RESEARCH PAPER

Understanding Digital Tools Awareness, Adoption Challenges, And Growth Opportunities In Rural Entrepreneurship

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Abstract

Background: E-marketing has become an imperative tool for business growth, offering reasonable ways to expand market reach and improve customer interaction. However, rural entrepreneurs are still facing multifaceted challenges in adopting digital marketing due to limited digital literacy, infrastructural constraints, and low awareness. Understanding these factors is crucial for improving rural digital inclusion. The aims is to assess the level of e-marketing awareness, identify barriers to adoption, and explore opportunities for digital marketing among rural entrepreneurs.

Methods: A mixed-method research design was employed involving 180 rural entrepreneurs selected through multi-stage sampling. Primary data were collected through the use of structured questionnaires, semi-structured interviews and focus group discussions. Quantitative data were analyzed using descriptive statistics, chi-square tests and regression analysis, while qualitative data were subjected to thematic analysis. The variables examined included: digital literacy, internet access, government support, awareness and adoption of e-marketing tools.

Results: Awareness of social media was 76.7% and WhatsApp Business was 84.4%, while for SEO and paid advertising it was 15.6% and 24.4%, respectively. The adoption level was moderate, with 68.9% using WhatsApp Business and only 26.7% using e-commerce platforms. Poor internet connectivity was 73.3%, a lack of digital skills was 65.6%, and limited awareness was 57.8%. Regression analysis indicated that digital literacy significantly influences e-marketing adoption ($\beta = 0.482$, $p < 0.001$). Entrepreneurs considered increased customer reach, improved communication, and greater visibility for their products as the chief benefits.

Conclusion:E-marketing offers abundant opportunities for rural business growth. However, adoption remains limited due to infrastructural and skill-related barriers. Targeted digital literacy training, improved connectivity and supportive government initiatives are required for enhancing the integration of e-marketing by rural entrepreneurs.

Keywords: Adoption barriers, Digital marketing tools, Digital literacy,E-marketing, Rural entrepreneurship

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1. Introduction

Digital technologies have become an integral part of modern business, transforming how entrepreneurs communicate, manage resources, access markets, and deliver services. For rural entrepreneurship, digital tools such as mobile-based applications, online payment systems, cloud platforms, social media, and e-learning resources offer tremendous potential to enhance efficiency and expand business opportunities. However, despite the global shift toward digitalization, rural entrepreneurs often remain significantly behind their urban counterparts in terms of digital tool awareness, accessibility, and actual usage. This gap limits their ability to participate effectively in the digital economy, restricts market expansion, and reduces their overall competitiveness. Rural entrepreneurs increasingly recognize the potential benefits of digital tools, yet their use of advanced technologies remains limited. Rural micro-entrepreneurs in India are gradually acknowledging the value of digital platforms for communication, financial transactions, and business promotion, but the adoption of advanced tools is still inconsistent and underdeveloped (Goel, Veluri & Mishra, 2024). Similar findings from developing regions reveal that awareness is often restricted to basic applications such as WhatsApp and Facebook, while more specialized tools—digital accounting systems, online payment gateways, or e-commerce platforms—are rarely used (Thomas, 2023). This highlights the critical role of digital literacy in shaping the digital readiness of rural entrepreneurs. Digital competency not only strengthens their confidence in using technology but also enhances business decision-making, financial empowerment, and access to market information (Saranya & Chandrasekar, 2021).

Infrastructure challenges pose another significant barrier to digital adoption in rural areas. Many rural regions continue to face unreliable internet connectivity, poor network coverage, unaffordable data costs, and limited access to smartphones or computers. Such infrastructural constraints severely hinder digital integration into business activities. For instance, studies from Namibia show that limited electricity supply, high data charges, and inadequate access to digital devices significantly restrict the use of ICT tools among rural entrepreneurs (Kamutuezu, Winschiers-Theophilus & Peters, 2021). In addition to these structural issues, psychological and financial concerns—such as fear of cyber fraud, data misuse, and uncertainty regarding online payment security—further discourage entrepreneurs from adopting digital tools. Evidence from Kenyan small businesses demonstrates that cost perceptions and security concerns remain major inhibitors of digital adoption (Omoga, 2019). Yet,

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despite these challenges, the opportunities presented by digital technologies for rural entrepreneurship are profound. Digital tools can reduce geographical limitations, improve communication, enable direct customer engagement, enhance transparency, and create pathways to national and global markets. In the agricultural sector, digital platforms have been shown to increase product visibility, build consumer trust, and enhance long-term engagement (Zia & Alzahrani, 2022). Moreover, digital innovation supports business diversification, reduces dependency on intermediaries, and improves overall operational efficiency. Rural entrepreneurs who adopt digital solutions are better positioned to scale their businesses, streamline workflow, and adapt to changing market conditions (Nipo et al., 2024). Governments, NGOs, and development agencies are increasingly promoting digital inclusion to support rural entrepreneurship by improving digital skills, expanding infrastructure, and encouraging participation in digital financial and e-commerce ecosystems. However, the persistent gap between digital awareness and actual adoption underscores the need for more context-specific strategies. Understanding the current level of awareness, identifying key challenges, and exploring emerging opportunities is essential for strengthening digital participation among rural entrepreneurs. This introduction sets the foundation for analyzing how awareness, literacy, infrastructure, and perceived benefits shape the adoption and future growth of digital tools in rural entrepreneurship.

Research Objectives

1. To assess the level of awareness of e-marketing among rural entrepreneurs.
2. To identify the key barriers preventing rural entrepreneurs from adopting e- marketing strategies.
3. To examine the impact of digital literacy on the adoption of e-marketing among rural business owners.
4. To explore the opportunities that e-marketing offers for the growth and sustainability of rural enterprises.
5. To analyze the role of government policies and support programs in promoting e-marketing adoption among rural entrepreneurs.

2. Preliminary work done

Existing preliminary research on digital adoption among rural entrepreneurs provides a valuable basis for the present study, highlighting substantial knowledge gaps and underscoring the need for deeper investigation. Several studies examining the digital transition in rural settings consistently reveal that awareness and adoption of digital tools are significantly lower in rural regions compared to urban areas. For instance, **Goel, Veluri, and Mishra (2024)**, in their systematic review on rural micro-entrepreneurs in India, reported that although the use of basic digital platforms such as social media is gradually increasing, the uptake of structured digital tools—including websites, SEO, and digital advertising—remains limited due to inadequate digital literacy and infrastructural constraints. Likewise, **Saranya and Chandrasekar (2021)** found that among rural women entrepreneurs, familiarity with smartphones is common, yet understanding of formal digital business practices is minimal, signalling an urgent need for digital-skills training and capacity-building initiatives.

In the broader context of ICT-enabled entrepreneurship, **Kamutuezu, Winschiers-Theophilus, and Peters (2021)** highlighted how poor access to electricity, high data costs, and limited technological knowledge restrict rural entrepreneurs in Namibia from effectively engaging with digital services, confirming that infrastructural deficiencies continue to be major barriers. Similarly, **Omoga (2019)** documented that perceived high costs, security risks, and mistrust in online platforms substantially hinder digital tool adoption among small businesses in Kenya, thereby illustrating the influence of financial and psychological constraints on adoption behaviour.

At the same time, the transformative potential of digital tools has been well-established in multiple sectors. For example, **Zia and Alzahrani (2022)** showed that digital platforms for agricultural products enhance consumer trust, improve information flow, and foster long-term engagement—benefits that rural entrepreneurs across other industries may also harness. Broader reviews, such as those by **Nipo, Lily, Fabeil, and Abdul Jamil (2024)**, further emphasize that digital innovation can expand market access, improve operational efficiency, and enhance income opportunities for rural enterprises. However, these advantages are often undermined by persistent challenges such as poor digital infrastructure and insufficient government-supported digital literacy initiatives. Complementing this, preliminary findings by **Thomas (2023)** indicate that although rural entrepreneurs in Sabah exhibit a positive orientation toward e-commerce, technical difficulties and a lack of support mechanisms continue to constrain actual adoption.

Taken together, these studies reveal recurring themes—low digital literacy, unreliable connectivity, financial barriers, and limited institutional support—that form the backdrop for identifying the current research gaps. Despite the existing body of work, there remains a lack of comprehensive, integrated analysis examining digital tools awareness, adoption challenges, and growth opportunities among rural entrepreneurs within the Indian context. This gap highlights the necessity for further empirical research, which the present study seeks to address.

3. Methodology

3.1 Study Design

This study employs a mixed-method research design that combines both quantitative and qualitative approaches to achieve a comprehensive understanding of e-

marketing awareness, adoption barriers, and emerging opportunities for rural entrepreneurs.

3.2 Study Area

The study is conducted in selected rural districts characterized by agricultural dominance, small-scale enterprises, and traditional craftsmanship.

3.3 Study Population

The study population consists of rural entrepreneurs who operate micro, small, or home-based businesses in the selected villages. This includes agricultural producers, shop owners, artisans, handicraft makers, food processors, and small service providers such as tailors, repair workers, or beauty service operators. These entrepreneurs form the backbone of the rural economy and are increasingly exposed to digital opportunities yet face structural and educational challenges that hinder adoption. Targeting this population allows the study to assess real-world awareness levels, actual e-marketing usage, and specific barriers experienced by grassroots business owners.

3.4 Sampling Technique

A multi-stage sampling technique is used to ensure representativeness and diversity. In the first stage, villages are purposively selected based on criteria such as presence of entrepreneurial activities, variation in internet availability, and accessibility for field work. In the second stage, entrepreneurs within each village are stratified by sector—agriculture, retail, services, and craft-based businesses—to ensure that each type of enterprise is proportionately represented. In the final stage, simple random sampling is used to select respondents from each stratum, reducing selection bias and ensuring that every eligible entrepreneur has an equal chance of participation. This systematic approach helps create a balanced sample that effectively represents the rural entrepreneurial community.

3.5 Sample Size

The sample size for the study is determined using standard social research formulas based on a 95% confidence level and a 5% margin of error. Considering the approximate number of rural entrepreneurs in the selected areas, a sample size 180 respondents is deemed sufficient for meaningful statistical analysis. This sample size ensures adequate power to detect relationships between variables such as digital literacy and e-marketing adoption while maintaining feasibility in terms of data collection.

3.6 Primary Data Collection

Primary data were collected using structured questionnaires, semi-structured interviews, and focus group discussions. The questionnaire has sections on demographic details, digital awareness, frequency and type of e-marketing usage, perceived benefits, and major adoption barriers. It encompasses a mix of closed-ended questions and Likert-scale questions to quantify opinions and behaviors. Semi-structured interviews are held with selected entrepreneurs in order to delve deeper into personal experiences related to digital marketing and challenges they struggle with, and expectations as far as digital adoption is concerned. Also, FGDs will help in capturing the shared views, cultural patterns, common challenges, and collective perceptions about e-marketing at the community level. These methods put together will provide robust primary data for analyses.

3.7 Secondary Data Collection

Secondary data includes existing reports from the government, policy documents on digital development, academic journal articles, NGO publications, and industry studies on rural entrepreneurship and e-marketing adoption. Such information aids in setting the wider context within which primary findings can be interpreted. It identifies national and global trends, initiatives within governments, infrastructure development efforts, and any support systems relevant to rural digital adoption. Secondary data broadens the conceptual framework and further grounds the study's theoretical framework.

3.8 Variables of the Study

Digital literacy, internet access and infrastructural conditions, education level, business sector, and participation in government digital support programs are the independent variables of the study. These determine the dependent outcomes: e-marketing awareness, actual adoption of digital marketing tools, perceived benefits of e-marketing, and barriers to adoption. In this research context, digital literacy is the ability of an entrepreneur to use a smartphone, computer, internet browser, and different e-marketing applications. For this, the availability, speed, affordability, and reliability of internet connectivity are obtained from the rural area chosen for the study. E-marketing awareness and adoption measure knowledge of and actual usage of social media platforms, e-commerce websites, online advertising, and digital payment tools. Perceived benefits and barriers assess the entrepreneurs' evaluation of the outcome of digital marketing and challenges in integrating technology into business operations.

3.9 Data Analysis Techniques

Quantitative data from questionnaires is coded and analyzed with the use of statistical software such as SPSS or Excel. Descriptive statistics summarizing the level of awareness, digital usage, and demographic characteristics of the respondents are presented as frequencies, means, and percentages. Inferential statistics comprising chi-square tests, correlation analysis, and multiple regression are applied in order to identify the relationships between independent and dependent variables, for instance, whether digital literacy predicts e-marketing adoption. Qualitative data obtained from interviews and discussions within focus groups are analyzed thematically, where recurring patterns, opinions, and challenges are coded and sorted into major themes. Such analysis will also provide

explanations for the findings of the quantitative data and introduce contextual insights that cannot be provided by numerical data.

3.10 Ethical Considerations

The study observes ethical guidelines pertaining to informed consent, voluntary participation, and confidentiality. All the respondents are informed about the purpose of the research, uses of their information, and at any time they can withdraw from it without any consequences. It does not collect any sensitive personal data, and all the responses are anonymized in order to ensure privacy. Where necessary, ethical clearance is obtained to ensure that the research meets the academic and institutional standards.

4. Results

A total of **180 rural entrepreneurs** participated in the study. Table 1 summarizes their demographic characteristics. Most entrepreneurs were aged between 31–45 years. The majority had secondary education and operated agriculture-based or retail businesses.

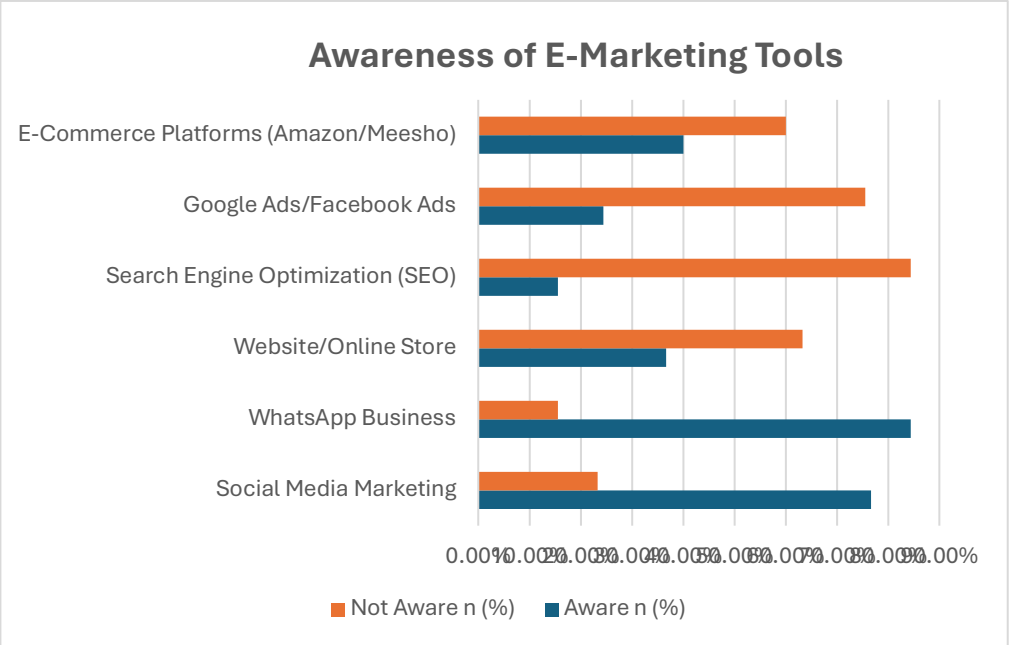
Table 1: Demographic Profile of Respondents (N = 180)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	112	62.2
	Female	68	37.8
Age Group	18–30 years	54	30.0
	31–45 years	86	47.8
	46–60 years	40	22.2
Education Level	Primary	28	15.6
	Secondary	76	42.2
	Higher Secondary	48	26.7
	Graduate & above	28	15.6
Business Sector	Agriculture	74	41.1
	Retail	58	32.2
	Handicrafts	22	12.2
	Services	26	14.5

Awareness was high for social media and WhatsApp Business but extremely low for SEO and paid online advertising tools.

Table 2: Awareness of E-Marketing Tools (N = 180)

E-Marketing Tool	Aware n (%)	Not Aware n (%)
Social Media Marketing	138 (76.7%)	42 (23.3%)
WhatsApp Business	152 (84.4%)	28 (15.6%)
Website/Online Store	66 (36.7%)	114 (63.3%)
Search Engine Optimization (SEO)	28 (15.6%)	152 (84.4%)
Google Ads/Facebook Ads	44 (24.4%)	136 (75.6%)
E-Commerce Platforms (Amazon/Meesho)	72 (40.0%)	108 (60.0%)



WhatsApp Business and UPI usage were the most widely adopted tools. Adoption of websites, e-commerce stores, and Google listings remained low.

Table 3: Adoption of E-Marketing Platforms (N = 180)

Platform / Tool	Users n (%)	Non-Users n (%)
Facebook/Instagram Pages	96 (53.3%)	84 (46.7%)
WhatsApp Business	124 (68.9%)	56 (31.1%)
YouTube Videos for Promotion	22 (12.2%)	158 (87.8%)
Google Business Listing	34 (18.9%)	146 (81.1%)
E-Commerce Selling	48 (26.7%)	132 (73.3%)
Digital Payments (UPI/Wallets)	142 (78.9%)	38 (21.1%)

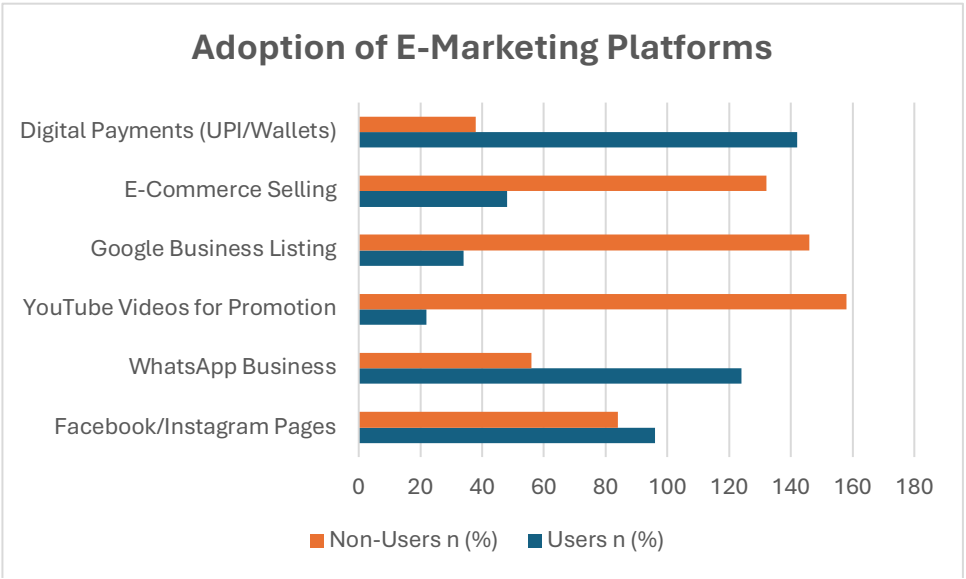


Table 4 describes the major challenges faced by respondents. Poor internet connectivity and lack of digital skills emerged as the biggest barriers. Fear of fraud and financial limitations also significantly affected adoption.

Table 4: Barriers to E-Marketing Adoption (N = 180)

Barrier	Yes n (%)	No n (%)
Poor Internet Connectivity	132 (73.3%)	48 (26.7%)
Lack of Digital Skills	118 (65.6%)	62 (34.4%)

High Data Cost	96 (53.3%)	84 (46.7%)
Lack of Awareness	104 (57.8%)	76 (42.2%)
Fear of Online Fraud	86 (47.8%)	94 (52.2%)
Lack of Time to Learn	58 (32.2%)	122 (67.8%)
Financial Constraints	72 (40.0%)	108 (60.0%)

Table 5 shows respondents' perceptions regarding the benefits of e-marketing. Rural entrepreneurs strongly agreed that digital marketing increases reach, improves customer communication, and enhances product visibility.

Table 5: Perceived Benefits of E-Marketing (Likert Scale Mean Scores)

Benefit	**Mean Score***
Increases customer reach	4.26
Improves sales	4.01
Reduces marketing cost	3.84
Enhances customer communication	4.12
Allows access to new markets	3.92
Improves product visibility	4.18

*Scale: 1 = Strongly Disagree, 5 = Strongly Agree

A regression analysis was conducted to examine the influence of digital literacy on e-marketing adoption. Digital literacy has a **strong and significant positive influence** on e-marketing adoption ($p < 0.001$). Entrepreneurs with higher digital skills were more likely to adopt online marketing.

Table 6: Regression Analysis – Effect of Digital Literacy on E-Marketing Adoption

Variable	**β (Beta Coefficient)**	**p-value**	**Result**
Digital Literacy → Adoption	0.482	0.000	Significant

There is a moderate, statistically significant relationship between internet quality and e-marketing adoption.

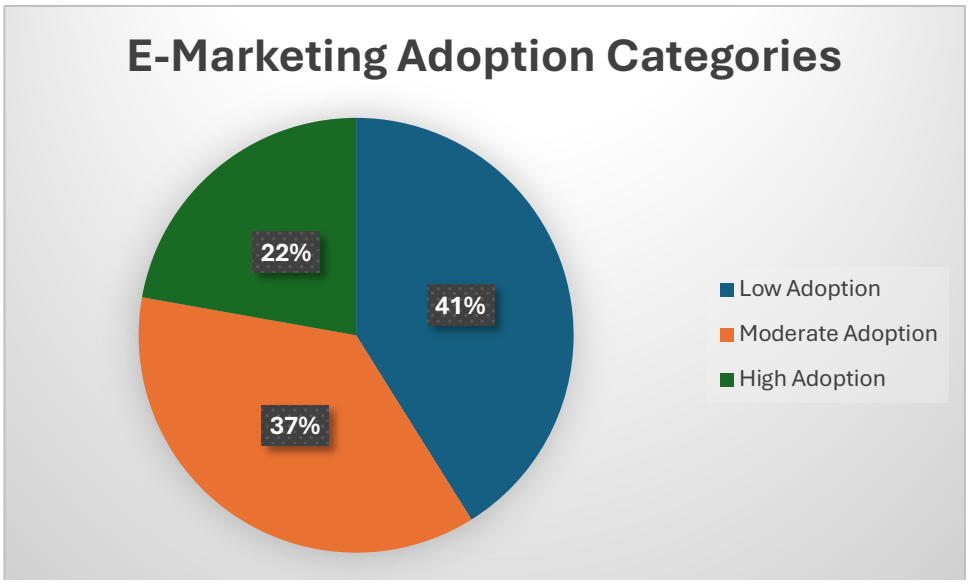
Table 7: Correlation Between Internet Quality and E-Marketing Adoption

Variables	**Correlation Coefficient (r)**	**p-value**
Internet connectivity vs. adoption	0.391	0.002

Most entrepreneurs fall under low to moderate adoption levels, confirming that digital marketing is still emerging in rural business settings.

Table 8: E-Marketing Adoption Categories (N = 180)

Category	**Frequency (n)**	**Percentage (%)**
Low Adoption	74	41.1
Moderate Adoption	66	36.7
High Adoption	40	22.2



5. Discussion

The results from this study are that the level of awareness about basic digital tools such as social media and WhatsApp Business among rural entrepreneurs is relatively high, while the level of awareness of more advanced tools like websites, SEO, and paid online advertising is low. In our sample, 76.7% were aware of social media marketing and 84.4% were aware of WhatsApp Business, but just 36.7% knew about websites/online stores and 15.6% about SEO. This pattern suggests that rural entrepreneurs are more familiar with informal, mobile-based, and peer-driven tools rather than structured, strategy-oriented digital marketing platforms.

This is in line with the findings of Saranya and Chandrasekar, 2021, who found that rural women entrepreneurs in India are increasingly aware of digital technologies; this awareness is, however, heavily skewed toward easily accessible mobile applications rather than more technical tools. Similarly, Goel, Veluri, and Mishra 2024 concluded from their systematic review that there is an increasing recognition by rural micro-entrepreneurs of the potential of digital marketing, though their understanding is concentrated around social media and messaging applications with limited familiarity with SEO, analytics, and formal e-commerce infrastructures.

Our results support the broader literature that awareness is not uniform across all e-marketing tools; it clusters around low-entry, mobile-friendly platforms, leaving a knowledge gap for more sophisticated digital strategies. While there is a relatively high awareness of simple digital tools, actual adoption patterns identified in this study indicate that the majority of entrepreneurs fall into low or moderate categories. Just 22.2% of the respondents were classified as high adopters of e-marketing. The most frequently used tools were WhatsApp Business (68.9%) and digital payments (78.9%), while social media pages came third (53.3%). E-commerce marketplaces, Google Business listings, and YouTube promotion remained comparatively low in terms of adoption.

These findings run parallel to the work of Thomas (2023) on rural entrepreneurs in Sabah, where, although many entrepreneurs showed interest in e-commerce, only a subset actively used online platforms for regular sales, with usage often limited to one or two basic channels. Indeed, a systematic review by Goel et al. (2024) similarly reported uneven digital marketing adoption across rural settings in India, whereby entrepreneurs may open accounts in various social media but fail to use them consistently or strategically to grow their businesses. Our moderate level of adoption also aligns with the broader observation made by Nipo, Lily, Fabeil, and Abdul Jamil (2024), where they emphasize that digital innovation in rural entrepreneurship is still in its infancy, with the tools being used in a piecemeal manner rather than being integrated into the overall business model.

Our results show that the main barriers to e-marketing adoption are poor internet connectivity 73.3%, lack of digital skills 65.6%, lack of awareness 57.8%, and, to a lesser extent, high data cost 53.3% and fear of online fraud 47.8%. These findings align strongly with several prior studies on different geographic contexts. Kamutuezu, Winschiers-Theophilus, and Peters (2021), in their study of Namibian rural entrepreneurs, similarly identified the major inhibitors of the adoption of ICT-enabled services to include a lack of awareness of digital services, limited electricity, skills gaps in smart device navigation, high device and mobile data costs, and cybercrime concerns. Our results resonate closely with these factors, suggesting that the infrastructural and capability barriers are structurally similar in many contexts of rurality.

The barrier profile in this study also reflects the classic findings of Dlodlo and Dhurup (2010) among SMEs in the Vaal Triangle, South Africa, where the most serious deterrents to e-marketing adoption were technology incompatibility with markets, lack of knowledge,

stakeholder unreadiness, technology disorientation, and negative technology perceptions. In the same vein, our observed lack of digital skills and awareness corresponds to their "lack of knowledge" and "technology disorientation" dimensions, while the fear of online fraud links to their concerns about stakeholder uneasiness and risk perceptions.

In the Kenyan hospitality sector, Omoga (2019) reported that perceived cost of e-marketing technology and security concerns had significant negative associations with adoption among small businesses. The moderate level of concern about high data cost and fear of online fraud recorded in our study aligns with Omoga's results and points out that financial and security fears cut across different sectors. A wider review by Nipo et al. (2024) further corroborates that inadequate infrastructure, low digital literacy, high cost of connectivity, and lack of tailored support policies remain dominant obstacles to digital transformation of rural entrepreneurship worldwide. Quantitative findings from empirical research provide local evidence for this pattern.

Despite the obstacles, respondents in our study showed strong agreement with the statements outlining the benefits of e-marketing. The mean scores for statements that e-marketing increases customer reach, improves communication, and enhances product visibility were all above 4.0. This means that those rural entrepreneurs who are aware of and have some exposure to digital tools recognize their strategic value. This perception chimes well with the conclusions of Zia and Alzahrani (2022), who demonstrated that e-marketing within the agricultural sector enhances accessibility, broadens product choice, and supports more sustainable and informed purchasing behaviour among consumers. Similarly, Goel et al. (2024) found that rural micro-entrepreneurs increasingly perceive digital marketing as a way to acquire new clients, develop better relationships, and grow their business, even while their actual adoption may be limited. Our findings also resonate with the contention of Nipo et al. (2024) that digital innovation has the potential to significantly improve market reach, operational efficiency, and income opportunities for rural entrepreneurs once structural barriers are overcome.

Regression analysis in this study indicated that digital literacy positively influences e-marketing adoption in a strong and statistically significant way ($\beta = 0.482$, $p < 0.001$). This therefore infers that entrepreneurs who are better endowed with digital skills have a higher likelihood of adopting and using e-marketing tools effectively. This result supports the emphasis that Saranya and Chandrasekar (2021) placed on digital skills as a key enabler for rural women entrepreneurs, where greater awareness and competence with digital technology were associated with higher participation in economic activities and better utilization of online tools. In a related vein, Kamutuezu et al. (2021) identified a lack of skills to navigate smart devices as a central barrier in the use of ICT-enabled services among rural communities and recommended capacity-building programs as a priority intervention. The digital literacy-adoption link identified in our study is also conceptually aligned with the broader argument by Nipo et al. (2024), who propose that education and targeted training form critical components of any holistic digital inclusion strategy targeting rural entrepreneurship. These studies, along with our findings, converge on the inference that improving digital literacy is one of the most effective levers for increasing e-marketing uptake among rural entrepreneurs.

Results show that quality of internet connectivity and e-marketing adoption are positively correlated at a moderate level of statistical significance, with $r = 0.391$ and $p = 0.002$. Accordingly, entrepreneurs who had more stable and reasonably priced internet access were likely to be more proactive in the use of digital platforms for promotion, communication, and transactions. This supports evidence by Kamutuezu et al. (2021) that a lack of electricity, weak connectivity, and high costs of data were the main binding constraints to the usage of digital services in Namibian rural communities. Similarly, Dlodlo and Dhurup (2010) also noted that non-adoption of e-marketing among SMEs was significantly affected by adverse technological infrastructure conditions and perceived incompatibility of the technology with prevailing local conditions. Our data reinforce the point that infrastructure is more than a background condition-it is itself an active determinant of adoption. Without reliable connectivity, even motivated and digitally literate entrepreneurs struggle to maintain an online presence.

Taking together the findings of this study and the related comparative literature, this points to the need for a multi-faceted approach in enhancing e-marketing adoption among rural entrepreneurs. As suggested by Nipo et al. (2024), policy interventions need to address infrastructure issues, such as broadband and data costs, digital literacy issues through training and mentoring, and enabling ecosystems through support programs and cybersecurity awareness. The evidence also corresponds to that from Thomas (2023) and Goel et al. (2024) that once there is basic connectivity and skills in place, more tailored support to help entrepreneurs go beyond informal use of WhatsApp and social media into more structured e-commerce, online branding, and data-driven marketing can make a big difference to the growth of rural businesses. In sum, the current study corroborates the general trend that rural entrepreneurs are willing and increasingly aware of digital opportunities but feel constrained by structural, skill-based, and perceptual factors, which hold the adoption to low to modest levels. Targeted strengthening of digital literacy and infrastructure can help unleash the full potential of e-marketing as a driver of rural economic development.

CONCLUSION

The current study shows that though e-marketing has the tremendous potential to bring about a revolution in rural entrepreneurship, its adoption is still limited due to

major infrastructural, educational, and perceptual barriers. While rural entrepreneurs have high levels of awareness and usage of basic digital tools such as WhatsApp Business and social media platforms, familiarity and adoption of advanced e-marketing tools, namely SEO, online advertising, Google listing, and e-commerce marketplaces, are found to be very low. Poor internet connectivity, low digital literacy, lack of awareness, high data cost, and fear of online fraud are the major obstacles limiting effective adoption. In the same vein, entrepreneurs having high digital skills showed significantly greater use of e-marketing, and thus digital literacy becomes the critical determinant of adoption. Irrespective of these challenges, respondents strongly acknowledge benefits brought by e-marketing, especially an increase in the customer base, good communication, visibility of products, and reduction in marketing costs. The findings highlight the requirement for targeted interventions through digital skill development programs among rural entrepreneurs, effective awareness and promotion campaigns, better rural internet infrastructure, and reasonable data access, along with supportive government initiatives and programs in bridging the digital gap. By overcoming these barriers and enhancing capacities, e-marketing can be a strong catalyst for rural business expansion, competitiveness, and long-term viability.

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