills, lack of trust, and unequal access to funding (McAdam, Crowley & Harrison, 2020). Khalil, Abdelli and Mogaji (2022) proffer that the lack of digitisation, technology adoption, and limited online presence of women MSEs made the pandemic even more damaging for them and increased their vulnerability. This disparity translates into missed economic opportunities and may aggravate existing gender inequalities (United Nations, 2022). Thus, to understand how to increase women's participation in the digital economy it became critical for the study at hand to explore the valuable lessons learned from the digitisation journey of rural women-owned MSEs. Through an exhaustive exploration of empirical evidence, this study aims to contribute significantly to the discourse on fostering resilience and empowerment of rural women-owned MSEs in the context of the COVID-19 global health crisis. In so doing, it not only sheds light on the impact of the pandemic on these enterprises but also elucidates the pivotal role that digitisation plays in shaping their trajectory, offering invaluable insights for policymakers, researchers, and practitioners.

While the broader implications of digitalisation for MSEs have been well-documented (Kusumawardhani, Falentina, Bachtiar, & Indrio, 2022; Wang, 2016; Kusumawati et al., 2023; Mulyati & Murwadi, 2024; Adetowubo-king, Olatoye & Oladipo, 2024), there is a lack of focused studies that capture the specific experiences and lessons learned by rural women entrepreneurs during the pandemic. Understanding these dynamics is crucial for informing policies and interventions aimed at closing the digital gender gap and promoting inclusive economic development in line with Sustainable Development Goals 5 (gender equality) and 8 (decent work and economic growth). Furthermore, the available studies (e.g., Singh, Alok & Banerjee, 2023; Urban & Moetse, 2024; Akeju, 2024) often do not delve deeply into the context-specific experiences of rural women-owned MSEs, which are uniquely positioned at the connection of gender, entrepreneurship, and the digital divide. This study thus aimed to explore COVID-19 pandemic digitisation lessons for rural women-owned micro-and small-enterprises. In doing so, the study involved seven women entrepreneurs from Raymond Mhlaba Local Municipality in South Africa's Eastern Cape Province, selected via snowball sampling. Semi-structured interviews were conducted following research ethical guidelines to gather qualitative data on the participants' experiences and perceptions during the COVID-19 pandemic. Furthermore, thematic analysis was used to transcribe and analyse interview data, generating preliminary codes and identifying key themes emerging from the study.

The remainder of this paper is organised as follows: In the subsequent section, we discuss the literature background of the study with insights on women entrepreneurship and digitisation during the pandemic. This is followed by the methodology applied and the established results. A discussion of the findings is then outlined, followed by the research implications, limitations, and future research directions. Finally, we present the conclusions of this study.

Literature Review

The Concept of Rural Women Entrepreneurship

Rural women entrepreneurs serve as a driving force for sustainable economic growth and community empowerment (Mishra & Kiran, 2012). Rural women entrepreneurs engage in various sectors, including agriculture, handicrafts, and small-scale industries, showcasing the potential for sustainable development and poverty alleviation in rural areas (Obi, Okechukwu & Egbo, 2017). The concept of rural women entrepreneurship involves women in rural areas establishing, managing, and growing businesses, which not only benefits their financial well-being, but also contributes to their communities' overall development (Gautam & Mishra, 2016; Mashapure et al., 2022). These entrepreneurs face unique challenges such as limited access to resources, education, and market opportunities. However, successful initiatives have focused on overcoming these barriers by providing training, credit access, and supportive networks. The concept of rural women entrepreneurship highlights gender equality and recognises women's vital role in driving socioeconomic progress in traditionally underserved regions. Empowering rural women entrepreneurs helps build resilient and inclusive communities while promoting economic growth (Ghouse et al., 2017; Mashapure et al., 2023).

The growth of rural women entrepreneurship in South Africa has come about as a response to the unprecedented levels of unemployment and some years of gradual economic meltdown. Women engagement into rural-based small ventures has potential benefit for South Africa as it will stimulate economic development not only for the rural areas but across the whole country, which helps in the reduction of crime and the fight against unemployment (Mandipaka, 2014; Karasi, 2018). However, the nature of their entrepreneurship activities has seen them being concentrated in low productive and low return informal micro-sized ventures (Ganle, Afriyie & Segbefia, 2015; Gavigan, Cooney & Cipriks, 2022). In concordance with Itani, Sidani, and Baalbaki (2011), this is a direct result of a lack of adequate government support, limited capacity building from civil society organisations (CSOs), and inadequate funding of women entrepreneurial ventures. A study by Davis (2011) has shown sharp differences between rural women entrepreneurs and their urban counterparts with the former tending to be more vulnerable to entrepreneurial challenges. The major

differentiating factors were identified as access to service delivery, information, funding, requisite business skills, and networking opportunities (Civera & Meoli, 2023; Shoma, 2019). Due to the differing nature of rural women entrepreneurship to that of urban women entrepreneurship, rural-based enterprises are more vulnerable than urban-based enterprises (Karasi, Shambare & Nkondo, 2017; Kille et al., 2022). Without adequate public and private formal support, rural women entrepreneurship in South Africa is highly likely to continue facing severe operating challenges as there will be no enabling environment and there will be a lack of inclusive growth.

Rural Women Participation in Digital Entrepreneurship

In the ever-evolving landscape of entrepreneurship, rural women-owned businesses play a crucial role in economic development. The intersection of rural women entrepreneurship and digital technologies has become a focal point with studies highlighting the potential for digital literacy programs to enhance skills in utilising the internet for business (Hamid et al., 2020). Paoloni et al. (2019) point out that digital technologies have been recognised as catalysts for empowerment among rural women and have been identified as a valuable tool in overcoming constraints and creating more favourable network environments for women entrepreneurs. Research in this area delves into the transformative potential of technology in enhancing women's socioeconomic status, entrepreneurial ventures, and overall well-being (Kusuma, Tutiasri, Romadhona & Khasanah, 2020). Studies have shown that, in the digital era, the growth of entrepreneurial activities carried out by rural women is increasing (Saranya & Chandrasekar, 2021; Kusuma et al., 2020; Yadav, Paliwal & Chatradhi, 2022). Nevertheless, women, especially those who live in rural areas or those with a low educational level, still present difficulties with accessing and limited digital competence, which prevents the satisfaction of their training needs, health and leisure, and the use of digital services (Vaughn, Harrell & Dayton, 2015). Focusing on women living in rural areas, Sánchez and Sánchez (2017) established a combination of access problems, a lack of digital skills, and negative attitudes as the main problems for the effective incorporation of rural women into digital technologies. As technology has developed into an indispensable part of the modern-day business environment, proprietors of women businesses need to be aware of the necessity of preserving their presence online (Anzak, Sultana & Zeeshan, 2023).

According to Chatterjee, Gupta and Upadhyay (2020), women who run necessity businesses benefit from having technology facilitators, such as younger family members or friends who are more familiar with technology and can guide them through the process of adopting digital platforms. Additionally, women's businesses perform better on digital platforms when their location is close to the platform's customer base, because it reduces delivery time and cost (Olsson & Bernhard, 2021). It is unsurprising that owning a smartphone is an essential prerequisite for micro and small businesses to start utilising digital platforms and reaping their benefits (US Women, 2021). A range of other factors also impact the adoption and utilisation of digital platforms by women-owned small businesses. For example, Erumi-Esin and Heeks (2015) identify compatibility, owner/manager support, employee IT skills, financial costs, government policies, and social influence as key factors in the adoption of digital tools by women-owned small businesses. Similarly, Gardašević, Carić and Brkanlić (2022) emphasize the importance of social media, integrated marketing communication, and social customer relationship management in increasing the visibility and reachability of women's small and medium enterprises. However, Akkeren et al. (2020) underscore the perceived lack of business benefit, mistrust of the IT industry, and lack of understanding of internet technologies as inhibitors to the adoption of internet technologies by small businesses.

Digital Technologies and Micro and Small Enterprises During Covid-19

While the COVID-19 pandemic has had cross-industry influences, micro and small enterprises have been even more profoundly influenced (Shafi, Liu & Ren, 2020). Indeed, MSEs have lower capital reserves, less inventory, lower productivity than larger businesses, and are mostly dependent on one-on-one transactions, rendering them more vulnerable to crises (Liu & Cheng, 2018). Also, in times of crisis, small companies and leaders face obstacles. While MSEs might not have significant overheads, they are also financially committed to employee wages and facility costs (Xu et al., 2020). Owing to their scale and versatility, MSEs are seeking new markets and are designing evolving strategies for sustainable business activities. Yet, the COVID-19 pandemic has exposed the frailty and vulnerability of many developing nation MSEs. The impact of COVID-19 restrictions has disproportionately affected MSEs compared to their larger and global counterparts (Kaberia & Muathe, 2021). These restrictions, including lockdowns, capacity limitations, and stringent health protocols, created significant challenges for MSEs, hindering their ability to operate and sustain their businesses. The stringent measures disproportionately burdened MSEs, amplifying the economic disparities between small businesses and larger entities. The use of digital technologies was however crucial for MSEs in maintaining business continuity during the COVID-19 pandemic (Dyussebayeva, Urazmagambetova & Rakisheva, 2023; Akpan, Effiom & Akpanobong, 2023; Akpan, Soopramanien & Kwak, 2021). According to Bai, Quayson and Sarkis (2021), the utilisation of digital tools not only kept operations running smoothly but also opened up new avenues for innovation and resilience, underscoring the pivotal role of technology in navigating the challenges of the pandemic for MSEs. Digital payments, mobile money, and digital marketing have been identified as key priorities for MSEs in this context (Hlabeli, 2020). Overall, digitalisation has been shown to be crucial for the long-term viability and performance of SMEs and the COVID-19 pandemic accelerated this need for people to be digitally networked. Business activities migrated almost exclusively online overnight and those without digital connections were left out and, as a result, livelihoods for many were lost.

Research Methodology

Participants

The study comprised seven women entrepreneurs from operating MSEs in Raymond Mhlaba Local Municipality located in South Africa's Eastern Cape Province. According to Ngumbela (2023), the Eastern Cape Province is witnessing a surge in rural women's entrepreneurial activities. The women entrepreneurs participated voluntarily through snowball sampling and the sample was diverse in terms of age, size of business, and industry representation, as shown in Table 1, which summarises the participants' demographic information.

Table 1: Sample Profile of Respondents (n=7)

Participant	Business operated	Marriage status	Age	Education level
1	<i>Events and Catering Services</i>	Married	38	Tertiary
2	<i>Handmade Crafts Shop</i>	Married	47	Primary
3	<i>Bed and Breakfasts</i>	Divorced	32	Tertiary
4	<i>Herbal Apothecary</i>	Single parent	27	High school
5	<i>Organic Farm</i>	Widowed	52	High school
6	<i>Home Bakery</i>	Single	45	Tertiary
7	<i>Tutoring Services</i>	Married	29	High school

Source: Authors

Procedures

The procedures used in this study were in compliance with the University of Fort Hare's Research Ethics Policy and were approved by the Institutional Research Ethics Committee (Project Number: DON001-22). The study employed a qualitative approach that involved collecting data through interviews to gain a deeper understanding of the experiences, observations, feelings, emotions, thoughts, and social and economic changes that occur (Aspers & Corte, 2019). Semi-structured interviews were conducted, providing researchers with the opportunity to explore the phenomenon, comprehend the issue, and gain insight into the diverse experiences of the participants (Nguyen, 2015). The snowball sampling technique was used to conduct semi-structured interviews. This technique involves identifying and accessing specific participants through social networks (Handcock & Gile, 2011). The initial participant serves as a source to connect with the next participant following the snowball pattern. In this study, a few women entrepreneurs were identified through social circles, and they served as a source to further identify and access women entrepreneurs. Participants were fully informed about the research question, advantages of the study, format and method of data collection, and confidentiality policies before data collection began. Participants were then given the opportunity to ask questions and were asked to verbally consent to participate before the interviews began, if they were interested in taking part. The interview was planned at the convenience of the participants once informed consent had been provided. After obtaining the entire study information, a few participants decided not to participate in the interviews, primarily because of a lack of time. A research assistant was hired to aid participant eligibility screening and data collection through semi-structured qualitative interviews. The semi-structured interviews included a series of open-ended questions to better explore the study phenomenon. The interviews lasted 20 to 30 minutes each. All interviews were conducted in March and April 2023.

Data Analysis

The transcripts from the digital recordings were transcribed verbatim and then analysed using thematic analysis (Feenstra, Mak-van der Vossen, Schijven & van Dijkum, 2023). The analysis process began with an initialisation phase, during which the researchers read and reread the transcripts to derive meaning, resulting in the production of preliminary codes. Coding is a process that reduces the amount of raw data to what is relevant to the research question, breaks down the data into manageable sections, and takes researchers through the transformation of raw data (Abeyasiriwardana et al., 2022). The final step of the initialisation process entails writing reflective notes, a procedure that enables researchers to adhere to participants' viewpoints and enhances the validity of theme development. After the completion of coding, themes generation was commenced by categorising different codes into related clusters. The themes were then assigned names and clear definitions to make sense of the fundamental ideas that emerged from them. The classification of all defined themes was verified by comparing them with the original transcript. The final analysis and writing of the results were then performed. This last stage entailed a comprehensive written commentary that described and made connections between different themes and participant quotations. The main goal of the study was also addressed during the finalisation phase.

Trustworthiness and Rigour of The Study

The credibility, transferability, dependability, and reflexivity of this study were established using rigorous methods outlined by Mtsweni (2018). To ensure that the results of this study can be transferred to other contexts, a detailed methodology was provided, including information on the study site, participants, and data collection procedures. Furthermore, to ensure the trustworthiness of the study, the analytical techniques were thoroughly described. Additionally, all interviews were conducted using a single interview

schedule created by the researchers. The researchers ensured that they did not rely on their own understanding or preconceived notions of the data. They reflected on what the data actually states by comparing the descriptive text of themes derived to original data (Sundler et al., 2019). This also allowed participants to speak freely during the interviews increased the credibility of the study. In addition, before, during and after the development of the interview questions, data analysis and coding process, the researchers engaged in an ongoing peer debriefing and consultation to ensure credibility. Verbatim transcripts of participants' comments were provided to support the confirmability of the study. The deliberations made by the research team during the course of this investigation were recorded in a reflective journal. Finally, the findings were presented clearly to facilitate understanding and transferability to a broader context and/or other research. The research also adhered to research ethics protocols and the limitations of the study were included to facilitate transferability.

Findings and Discussion

Findings

The results from the study are outlined in the subsequent sections, commencing with the challenges emanating from the COVID-19 pandemic for women operating in the informal food sector. In this section, we examine the outcomes of our study in detail. Specifically, the results highlight the critical importance of incorporating digital technology into business operations, stressing the need to prioritise data security, adopting a mobile-first approach, recognising the significance of online presence, and innovatively developing digital or digitally enhanced offerings. These dominant themes emerged as COVID-19 pandemic digitisation lessons for the seven rural women entrepreneurs interviewed.

Creating Digital or Digitally Enhanced Offerings

Delving into the sentiments expressed by participants amidst the tumultuous landscape of the COVID-19 pandemic, the need to create digitally enhanced offerings was noted as a significant digitisation lesson learned by the rural women entrepreneurs. Analysing the participants' sentiments indicates that the shift to digitally enhanced services seems to have played a crucial role in helping them adapt to the new normal, find new avenues for growth, and facilitate novel ways of connecting with customers. This is highlighted by the following responses.

During the pandemic, we discovered that digital innovation provided us with the resilience and adaptability necessary to overcome the challenges. By offering digitally enhanced services, we not only adapted to the new normal but also discovered unprecedented opportunities for growth (P6, 45 years old, type of business - Home Bakery).

Developing digital services allowed us to connect with our customers in novel ways and revolutionized the very essence of our small business (P7, 29 years old, type of business - Tutoring services)

The mention of immense digital transformation indicates that these entrepreneurs experienced comprehensive change in their business processes through digitally enhanced offerings. Such transformations as expressed by the participants increased their competitiveness. Furthermore, it is clear from the participants that the integration of digital offerings resulted in a digitally savvy iteration for their small businesses. This evolution signifies a strategic embrace of technology that simultaneously presents boundless opportunities and empowers women entrepreneurs.

The pandemic compelled us to leave our comfort zone, and the outcome was digital transformation. Our small business flourished by embracing digitally-driven solutions, demonstrating that even in the face of adversity, there is room for growth, adaptation, and success (P3, 32 years old, type of business - Fast food outlet)

The pandemic urged us to rethink our business model, and what emerged was a digitally savvy version of our small business. We learned that the digital realm offers endless possibilities, and our journey through this transformation has been nothing less than empowering (P1, 38 years old, type of business - Events and catering services).

The Capacity of Online Presence

Examining the study results revealed that the participants understood the importance of a strong online presence as a key lesson in their digital transformation process. By establishing a robust online presence, they were able to reach a larger audience and engage with customers effectively breaking distance barriers, emphasizing the significance of a strong digital footprint in navigating the contemporary business environment and seizing new opportunities. In terms of engaging with consumers through an online presence, some participants said the following:

As a woman entrepreneur in a rural area, the pandemic made me reconsider my business operations. Although embracing the digital world was intimidating at first, I eventually discovered the capacity to have online presence. By utilizing our website and social media, we were able to connect with customers from far beyond our local community (P4, 27 years old, type of business - Herbal Apothecary).

The pandemic has demonstrated that physical distance is irrelevant when there is a robust online presence. We connected with customers worldwide, transforming our small business into a hub of creativity and togetherness (P2, 47 years old, type of business - Handmade Crafts Shop Owner).

As the world turned digital, our small countryside farm joined by launching an online platform. On this platform, we not only sold fresh produce but also shared our experiences with our customers (P5, 52 years old, type of business - Organic Farm).

One participant's emphasis on the importance of establishing robust online presence highlights the transformative potential of digital visibility. By having a strong online presence, businesses can unlock a wealth of opportunities, including access to a wider customer base, an expanded market reach, and the ability to explore diverse prospects. This underscores the significance of a robust online presence in today's digital age, which can be a game changer for businesses seeking to expand their reach and tap into new markets.

The Internet spanned not only distance, but also unlocked new markets, opportunities, and a promising future for my business. Despite the difficulties, our online existence served as a symbol of tenacity and expansion (P6, 45 years old, type of business - Home Bakery).

Mobile First Approach

The pandemic highlighted the importance of a 'mobile-first' strategy for rural women entrepreneurs. Realising the widespread availability and accessibility of mobile devices, these businesswomen prioritised mobile platforms to expand their reach, improve customer interaction, and effectively run their enterprises amid unprecedented difficulties. This change underscores the significant influence of mobile technology as the primary force behind digital initiatives, in line with the evolving consumer behaviour and market trends.

During the pandemic, we adopted a mobile-first approach, which served as a driving force behind the digitisation of our services. The accessibility and efficiency provided by mobile technology not only allowed us to maintain connections but also enhanced productivity (P7, 29 years old, type of business - Tutoring services).

Our journey towards digitisation started during the pandemic with the decision to go mobile. It revolutionized the way we operate and engage with our community (P6, 45 years old, type of business - Home Bakery).

Shifting to a 'mobile-first' approach was not merely a strategic decision but an essential adaptation for rural small businesses amidst the challenges posed by the pandemic.

At the heart of rural entrepreneurship, integrating mobile technology was not just a choice; it was a necessity during the pandemic to avoid complete isolation within the business environment (P5, 52 years old, type of business - Organic Farm).

One participant emphasized the critical role of owning a smartphone during this period. The smartphone became more than just a communication device; it became the gateway for survival and growth. With limitations on physical interactions and movement, having a mobile-centric strategy allowed these businesses to reach customers, manage transactions, and access vital information remotely.

While I was not particularly concerned with owning a high-end smartphone, my daughter often teased me for being behind the times. However, I have come to realize that mobile smartphones are not just a passing trend; they served as a lifeline for our rural owned business during the pandemic. By facilitating digitisation, these devices helped us become more resilient and adaptable in the constantly changing business world (P2, 47 years old, type of business - Handmade Crafts Shop Owner).

Need for Prioritising Data Security

As we delved deeper into our analysis of the results, a notable theme emerged, emphasizing the critical importance of prioritising data security. A few participants highlighted this as a key lesson drawn from their digitisation efforts in response to the challenges imposed by the COVID-19 pandemic. In the wake of increased reliance on digital platforms, the awareness of potential vulnerabilities and the necessity to safeguard sensitive information became more pronounced. This is clearly demonstrated by the following observations.

As a female entrepreneur, I understand that safeguarding the security of our business data is not only about protection, but also about preserving our dreams and hard work (P1, 38 years old, type of business - Events and catering services).

Not like I know someone who was affected but from the little information I gathered in the news they are people out there who steal information (sighs). As my business embraced digitisation to sell our organic produce online protecting our customer data became important (P7, 29 years old, type of business - Tutoring services).

The Participant Further Elaborated:

Ensuring the safety of our data was not only about safeguarding information, but also about securing the future of our business. By implementing robust online security measures, we were able to protect ourselves against an increasing number of cyber threats and navigate the digital landscape with confidence. In today's world, where data is the new currency, investing in cybersecurity was crucial for the long-term success and sustainability of our small enterprise (P7, 29 years old, type of business - Tutoring services).

The realisation that has emerged not only highlights the adaptability of these entrepreneurs, but also underscores the critical connection between technological advancements and the need to maintain the confidentiality and integrity of business data. As data

security is an essential aspect of the ongoing digital transformation, rural women entrepreneurs strive to ensure that the benefits of digitisation are not undermined by the potential risks associated with cyber threats. As they continue to navigate the digital world, the lessons learned from the COVID-19 experience serve as a guiding principle for their pursuit of secure and sustainable business operations.

Integration of Digital Technology in Business Operations

The integration of digital technology in small business operations emerged as a vital lifeline during the unprecedented challenges posed by the pandemic as attested by the study participants. The adoption of digital tools and platforms allowed small businesses to not only survive but thrive in the face of disruptions. Thus, technological advancements played a pivotal role in optimising various aspects of their operations, ranging from remote work facilitation to streamlining supply chain management. The following are some of the sentiments shared by the women entrepreneurs.

The pandemic forced us to reevaluate how we operate, and integrating technology, such as the EFT payment system, was the lifeline we needed. Our small business is proof that, even in rural areas, going digital can open opportunities (P1, 38 years old, type of business - Events and catering services).

I drew inspiration from the private medical sector. My herbal products and general consultations are highly sought after. As a matter of fact, I was running late for this interview because I was conducting an online consultation with a client. Despite the fact that we are often referred to as somewhat rural areas, we are keeping up with big cities (laughs) during the pandemic, my clients were able to receive herbal advice and prescriptions without having to come to see me in person (P4, 27 years old, type of business - Herbal Apothecary).

Moreover, the integration of digital technology fostered innovation in product and service delivery, as businesses explored new ways to engage with customers through online channels. For instance, one participant noted how they were able to handle the influx of online queries, through chatbots and automated customer service solutions. Another participant who offers tutorial services noted digital tools such as Zoom, Microsoft Teams, and Slack to facilitate remote work. This demonstrates the ability of digital integration as an integral component of small business strategies for sustainable success.

Our operations have been optimized because of technological advancements. Ironically, we only realized this during the COVID-19 lockdown. In my business, there was a shift in customer purchasing habits as everything moved online. We implemented chatbots and automated customer service solutions to address the influx of online queries. This allowed us to provide prompt responses and enhance customer satisfaction (P1, 38 years old, type of business - Events and catering services).

So, I wouldn't talk about goods as I am a service business offering private tutorials to high school students. During covid we had so much to learn. For instance, we implemented collaboration tools such as Zoom, Microsoft Teams, and Slack to facilitate remote work. Video conferencing, file sharing, and virtual collaboration tools became essential for maintaining productivity (P7, 29 years old, type of business - Tutoring services).

Discussion

Among the numerous digitisation lessons learned, the paramount significance of creating digital or digitally enhanced offerings emerged as a beacon of resilience, for rural women-owned micro-and small-enterprises during the COVID-19 pandemic. Digital or digitally enhanced offerings as allayed by Kurniawati et al. (2021) allowed these enterprises to diversify their business models, expand their market reach, and tap into a global audience through online platforms and e-commerce. In support, although not directly linked to rural women entrepreneurs, several similar studies established that the digital offering by micro-and small businesses has emerged as a key factor in their resilience during the pandemic, thus helping them to maintain income and business continuity (Supari & Anton, 2022; Rashid et al., 2021). In another study, Khurana, Dutta and Ghura (2022) established that digital or digitally enhanced offerings allowed small enterprises to diversify their business models, expand their market reach, and tap into a global audience through online platforms and e-commerce during the pandemic. The significance of creating digital or digitally enhanced offerings is closely linked to the integration of digital technologies into business operations. As indicated by the participants, this integration emerged as a critical lesson in digitisation for small business survival during the pandemic. Small businesses that swiftly recognised the importance of digital integration found themselves better prepared to navigate the disruptions caused by COVID-19. Khalil, Abdelli, and Mogaji (2022) noted that the integration of digital tools enabled small, medium, and micro-sized enterprises (SMMEs) to streamline processes, enhance efficiency, and make data-driven decisions, contributing to their overall resilience. Cong, Yang and Zhang (2021) further highlight the economic benefits of digitisation for small businesses, including increased resilience, sustainable cash flow, and a positive growth outlook. Meanwhile, Diaz and Deni (2022) emphasize the effectiveness of digitalisation in sustaining SMMEs, particularly through online business operations. These findings collectively demonstrate the transformative impact of integrating digital tools by SMMEs, enabling them to streamline processes and overcome the challenges posed by the pandemic. Nevertheless, Bianchini and Kwon (2021) argue that challenges in integrating digital tools for small businesses still exist, highlighting lack of awareness and knowledge about the available digital technologies as holding back digital uptake by small businesses.

Our data also suggests that the capacity of online presence emerged as a powerful digitisation insight for the women-owned small businesses during the pandemic. Aligning with this study finding, Olsson and Bernhard (2021) established that, as lockdowns and

social distancing measures reshaped consumer behaviour, the ability of small businesses to establish and enhance their online presence became a determining factor for survival and success. Lavilles, Tinam-Isan and Sala (2023) further note that the pandemic highlighted the importance of online presence for women small businesses, with social media playing a crucial role in their empowerment. Within the South African context, a report by iAfrica (2022) states that, despite the adversities during the COVID-19 pandemic years there has been an impressive upsurge in women entrepreneurs in South Africa, which has also resulted in an expansion of digital commerce. This digital lesson serves as a catalyst for long-term growth, illustrating that a strong online presence is not only a survival necessity but a strategic imperative for rural women small businesses in an increasingly digitalised business landscape. As women continue to embrace and leverage digital commerce, their online presence not only contributes to economic empowerment but also challenges conventional norms, reshaping the narrative of women in business in the digital age (Boateng, Boateng & Anning-Dorson, 2023). The potential of online presence for small businesses is significantly enhanced when combined with a mobile-first approach. Several study participants underscored the pandemic's role in facilitating the adoption of a mobile-first approach. This shift is attributed to the need for enhanced business efficiency and sustainability (Rakshit et al., 2021), and has been further expedited by the pandemic's influence on marketing and consumer purchasing patterns (Haryadi, Azhari and Peker, 2021). According to Voelker, Steel and Shervin (2017), businesses with a robust internet presence and essential design elements are more likely to have a mobile-optimised website. This is further supported by Argade et al. (2019), who emphasize the significance of adopting a mobile-first approach in providing a platform for small businesses to reach a broader audience. It is evident from the discussion that incorporating a mobile-first strategy into small business operations should not merely be a response to the COVID-19 pandemic but a forward-thinking investment in meeting the ever-evolving demands of online consumer behaviour. For these entrepreneurs, digitisation presents opportunities for business growth, market reach, and operational efficiency. However, with these advantages come inherent risks related to the collection, storage, and transmission of sensitive business and customer data (Quach et al., 2022). A few of the studied rural women entrepreneurs expressed a need for prioritising data security in digitisation of their small businesses and this highlights a crucial aspect that resonates across diverse business landscapes. In the context of rural women entrepreneurs, this emphasis on data security underscores a growing awareness of the potential risks and vulnerabilities associated with the adoption of digital technologies (Sánchez-Oro & Sánchez, 2017). Lekhanya (2018) argues that, as digitisation continues to shape the future of business, incorporating robust data security measures is not just a technical requirement but a strategic imperative for the long-term success of small businesses in rural contexts. Through prioritising data security, small businesses can ensure their long-term success in the digital economy (Shevtsova et al., 2020).

Implications

Implications for Theory

In recent years, research on women entrepreneurship has expanded at an accelerated rate. Considering the COVID-19 pandemic, rural women's entrepreneurship in emerging economies is an area that requires study attention (Afshan, Shahid & Tunio, 2021). In as much as few studies have made attempts to explore the effect of COVID-19 on women, based on other contexts such as intimate partner violence (Agüero, 2021; Lyons & Brewer, 2022) and depression (Ayaz, Hocaoglu, Günay, devrim Yardımcı, Turgut & Karateke, 2020; Idzik, Leńczuk-Gruba, Kobos, Pietrzak & Dziedzic, 2021), literature is scarce on the influence of the pandemic on women-owned enterprises in South Africa, depicting limited attention to gender aspects of the pandemic on the business environment. From a theoretical standpoint, within the gendered context of entrepreneurship, this paper presents an alternative viewpoint on women's entrepreneurship, emphasizing the promotion of digitisation of rural enterprises within the South African context. Furthermore, although women entrepreneurship in an emerging economy context is widely studied, only a few studies have explored women entrepreneurship during crisis through qualitative interviews. Exploring such studies through explorative qualitative approach allowed us to dig deeper into the rich knowledge and insight into COVID-19 pandemic digitisation lessons for rural women-owned micro-and small- enterprises. Last, this study's originality arises from its contribution to filling the gap in the field of women entrepreneurship within an emerging economy and particularly the under-researched yet increasingly important research area on entrepreneurship during crisis such as the COVID-19 pandemic.

Implications for Policy and Practice

The COVID-19 pandemic has highlighted the significance of digital transformation for micro and small-sized enterprises owned by rural women. Policymakers should hence concentrate on creating a conducive environment through providing targeted assistance, improving infrastructure, and fostering collaboration in order to harness the power of digitisation and promote the resilience and expansion of these rural-based enterprises particularly during times of crisis. Cognisant of the significant gender disparities in access to and utilisation of digital technologies in South Africa, the research underscores the critical need to integrate a gender perspective into the national economic recovery plan in response to the COVID-19 pandemic. To effectively tackle gender disparities, a comprehensive and multifaceted approach is necessary. This includes implementing targeted digital awareness programs, initiatives to bridge the digital skills gap, promoting women's entrepreneurship in the tech sector, and developing policies that foster inclusivity and equality in the digital landscape. Furthermore, raising awareness and challenging gender stereotypes can contribute to a more equitable and inclusive digital future in South Africa. More importantly, there is need for cross-sectoral collaboration among-multi-stakeholders, including government and the private sector to ensure that rural women participate in socioeconomic opportunities as South Africa moves towards full COVID-19 recovery. Apart from general digitalisation support, the government should implement

dedicated programmes to enhance cybersecurity of small business during crisis such as tailored monitoring and consultation of the businesses' cybersecurity risks, support on acquiring and implementing cybersecurity solutions, and on-site training on cybersecurity practices. It is important for women enterprises to invest in user-friendly, mobile-based applications for business transactions and marketing as this enables these entrepreneurs to overcome barriers related to access and usability. Last, leveraging social media platforms for online presence and marketing outreach can also be instrumental in expanding their customer base.

Conclusions

This research examined the valuable insights that emerged from the intersection of the COVID-19 pandemic and the digital transformation process undertaken by rural women-owned MSEs. Our findings provide a comprehensive framework for understanding the implications of these insights on theoretical foundations, offering a nuanced perspective on the evolving landscape of rural entrepreneurship. Specifically, the results highlight the critical importance of incorporating digital technology into business operations, stressing the need to prioritise data security, adopting a mobile-first approach, recognising the significance of online presence, and innovatively developing digital or digitally enhanced offerings. The lessons learned from this challenging period emphasize the importance of continued investment in digital technologies to ensure not only survival but sustained growth and competitiveness in the ever-changing global marketplace. Therefore, accelerating digital adoption by rural small businesses should be viewed as crucial for economies to recover from the pandemic and build the foundations for future resilience. Although digitalisation alone may not be sufficient, this research can inform recovery strategies and policies needed for the development of rural women entrepreneurship in South Africa.

Limitations and Directions for Future Research

Although the study presents intriguing results, it is important to acknowledge certain limitations. For instance, the study was time-specific and focused on a particular issue, which may restrict the applicability of its findings to different issues or timeframes. Secondly, the use of the snowball sampling technique might have impeded the selection of a genuine representation of the study population. Furthermore, the study was only conducted in one municipality in the Eastern Cape, which could affect the study's generalisability. Another limitation of the study was that fewer women participants participated than expected and the discrepancy in participation could be attributed to a lack of familiarity with the digital context in their businesses, which might indicate a broader gap in digital literacy or awareness. The study's limitations offer opportunities for additional research to broaden its scope. Future research could expand the study to other South African provinces for a more comprehensive examination. Additionally, incorporating a quantitative or mixed-methods approach could enhance the generalisability of the results, as the study employed an exploratory qualitative methodology. Thirdly, replicating the study in other developing countries could offer a more comprehensive understanding of the phenomenon under investigation. Lastly, more research is needed to assess cybersecurity issues affecting rural businesses, particularly as they adopt digital technologies. This knowledge could inform the development of tailored strategies, policies, and support mechanisms to enhance cybersecurity resilience in these specific contexts.

Acknowledgements

We extend our sincere appreciation to the participants of this study whose time, insights, and experiences were integral to the research process. Their willingness to engage in interviews and provide valuable data significantly enriched the depth and quality of our findings. We would also like to express our gratitude to the University of Fort Hare for fostering an atmosphere of intellectual curiosity and collaboration, enhancing the overall quality of the study. Lastly, we would like to express our gratitude to the anonymous reviewers and editorial team of the *International Journal of Business Ecosystem & Strategy* for their constructive feedback and guidance during the peer-review process. Their insights significantly strengthened the final version of this article.

All authors have read and agreed to the published version of the manuscript.

Author Contributions: Conceptualization, G.D., and T.C.; methodology, G.D., and T.C.; validation, T.C.; formal analysis, G.D., and T.C.; investigation, G.D.; resources, T.C.; writing—original draft preparation, G.D.; writing—review and editing, G.D., and T.C.

Funding: This research did not receive any funding support.

Informed Consent Statement: Informed consent was obtained from all the subjects involved in the study.

Data Availability Statement: The data presented in this study is available upon request from the corresponding author. The data is not publicly available due to restrictions.

Conflicts of Interest: The authors declare no conflicts of interest.

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