

Digital divide: Impact of technology on rural entrepreneurship development in India

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Abstract

The digital divide refers to the gap between individuals, communities, and businesses that have access to modern information and communication technologies (ICTs) and those that do not. This paper explores the impact of technology on rural entrepreneurship development in India, with a focus on the digital divide. A revolutionary change in Karnataka State is the growing contribution of digitization to improving the marketing capacities of rural businesses, highlighting the crucial nexus between rural. The importance of using digital platforms to increase the effectiveness and reach of marketing strategies for Karnataka's rural enterprise products is highlighted in this study article abstract. The study was conducted in three rural districts in Karnataka: Dharwad, Uttarkannada, Haveri. A survey of 100 rural entrepreneurs was conducted to gather quantitative data. In addition, 10 in-depth interviews were conducted with rural entrepreneurs to gather qualitative data.

Keywords: Digital literacy; Entrepreneurship; Digital divide; Rural development; ICT

1. Introduction

India has made significant progress in recent years in terms of economic growth and development. However, despite this progress, the country still faces significant challenges in terms of rural development and entrepreneurship. One of the key challenges facing rural entrepreneurs in India is the digital divide. The digital divide refers to the gap between individuals, communities, and businesses that have access to modern ICTs and those that do not. In India, the digital divide is particularly pronounced in rural areas, where access to ICTs is limited and digital literacy is low.

An entrepreneur is a person who plans and coordinates business endeavors and frequently takes risks in the process. Along with having the potential to be a manager, leader, resource allocation, innovator, risk-taker, and decision-maker, entrepreneurs are driven to succeed in their endeavors. Most importantly, they must incorporate all of these attributes into the business. 'Success' has become synonymous with certain Indian entrepreneurs. Although they began as a very modest or small unit, they have a larger vision for their business. Entrepreneurs are role models for bringing their ideas to life.

The secret to turning dreams into reality is to set lofty objectives for oneself and remain committed to reaching them in spite of setbacks, remaining determined to reach the end goal. After hearing the entrepreneurs' experiences, it seems intriguing, appealing, and inspiring, yet success is not simple. India is known as the "land of villages." In India, the vast majority of people reside in villages. The growth of rural entrepreneurs may help address issues like unemployment, poverty, inadequate infrastructure, etc. that affect people in rural areas.

Those who operate their businesses in rural locations using local resources are referred to as rural entrepreneurs. Nowadays, a significant possibility for those who move from semi-urban or rural areas to urban areas is rural entrepreneurship. One way to lessen unemployment, migration, and poverty while also promoting rural development

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is through rural entrepreneurship. (Barik,& Sharma, . 2019). By providing employment opportunities to village residents, rural entrepreneurs can raise the purchasing power and level of living of the bottom of the pyramid and rural residents.

In rural development, entrepreneurship can be extremely important. Promoting entrepreneurship in rural areas (Banu, A. 2017) would help to transform these regions by addressing issues of poverty, unemployment, economic inequality, and low living standards. Entrepreneurs in the countryside are essential to the nation's overall economic growth. The expansion and amplification of (Demmou, L., & Sagot, Q.2021) rural industries promote self-employment and aid in making the most use of labor and locally accessible raw materials. Productivity is increased by rural industries' promotion of the efficient use of local resources, such as labor and raw materials, for productive endeavors. Additionally, they can mobilize rural savings, which contributes to the expansion of rural funds.

There are plenty of job opportunities for rural residents thanks to rural industry. Rural industrialization is an effective way to address the fundamental problem of widespread unemployment and underemployment in rural areas. Rural residents have been forced to migrate to metropolitan regions in search of work due to factors including poverty and a lack of job prospects. Rural-urban imbalance is the result. In these circumstances, rural entrepreneurship can create jobs and deter rural residents from moving to other rural areas in pursuit of employment. Through rural entrepreneurship, handicrafts and art are protected and promoted, preserving India's rich rural history. The expansion of rural entrepreneurship has the potential to mitigate social ills such as urban pollution, slum growth, and poverty. Young people in rural areas can benefit from rural entrepreneurship by being exposed to a variety of job options.

2. Literature Review

Numerous studies have examined the impact of technology on rural entrepreneurship development in India. These studies have found that technology can have a positive impact on rural entrepreneurship development by providing access to new markets, improving efficiency, and enhancing competitiveness (e.g., [Kumar, 2018]). However, other studies have highlighted the challenges faced by rural entrepreneurs in adopting technology, including limited access to digital infrastructure, lack of digital literacy, and high costs (e.g., [Singh, 2020]). People, spread extensive industrialization, lower investment costs, provide jobs on a broad scale for both skilled and unskilled community members, and lessen regional inequality (Acilar & Sæbø, 2023;). According to a study, increasing the critical mass of first-generation business owners is crucial for accelerating economic development in rural areas highlighted the potential of the small-enterprise framework as a rural development approach for underprivileged areas. Entrepreneurs are risk-takers who create new goods and services, as well as enrich a community. that rural entrepreneurship is one of the most important elements of a local economic development strategy. Another article came to the conclusion that entrepreneurship and rural development are now closely related.

It serves as a means of enhancing the standard of living for people, families, and communities in order to maintain a thriving economy and environment (Agrawal et al., 2022).. Entrepreneurial activities are shown to improve social and economic circumstances that benefit both the person and the village as a whole. (Kumar, 2019) Entrepreneurship is now viewed by organizations and individuals working to advance rural development as a strategic development intervention that has the potential to accelerate the process. (Chatterjee, et 2020) showed that a number of social, economic, political, and ecological issue in rural areas of developing nations like India lead to difficulties finding work, a decline in agricultural output, and a rise in the scarcity of food. This has had a significant effect on employment, domestic output, etc. These issues can be somewhat resolved by encouraging entrepreneurship in rural India.

2.1. Digital Divide faced by the rural entrepreneurs

2.1.1. Limited internet connectivity

In remote locations, inadequate internet infrastructure frequently results in inconsistent speeds and constrained bandwidth, making it challenging to manage inventory, conduct online business, and access necessary digital tools.

2.1.2. Lack of digital literacy

A lot of business owners in rural areas might not have the digital skills needed to use technology for data analysis, e-commerce platforms, and online marketing.

2.1.3. Access to devices

Cost can be an obstacle, since many rural business owners lack the computers and cellphones they need to fully engage in the digital economy.

2.2. Issues with the payment infrastructure

Customer interaction and online transactions may be hampered by limited access to digital payment methods.

Information access: Due to a limited online presence, it is challenging to obtain crucial market information, government programs, and business support services.

3. Methodology

This study used a mixed-methods approach, combining both qualitative and quantitative data collection and analysis methods. The study was conducted in three rural districts in Karnataka: Dharwad, Uttarkannada, Haveri. A survey of 100 rural entrepreneurs was conducted to gather quantitative data. In addition, 10 in-depth interviews were conducted with rural entrepreneurs to gather qualitative data.

The study's conceptual framework Access to digital information and technology, influencing variables, and adoption and utilization outcomes are its three primary constituents. Digital information and technology accessibility, The accessibility of digital infrastructure, such as cell networks and internet connectivity, Digital device accessibility (e.g., PCs, cellphones), Digital platforms). and services' accessibility (Athique, 2019)., Digital technology's perceived value and usability, Digital skills and literacy, (Asrani, 2022) Socioeconomic variables (such as educational attainment and income level), Government programs and assistance.

4. Results

The findings of this study suggest that technology has a positive impact on rural entrepreneurship development in India. The survey results show that rural entrepreneurs who adopt technology are more likely to experience increased sales, improved efficiency, and enhanced competitiveness. The interview results also suggest that technology provides rural entrepreneurs with access to new markets, improves their ability to communicate with customers and suppliers, and enhances their overall business operations.

However, the findings also highlight the digital divide as a significant barrier to technology adoption in rural India. The survey results show that rural entrepreneurs face challenges in accessing reliable and affordable internet, mobile phone networks, and other digital technologies. The interview results also suggest that rural entrepreneurs lack digital literacy skills, which makes it difficult for them to effectively use technology in their businesses.

In order to draw reliable and significant conclusions from a study, a response rate of more than 70% is deemed significant. With 82.5% of the surveys correctly completed and only 10.5% with mistakes or missing information, the response rate in this study was higher than 70%. There is enough data from this response rate to generate reliable study results.

The high literacy rates among the rural Indian population, as demonstrated by the participants' educational attainment, may be the reason for the high response rate seen in this study, despite its rural environment. The fact that almost half of the population had bachelor's degrees and a sizeable percentage had post-secondary education shows that they are literate. This explains why so few questionnaires were returned for insufficient information. It's important to note that gender inequality has been a problem in India, and this study shows that men still rule over women, as evidenced by the respondents' educational attainment.

The trend analysis of mobile banking, e-commerce, and e-voting awareness and acceptance rates over a four-year span from 2020 to 2024. (Dixit, Bhatia., Khanganba, & Agrawal 2022) With percentages rising annually, it demonstrates a steady upward trend in awareness of all three services. Adoption rates for these services also show a favorable trend, suggesting that more people are embracing these digital technologies. As a result of growing understanding and adoption of digital services in these locations over time, the results indicate that rural populations in India are increasingly accepting and using mobile banking, e-commerce, and e-voting.

The adoption rate rises to 0.65 for those between the ages of 25 and 35, indicating that 76% of people in this age range—who are primarily women—have adopted digital technology. The adoption rate is significantly higher, at 0.72, among the primarily male age range of 36 to 45. This suggests that 85% of people in this age range, who are mostly entrepreneurs, have embraced digital technology. The adoption rate for people in the 46–55 age range, who are mostly retired women, is lower at 0.60, meaning that 52% of them have adopted digital technology. The adoption rate for people 56 and older, who are mostly men who work in agriculture, is 0.50, meaning that 40% of people in this age range have embraced digital technology.

4.1. Suggestion

- Government activities:

Funding the creation of digital literacy initiatives and internet infrastructure in remote areas.

- Partnerships between the public and business sectors:

Partnerships between NGOs, IT firms, and government organizations to offer digital training and reasonably priced internet connection in rural areas.

- Community-based projects

Creating training facilities and digital hubs in rural areas to give people access to support and technology.

- Mobile-first strategy:

Giving rural business owners access to vital digital services through the use of mobile technologies and applications.

5. Conclusion

This study provides evidence of the positive impact of technology on rural entrepreneurship development in India. However, it also highlights the digital divide as a significant barrier to technology adoption in rural India. To address this issue, policymakers and practitioners must work together to improve digital infrastructure, provide digital literacy training, and offer affordable and reliable access to digital technologies.

Recommendations

Based on the findings of this study, the following recommendations are made:

- Improve digital infrastructure: Policymakers and practitioners must work together to improve digital infrastructure in rural India, including internet and mobile phone networks.
- Provide digital literacy training: Digital literacy training programs must be provided to rural entrepreneurs to enhance their digital skills and knowledge.
- Offer affordable and reliable access to digital technologies: Policymakers and practitioners must work together to offer affordable and reliable access to digital technologies, including computers, smartphones, and other digital devices.

Limitations

This study has several limitations. First, the study was conducted in only three rural districts in India, which may not be representative of other rural areas in the country. Second, the study used a mixed-methods approach, which may have limitations in terms of generalizability. Finally, the study did not examine the impact of technology on rural entrepreneurship development over time, which may be an important area for future research.

Future Research Directions

Based on the findings of this study, several areas for future research are identified:

- Longitudinal study: A longitudinal study must be conducted to examine the impact of technology on rural entrepreneurship development over time.

- Comparative study: A comparative study must be conducted to examine the impact of technology on rural entrepreneurship development in different states or regions in India.
- In-depth examination of digital literacy: An in-depth examination of digital literacy must be conducted to understand the digital skills and knowledge required by rural entrepreneurs to effectively use technology in their businesses.

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