

Digital Innovation and Entrepreneurship: Review of Challenges in Competitive Markets with emphasis on micro enterprises in Manipur.

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ABSTRACT

This article presents a narrative review of selected studies that investigate the impact of digital innovation on entrepreneurship and its outcomes within diverse sociopolitical contexts. The review shows that improved innovation output and the ability to absorb innovative digital models are associated with higher economic growth rates. Technological changes explain a significant portion of entrepreneurial dynamics, while regional factors also play a key role. Internet usage has led to reduced operational costs, increased sales, and enhanced customer interaction for the majority of firms, enabling rapid market expansion and stronger supplier linkages. Digitalization fosters entrepreneurship's expansion into new markets, creating a positive feedback loop between digital adoption and firm growth. The study further highlights that government policy and institutional support have more influence on entrepreneurship sustainability than technological readiness alone. Although most examples derive from broader national and global settings, these insights highlight similar digital innovation challenges and opportunities for micro-enterprises in emerging economies such as Manipur, where digital platforms, e-commerce adoption, and mobile internet penetration are becoming pivotal for inclusive economic development. Future research should empirically examine how digital entrepreneurship contributes to income growth, market reach, and sustainability among smaller and tribal enterprises in such regions.

Keywords: Digital innovation, Entrepreneurship, Regulation, Micro-enterprises, E-commerce adoption.

INTRODUCTION

Entrepreneurship is widely recognized as a key driver of economic development through employment generation, innovation, and poverty reduction, particularly in developing and emerging economies (Audretsch, 2012). In recent decades, digital innovation—encompassing mobile technologies, internet connectivity, e-commerce platforms, digital financial services, cloud computing, and data-driven business models—has significantly transformed the nature and scope of entrepreneurial activity (Nambisan, 2017). Digital technologies reduce information asymmetries, lower transaction and coordination costs, and enable enterprises to scale beyond local markets with relatively limited physical infrastructure.

For peripheral and geographically constrained regions, digitalization offers a potential pathway for overcoming long-standing structural disadvantages related to remoteness, weak infrastructure, and limited market access (UNCTAD, 2021). In India's northeastern region, particularly in Manipur, entrepreneurship is closely intertwined with tribal livelihoods and indigenous economic practices. Tribal enterprises are predominantly micro in scale, family-operated, and embedded within social and cultural networks. They are concentrated in traditional sectors such as handloom, handicrafts, bamboo and cane-based industries, forest-based products, and agri-horticultural activities (World Bank, 2020; Government of India, 2022). Despite their cultural richness and economic potential, these enterprises face persistent challenges associated with inadequate infrastructure, limited access to finance, skill gaps, and restricted market linkages.

The expansion of mobile internet connectivity, the diffusion of smartphones, the emergence of e-commerce and social-commerce platforms, and government-led initiatives under the Digital India framework have created new opportunities for tribal entrepreneurs to integrate into broader value chains. However, empirical evidence on how digital innovation contributes to sustainable entrepreneurial outcomes in tribal regions remains limited and fragmented. This paper addresses this gap by synthesizing existing literature and contextualizing it within the institutional, infrastructural, and socio-cultural realities of Manipur.

Objectives of the Study

The objectives of this narrative review are to:

1. Examine existing literature on digital innovation and entrepreneurship in emerging economies.
2. Analyse the impact of digital technologies on firm performance, innovation output, and market access.
3. Assess the role of institutional and policy frameworks in sustaining digital entrepreneurship.
4. Contextualize global evidence within the tribal entrepreneurial landscape of Manipur.
5. Identify benefits, challenges, limitations, and future research directions relevant to tribal and micro-enterprises.

METHOD

This study adopts a narrative review methodology, synthesizing conceptual and empirical studies published in peer-reviewed journals indexed by Elsevier, Taylor & Francis, Emerald, and Sage, along with reports from international organizations such as the OECD, World Bank, UNCTAD, and Government of India. A thematic approach was employed to integrate findings related to digital innovation, entrepreneurship, and regional development. The narrative review method is particularly appropriate for examining complex and context-specific phenomena such as tribal entrepreneurship in Manipur, where large-scale quantitative evidence remains limited but policy relevance is high.

LITERATURE REVIEW

Digital Innovation and Economic Growth

A substantial body of literature demonstrates a positive association between digital innovation and economic growth. Digital technologies enhance productivity, facilitate knowledge diffusion, reduce transaction costs, and enable new business models, thereby contributing to higher economic growth rates (OECD, 2019; UNCTAD, 2021). At the firm level, digital adoption enables entrepreneurs to access information efficiently, coordinate activities, and respond rapidly to changing market conditions, which is especially important for small and resource-constrained enterprises.

Digital Entrepreneurship and Firm Performance

Digital entrepreneurship refers to entrepreneurial activities that are enabled or significantly enhanced by digital technologies (Nambisan, 2017). Empirical studies suggest that internet usage, digital platforms, and online marketplaces reduce operational and marketing costs, improve sales performance, and strengthen customer engagement, particularly for micro and small enterprises (World Bank, 2020; Kraus et al., 2019). Platform-based models further facilitate direct market access, reduce dependence on intermediaries, and enable integration into regional and global value chains.

Institutional and Policy Context

The literature consistently emphasizes that technological readiness alone is insufficient for sustaining entrepreneurial activity. Supportive institutional environments—comprising regulatory quality, access to finance, entrepreneurship education, and targeted policy interventions—play a decisive role in shaping entrepreneurial outcomes (Audretsch, 2012; OECD, 2019). In emerging economies, government initiatives aimed at expanding digital infrastructure, promoting digital literacy, and supporting MSMEs are particularly critical for inclusive digital entrepreneurship.

Regional and Sociocultural Embeddedness

Entrepreneurial ecosystems are embedded within regional and sociocultural contexts. Autio et al. (2018) argue that digital affordances interact with spatial, institutional, and social structures, influencing how entrepreneurs adopt and utilize technology. In tribal and remote regions, community norms, collective institutions, kinship networks, and trust-based relationships significantly shape entrepreneurial behaviour and technology adoption. These factors can either enable or constrain digital entrepreneurship depending on the alignment between technology and local socio-cultural practices.

Tribal Entrepreneurship and Digital Innovation in Manipur

Manipur represents a distinctive socio-economic context in which tribal livelihood systems form the backbone of rural and hill-district economies. Entrepreneurship among tribal communities is rooted in traditional activities such as handloom and handicrafts, bamboo and cane-based products, forest-based enterprises, and Agri-horticultural production. These enterprises are predominantly micro in scale, family-run, and reliant on indigenous knowledge systems (OECD, 2019; World Bank, 2020).

Digital innovation offers significant opportunities for transforming these livelihood systems. The expansion of mobile internet connectivity and smartphone usage has enabled tribal entrepreneurs to access digital payments, online banking, market information, and platform-based commerce. E-commerce and social-commerce channels allow artisans, weavers, and Agri-producers to reach consumers beyond local and district markets, improving price realization, income stability, and resilience to market shocks (UNCTAD, 2021; Government of India, 2022). Government initiatives under the Digital India framework, including Common Service Centres (CSCs), Unified Payments Interface (UPI), MSME digital schemes, and online marketing portals, further facilitate digital adoption and financial inclusion in tribal regions.

However, institutional and infrastructural constraints continue to limit the depth and inclusiveness of digital entrepreneurship adoption in Manipur. Hill and tribal districts face persistent challenges related to unreliable electricity supply, limited broadband connectivity, difficult terrain, and high transportation and logistics costs. Limited digital literacy, restricted access to formal credit, and capacity constraints within local institutions further inhibit entrepreneurial scaling. Cultural norms and community-based decision-making structures also influence technology adoption, often requiring collective acceptance rather than individual initiative (Autio et al., 2018).

Table 1

Contribution of MSMEs to the Indian Economy

Indicator	Contribution	Source
Share in India's GDP	Approximately 30%	Ministry of MSME
Share in India's Exports	Approximately 48%	Ministry of MSME
Employment Generation	More than 110 million people	Ministry of MSME
Number of MSMEs	More than 63 million enterprises	Ministry of MSME
Source: Ministry of MSME, Government of India and SIDBI Reports.		

RESULTS AND DISCUSSION

Results of the Narrative Review

Since the present study adopts a **narrative review methodology**, the results are presented thematically based on the synthesis of existing empirical and conceptual literature rather than primary statistical analysis. The review reveals five major findings relevant to digital innovation and entrepreneurship in emerging and tribal economies, with specific implications for Manipur.

Result 1: Digital Innovation Positively Influences Entrepreneurial Performance

Across emerging economies, the literature consistently indicates that digital technologies have a **positive impact on firm performance**, particularly for micro, small, and medium enterprises (MSMEs). Studies report improvements in productivity, sales growth, operational efficiency, and customer engagement following the adoption of digital tools such as mobile internet, digital payments, and online platforms (Kraus et al., 2019; World Bank, 2020).

For tribal and rural enterprises, digital technologies reduce information asymmetry and transaction costs, enabling entrepreneurs to operate beyond geographically limited local markets. Evidence suggests that even basic digital adoption—such as the use of smartphones and social media—can generate measurable performance gains for micro-enterprises.

Table 2

Status of Digital Adoption among Indian MSMEs

Digital Indicator	Percentage
MSMEs that have adopted at least one digital tool	53.8%
MSMEs that remain completely offline	46.2%
MSMEs demonstrating digital readiness	67%
MSMEs actively seeking digital advisory services	62%
MSMEs proficient in core digital tools	43%
Source: India SME Forum (2025); CyberMedia Research (2025)	

Result 2: Digital Platforms Enhance Market Access and Innovation Output

The review highlights that digital platforms and e-commerce channels significantly enhance **market access and innovation output**, particularly for small and informal enterprises (UNCTAD, 2021; OECD, 2019). Platform-based entrepreneurship allows producers to bypass intermediaries, engage directly with consumers, and diversify products through customization and branding.

For indigenous and craft-based enterprises, digital platforms facilitate the commercialization of traditional knowledge and cultural products, thereby contributing to both economic and cultural sustainability.

Table 3

Digital Payment Adoption among Indian MSMEs

Indicator	Percentage
MSMEs accepting digital payments	90%
MSMEs using UPI for business transactions	48%
MSMEs using Aadhaar-enabled banking	39%
Women-led businesses using Aadhaar-enabled banking	42%
MSMEs accessing digital lending platforms	18%
Source: SIDBI Report (2025); PayNearby MSME Digital Index (2025).	

Result 3: Institutional and Policy Support is a Critical Enabler

A recurring finding across the literature is that **digital infrastructure alone is insufficient** for sustaining digital entrepreneurship. Institutional quality—defined by regulatory frameworks, access to finance, entrepreneurship education, and policy coherence—plays a decisive role in shaping entrepreneurial outcomes (Audretsch, 2012; OECD, 2019).

Government-led initiatives such as digital literacy programs, MSME support schemes, and digital financial inclusion are found to be particularly effective in reducing entry barriers for marginalized entrepreneurs in emerging economies.

Result 4: Regional and Sociocultural Contexts Shape Digital Adoption

The review underscores that entrepreneurial behavior is deeply embedded in **regional and sociocultural contexts**. In tribal and remote regions, collective norms, kinship networks, trust-based relations, and community institutions significantly influence technology adoption (Autio et al., 2018).

Digital technologies are more likely to be adopted when they align with existing social practices and collective livelihood strategies, rather than being imposed through purely market-driven or individualistic models.

Result 5: Persistent Constraints Limit Inclusive Digital Entrepreneurship

Despite its potential, the literature identifies persistent constraints, including digital divides, inadequate infrastructure, low digital literacy, limited access to credit, cybersecurity concerns, and competitive pressures from established digital firms (UNCTAD, 2021; World Bank, 2020).

In tribal regions, geographical isolation and institutional weaknesses further constrain entrepreneurial scaling and sustainability.

DISCUSSION OF FINDINGS IN THE CONTEXT OF MANIPUR

Digital Innovation and Tribal Entrepreneurship in Manipur

The findings of the review strongly resonate with the entrepreneurial realities of Manipur, where tribal livelihood systems dominate rural and hill-district economies. Traditional enterprises such as handloom weaving, handicrafts, bamboo and cane products, forest-based activities, and agri-horticulture are predominantly micro-scale and family-operated.

The literature suggests that **digital innovation can act as a transformational force** for these enterprises by expanding market reach, improving price realization, and reducing dependence on local intermediaries. The increasing penetration of mobile internet and digital payment systems in Manipur supports this potential, particularly for women and youth entrepreneurs engaged in home-based production.

Table 4

Impact of Digital Adoption on MSME Performance in India

Performance Indicator	
Performance Indicator	Percentage
MSMEs reporting increased income or operational efficiency	73%
MSMEs reporting business growth after digital adoption	68%
MSMEs reporting improvement in business growth and operational efficiency	33%
MSMEs reporting a 21–30% increase in sales	41.4%
MSMEs experiencing at least a 10% increase in customer base	69%

Source: PayNearby MSME Digital Index Report (2025); India SME Forum (2025).

Institutional and Infrastructure Gaps

Consistent with the reviewed literature, Manipur faces **institutional and infrastructural constraints** that limit the depth of digital entrepreneurship adoption. Poor road connectivity, unreliable electricity supply, limited broadband coverage in hill districts, and high logistics costs reduce the effectiveness of digital platforms.

While national initiatives under the Digital India framework have improved access to digital services, their impact remains uneven due to capacity constraints at the local level. Strengthening district-level institutions, cooperatives, and Common Service Centres (CSCs) is therefore critical for sustaining digital entrepreneurship in tribal regions.

Sociocultural Embeddedness and Collective Entrepreneurship

The findings affirm that entrepreneurship in Manipur is deeply embedded in **tribal social structures and collective institutions**. Community norms and collective decision-making processes often influence entrepreneurial choices, including technology adoption.

This implies that digital entrepreneurship strategies must move beyond individual-centric models and adopt **community-based and cooperative approaches**, particularly for tribal producers and artisans. Aligning digital tools with indigenous knowledge systems enhances acceptance and long-term sustainability.

Implications for Inclusive and Sustainable Development

The review highlights the potential of digital entrepreneurship to contribute to **inclusive growth, poverty reduction, and cultural preservation** in Manipur. By enabling market diversification and financial inclusion, digital innovation can reduce vulnerability to local economic shocks and promote livelihood resilience.

However, without targeted interventions to address digital literacy, infrastructure, and institutional capacity, digital entrepreneurship risks reinforcing existing inequalities rather than alleviating them.

Implications of the Study

Academic Implications

- Extends digital entrepreneurship literature to under-researched tribal and peripheral regions.
- Integrates institutional, sociocultural, and technological perspectives into entrepreneurship analysis.
- Provides a conceptual foundation for future empirical research in Northeast India.

Policy Implications

- Supports the need for place-based, culturally sensitive digital entrepreneurship policies.
- Highlights the importance of strengthening local institutions and digital infrastructure in hill districts.
- Informs the design of integrated MSME, digital inclusion, and tribal development programs.

Practical Implications

- Encourages tribal entrepreneurs to leverage digital platforms for market expansion and branding.
- Guides NGOs and development agencies in designing targeted digital capacity-building initiatives.
- Promotes cooperative and community-led digital entrepreneurship models.

Benefits of Digital Innovation for Tribal Enterprises

Digital innovation offers multiple benefits for tribal entrepreneurship in Manipur. These include reduced transaction and marketing costs, expanded market access, improved customer engagement, enhanced financial inclusion through digital payments, and increased participation of women and youth entrepreneurs. Digital platforms also support the preservation and commercialization of indigenous knowledge and cultural products, contributing to both economic and cultural sustainability. Moreover, digital tools can enhance resilience by enabling enterprises to diversify markets and reduce vulnerability to local economic shocks.

Challenges and Limitations

Despite its potential, digital entrepreneurship in tribal regions faces significant challenges, including persistent digital divides, inadequate infrastructure, limited digital and managerial skills, cybersecurity and trust concerns, and competition from established digital firms. In addition, this study is limited by its reliance on secondary data and the absence of primary empirical evidence from Manipur, which restricts causal inference and generalizability.

Scope for Future Research

Future research should empirically examine the impact of digital entrepreneurship on income growth, employment generation, and enterprise sustainability among tribal communities in Manipur. Mixed-method approaches combining surveys, ethnographic case studies, and impact evaluations would provide deeper insights. Further studies should also assess the effectiveness of Digital India–related initiatives, MSME schemes, and region-specific policy interventions in tribal contexts, with particular attention to gender and youth entrepreneurship.

CONCLUSION

This extended narrative review demonstrates that digital innovation plays a transformative role in entrepreneurship by enhancing innovation output, firm performance, and market access. However, sustainable outcomes depend heavily on institutional support, policy frameworks, and regional socio-cultural conditions. For Manipur, digital entrepreneurship represents a viable pathway for inclusive, resilient, and culturally grounded economic development among tribal communities. Targeted policies, infrastructure investment,

capacity building, and context-sensitive research are essential to fully harness the potential of digital innovation in tribal regions.

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