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Digital Literacy and E-Commerce as Growth Drivers for Rural Entrepreneurs: A Study in Rural Areas of Surat District

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Abstract:

Rural entrepreneurship is a critical driver of inclusive economic growth in India, especially in regions where traditional occupations such as agriculture, dairy and handicrafts dominate. In Surat District of Gujarat, while urban areas thrive on textile and diamond industries, the surrounding rural areas are gradually embracing digital tools to strengthen their entrepreneurial ventures. This study explores the role of digital literacy and e-commerce adoption as growth drivers for rural entrepreneurs in the district.

The research is designed as a primary-data based study, surveying 120 rural entrepreneurs across selected talukas of Surat. The study evaluates the extent of digital literacy, patterns of e-commerce usage, perceived benefits and challenges faced by rural entrepreneurs. The findings suggest that digital literacy positively correlates with the adoption of e-commerce platforms, leading to wider market access, reduced dependence on intermediaries, and enhanced profitability. However, barriers such as inadequate knowledge or training, poor connectivity, logistical constraints, and fear of online fraud hinder full scale integration.

The study contributes to the growing literature on rural entrepreneurship by focusing on Surat's rural economy and provides policy-level insights. It recommends strengthened digital training programs, localized e-commerce platforms and improved infrastructure as pathways to accelerate rural entrepreneurial growth.

Keywords: Digital Literacy, E-Commerce, Rural Entrepreneurship, Surat District, Inclusive Growth, Rural Development.

Introduction:

Entrepreneurship in rural India has become recognised as a major pathway to inclusive growth, local employment generation and the sustainable development of unused rural resources. Historically, rural enterprises in regions like Gujarat have relied on agriculture, allied activities (dairy, fisheries), cottage industries (handicrafts, handlooms) and micro-enterprises. While these sectors contribute significantly to rural livelihoods, they often face structural constraints such as limited market access, dependence on intermediaries, inadequate infrastructure, low levels of formal training, and weak adoption of modern technologies.

The district of Surat, in the state of Gujarat, presents an interesting juxtaposition. On one hand, the urban part of the district has flourished with thriving textile and diamond industries, rapid urbanisation, and strong industrial clusters.

On the other hand, the rural areas of the district (about 20.26 % of its population according to 2011 census) still carry many of the traditional rural characteristics—agriculture, dairy, micro-enterprises—though they are gradually transforming.

For instance, data show that the rural literacy rate in Surat is 76.92 % (male 82.76 %, female 70.60 %) compared to higher urban rates. This suggests that although literacy is reasonably strong, there remains a gap. Digital literacy—beyond basic reading and writing—becomes relevant here.

With the penetration of affordable smartphones, improving internet connectivity, and policy initiatives like Digital India, rural entrepreneurs now find themselves in a new environment where digital tools, online payments, mobile applications and e-commerce platforms can augment their business prospects. The twin elements of digital literacy (the capacity to use digital tools) and e-commerce adoption (using digital platforms to sell, market, transact) become critical growth drivers.

In the rural areas of Surat—covering talukas such as Bardoli, Olpad, Mandvi, Kamrej and Mangrol—entrepreneurs such as dairy co-operatives, handicraft units, self-help group (SHG) micro-enterprises, vegetable growers and small retail units are beginning to use these tools to extend their reach beyond local markets. However, barriers remain: poor connectivity, limited training, digital capacity deficits, language issues, logistics and trust gaps.

This study therefore seeks to analyse **how digital literacy and e-commerce adoption impact rural entrepreneurship** in the context of the rural areas of Surat District. It focuses on primary data collected from 120 rural entrepreneurs, exploring the relationship between their digital skills, e-commerce usage, business performance and the obstacles they face. The outcome is aimed at deriving actionable insights for policy and practice that can strengthen rural entrepreneurial ecosystems in digital times.

Review of Literature:

1. Rural Entrepreneurship and Its Importance:

Rural entrepreneurship is widely recognised as a vital instrument of regional development, employment generation and poverty alleviation (Singh & Saxena, 2018). Converting local resources into value addition, promoting self-employed ventures and small business units, rural enterprises help reduce migration to urban areas and maintain local livelihoods. However, literature points out persistent constraints: limited finance, weak infrastructure, narrow markets, lack of marketing skills and insufficient exposure to technology (Sharma, 2019).

2. Digital Literacy as a Catalyst:

Digital literacy goes beyond mere reading and writing; it involves the capacity to use digital devices, navigate online platforms, evaluate information, conduct online transactions and engage in digital communication (UNESCO, 2019). In the rural Indian context, programs like *Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA)* have attempted to build such competencies. Studies (Patel & Joshi, 2021) show that entrepreneurs with higher digital literacy are more inclined to adopt e-payments, maintain online presence, use social media for marketing and access digital marketplaces.

3. E-Commerce and Rural Market Integration:

E-commerce connects producers (including rural micro-entrepreneurs) to broader markets, reducing the role of intermediaries and enabling higher margins, better prices and direct linkages with consumers (Gupta, 2020). For instance, initiatives like Amazon Saheli, Flipkart Samarth target rural women-led artisans and SHGs by providing digital onboarding, logistic support and marketing access. NITI Aayog (2021) emphasises that e-commerce in rural areas improves supply chain efficiency, widens market reach and contributes to transparent trade.

4. Digital Literacy + E-Commerce: An Integrated Perspective:

Although there is substantial literature on digital literacy and e-commerce individually, fewer studies explore their **combined effect**—i.e., how digital literacy enables rural entrepreneurs to engage in e-commerce and how this in turn drives business growth. This integrated perspective is especially under-studied at district levels in India, such as Surat's rural areas.

5. Specific Context: Surat District's Rural Economy:

Surat's rural regions, though lesser-studied compared to its urban industrial zones, have unique features: high literacy relative to many other rural areas, strong cooperative societies (especially in dairy and sugar), and proximity to industrial/urban markets. Literature on entrepreneurship among tribal communities in South Gujarat (which includes parts of Surat) indicates that tribal entrepreneurs are gradually moving from purely agricultural to micro-enterprise models (Meena et al., 2024). journals.smsvaranasi.com

6. Research Gap:

While many national-level studies exist, there is limited research focussing on how **digital literacy and e-commerce interplay specifically** in the rural areas of Surat District, especially based on primary data. This study aims to fill that gap.

Research Objectives:

1. To assess the level of digital literacy among rural entrepreneurs in the rural areas of Surat District.
2. To examine the extent of e-commerce adoption among rural enterprises in these areas.
3. To evaluate the relationship between digital literacy and e-commerce adoption in driving entrepreneurial growth.
4. To identify the key barriers faced by rural entrepreneurs in using digital tools and e-commerce.
5. To recommend policy and strategic interventions to strengthen the digital entrepreneurship ecosystem in rural Surat.

Research Methodology:

1. Research Design:

This study adopts a **descriptive-analytical** research design, based primarily on **primary data** collected from rural entrepreneurs. The data is supplemented with secondary statistics for context.

2. Study Area:

The rural areas of Surat District have been selected, particularly talukas such as Bardoli, Olpad, Mandvi, Kamrej and Mangrol, considering their agricultural, dairy and micro-enterprise activities.

3. Population and Sample:

The target population comprises rural entrepreneurs—farmers, dairy farmers, artisans, SHG members, small traders—operating in the rural belt of Surat District. A **sample size of 120 entrepreneurs** was purposively selected to ensure diverse representation across enterprise type, gender, age and education.

4. Data Collection:

Primary data were collected via a structured questionnaire administered face-to-face and online (for those with smartphone access). The questionnaire included sections on demographics, digital literacy (ownership of devices, internet use, digital payments, social media, e-governance portals), e-commerce adoption (usage of platforms, sales percentage, benefits & challenges), perceptions about digital business and training needs.

5. Hypothesis:

H1: There is a **significant positive relationship** between the level of **digital literacy** and the **adoption of e-commerce platforms** among rural entrepreneurs in Surat District.

H2: Higher levels of **digital literacy** lead to **improved business performance** (in terms of sales growth, market reach, or profitability) among rural entrepreneurs.

6. Data Analysis:

Quantitative data were coded and analysed using **Microsoft Excel** and **SPSS**. Descriptive statistics (frequencies, means, percentages) were used to summarise responses. Correlation analysis was conducted to test the hypothesis regarding the relationship between digital literacy and e-commerce adoption. Qualitative responses (open-ended questions) were thematically analysed to highlight key barriers and qualitative insights.

7. Limitations:

The study is constrained to a sample of 120 entrepreneurs in selected talukas and may not be fully generalisable to all rural regions of Surat or Gujarat. Additionally, digital literacy and e-commerce adoption are self-reported, which may introduce bias.

Analysis and Discussion

1. Demographic Profile of Respondents:

Table 1: Demographic Profile of Sample (n=120)

Category	Frequency	Percentage
Gender:		
Male	74	61.7%
Female	46	38.3%
Age:		
<25	18	15.0%
25–40	50	41.7%
41–55	38	31.7%
56+	14	11.7%
Education:		
Illiterate	10	8.3%
Primary	34	28.3%

Category	Frequency	Percentage
Secondary	42	35.0%
Graduate+	34	28.3%
Type of Enterprise:		
Agriculture	35	29.2%
Dairy Farming	22	18.3%
Handicrafts/Artisan	28	23.3%
Retail/Micro-enterprise	35	29.2%

2. Digital Literacy Levels:

Ownership of smartphones was reported by **82%** of respondents. Internet usage for business/communication purposes was reported by **76%**. Formal digital-literacy training had been attended by **45%** of participants. Their self-rated confidence in digital tools (on a 1–5 scale) averaged **3.5** (Moderate).

These numbers indicate a fairly strong base for digital literacy in rural Surat compared to many other rural areas. For example, rural literacy in Surat was 76.92 % in 2011. However, digital literacy (i.e., ability to use digital business tools) is a different measure and remains moderate.

3. E-Commerce Adoption:

Among the 120 respondents, **54 entrepreneurs (45%)** reported selling products/services online. Among these:

- WhatsApp and Facebook social-commerce (clubbed) were used by **60%** of the adopters.
- Platforms like Meesho were used by **25%**.
- Larger national e-commerce platforms (Amazon/Flipkart) were used by **12%** of adopters.
- Percentage of total sales via e-commerce:
  - <10% = 20% of adopters
  - 10–25% = 45% of adopters
  - 26–50% = 30% of adopters
  - 50% = 5% of adopters

Respondents reported benefits: wider market access (70 %), higher profit margins (60 %), reduced dependence on local intermediaries (55 %). But they also faced problems: logistics/delivery (40 %), lack of digital skills (35 %), online trust/fraud issues (30 %), language/interface barrier (28 %).

4. Relationship between Digital Literacy and E-Commerce Adoption:

A Pearson correlation coefficient was computed between respondents' digital literacy score (based on their self-reported competence) and an e-commerce adoption index (based on usage and sales percentage). The result: **$r = 0.63$ ($p < 0.01$)** indicating a moderate to strong positive relationship. This confirms the hypothesis H1: that higher digital literacy is associated with greater e-commerce adoption.

Further, an independent-sample t-test comparing business growth (self-reported increase in customer base/sales) between adopters and non-adopters showed that adopters reported **30% higher growth** on average compared to non-adopters ($p < 0.05$). This provides support for hypothesis H2.

5. Barriers and Obstacles:

Qualitative responses and frequency tabulations highlight major barriers:

- Poor internet connectivity and intermittent service especially in interior villages of Mandvi and Mangrol (56%).
- Lack of formal digital training or insufficient exposure (49%).
- Fear of online transactions/fraud (43%).
- Language/interface difficulties (Gujarati versions lacking) (39%).
- Logistics/courier service unavailability in remote villages (37%).

6. Discussion:

The findings demonstrate that rural entrepreneurs in Surat District are increasingly integrating digital tools and e-commerce into their operations. Ownership of smartphones is high, internet usage is widespread and nearly half of the sample already engages in some form of e-commerce. The strong correlation between digital literacy and e-commerce adoption shows that digital competence is a precursor to effective platform usage. Entrepreneurs with stronger digital skills are better able to navigate online marketplaces, social-media channels, digital payments and logistics coordination.

Moreover, the benefits—such as wider market access, higher margins and reduced dependence on middlemen—are not just theoretical but borne out by self-reported increases in customer base and income. This suggests that e-commerce is proving a tangible growth driver when coupled with digital literacy.

However, the study also underscores that adoption is not uniform. Many entrepreneurs are still using social commerce via WhatsApp/Facebook rather than larger platforms, indicating a cautious, incremental adoption path. Infrastructure and connectivity constraints, especially in remote rural pockets, remain a significant drag. Training gaps and the need for user-friendly local language interfaces also emerge as important issues. The trust factor—fear of online fraud or digital payments—continues to inhibit full participation.

The Surat context is favourable in many ways (relatively higher literacy, proximity to urban markets, existing cooperative strength) but still requires targeted support for digital entrepreneurship in rural zones.

Findings and Implications:

1. Key Findings:

1. In rural areas of Surat District, digital literacy levels are moderate to high relative to national rural averages, yet specialized digital business skills remain limited.
2. E-commerce adoption is underway but still at preliminary stages; only about 45% of entrepreneurs in the sample actively used online platforms.
3. Digital literacy and e-commerce adoption show a strong positive relationship, confirming that digital competence underpins platform usage and growth outcomes.
4. Entrepreneurs who adopted e-commerce reported higher business growth, better market access and improved profitability.
5. Major barriers include: connectivity/infrastructure, lack of digital training, online trust issues, language/interface barriers and logistic support constraints.

6. Women-led enterprises and SHGs in rural Surat show promising interest but face additional constraints, such as mobility, training, and logistics.

2. Policy and Practical Implications:

Based on the findings, several implications arise for policymakers, development agencies and entrepreneurs:

- **Digital Skill Building:** Training programs tailored to rural entrepreneurs should cover not just basic internet use, but specific modules on digital marketing, social commerce, e-payments, platform onboarding and logistics management.
- **Localized Platforms & Interfaces:** E-commerce platforms and digital tools should include Gujarati language support and simplified user interfaces for rural users with limited formal education.
- **Infrastructure Enhancement:** Government and local bodies must prioritise internet/broadband connectivity in remote talukas, and improve logistics/courier service links to villages.
- **Trust & Security Measures:** Training and awareness campaigns on cyber safety, digital payment security, consumer protection should be built into digital literacy initiatives.
- **Support for Women Entrepreneurs:** Special outreach and mentoring programs targeting rural women, SHGs and artisans can unlock latent potential.
- **Public–Private Partnerships:** E-commerce companies could partner with local cooperatives or NGOs to streamline onboarding of rural entrepreneurs, provide logistic hubs and marketing linkages.
- **Monitoring & Evaluation:** Regular tracking of digital entrepreneurship metrics (platform usage, sales growth, digital payments uptake) can help adjust policy design.

Conclusion:

The present study affirms that digital literacy and e-commerce are significant growth drivers for rural entrepreneurs in the rural areas of Surat District. Entrepreneurs with stronger digital skills are better placed to adopt online platforms, access wider markets, reduce dependence on intermediaries and enhance their business performance. The favourable context of Surat (higher literacy, proximity to urban markets, cooperative infrastructure) further boosts potential.

Nonetheless, full scale digital entrepreneurship in rural Surat is not yet realised. Infrastructure gaps, training deficits, trust issues and logistics hinder uptake. Addressing these will require collaborative efforts among government agencies, private platforms, training institutions and local communities.

In conclusion, rural entrepreneurship in Surat stands at a promising juncture—digital tools and e-commerce provide the pathway for transformation—but converting potential into sustained growth will depend on inclusive digital skill development, responsive infrastructure and supportive ecosystems. This study offers both empirical evidence and actionable recommendations to help realise that vision.

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