



# Women, Youth And Inclusive Development Through Innovation: A Study Of Digital Entrepreneurship In India

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**Abstract:** Digital innovation has created new pathways for inclusive development by lowering entry barriers to entrepreneurship for women and youth in emerging economies such as India. However, persistent gaps in skills, finance and social norms limit the full realisation of this potential. This paper examines how digital entrepreneurship contributes to inclusive development for women and youth in India, with a specific focus on access to skills, finance, markets and social empowerment outcomes. Drawing on secondary data, policy documents, and recent empirical studies, the paper adopts a descriptive-analytical research design to synthesise evidence on digital inclusion initiatives and their impact on marginalised groups. The analysis highlights that targeted digital literacy programmes, startup promotion schemes and gender-responsive innovation ecosystems have expanded opportunities for women and youth to participate as job creators rather than only job seekers. At the same time, the findings reveal structural constraints such as limited access to growth capital, inadequate gender-disaggregated data and entrenched patriarchal norms that hinder scale and sustainability. The study concludes that digital entrepreneurship can serve as a powerful lever for inclusive development when embedded in multi-stakeholder, gender-responsive, and youth-centric policy frameworks that integrate skills, finance, mentoring, and social protection. Policy recommendations are offered to strengthen digital ecosystems, making innovation-driven growth more equitable and inclusive for women and youth across regions and socio-economic groups in India.

**Index Terms** - Women, Inclusive Development, Gender Equality, Digital skills and literacy, Skill India, AI literacy

## I.INTRODUCTION

Inclusive development emphasises the participation of historically marginalised groups in processes of economic growth, social transformation and governance. In India, women and youth constitute a demographic majority whose productive engagement is central to national goals of sustainable and equitable development. Digital innovation—especially in the form of low-cost connectivity, digital payments and platform-based businesses—has opened new spaces for entrepreneurial activity among these groups. Digital entrepreneurship, understood as the creation and growth of ventures that rely significantly on digital technologies for value creation and delivery, is increasingly recognised as a catalyst for employment, inclusion and innovation.

The Indian state has placed strong emphasis on leveraging digital platforms and innovation to promote self-reliance, employment and social empowerment. Initiatives such as Digital India, Startup India, Skill India, Pradhan Mantri MUDRA Yojana and various women and youth-focused innovation challenges illustrate a policy turn towards technology-enabled inclusive growth. Recent programmes like YUVA AI for All and the India AI Mission further signal a commitment to democratising access to frontier technologies for students, women and young workers.

Despite these advances, significant disparities persist in digital access, entrepreneurship outcomes and participation in innovation ecosystems. Women entrepreneurs remain concentrated in micro and informal enterprises, often facing limited access to finance, markets and networks. Similarly, youth-led social innovations and startups often struggle with sustainability, funding continuity and institutional support. This study therefore addresses the following core research question: How does digital entrepreneurship contribute to inclusive development for women and youth in India, and what enabling conditions and constraints shape this relationship?

The specific objectives of the study are:

1. To examine policy frameworks and initiatives that promote digital innovation among women and youth.
  2. To analyse empirical evidence on the impact of digital entrepreneurship on economic and social inclusion.
  3. To identify key barriers that limit inclusive outcomes despite the expansion of digital technologies.
  4. To propose policy and institutional strategies for strengthening inclusive innovation ecosystems.
- By synthesising existing research and policy evidence, the paper contributes to debates on innovation-led inclusive development and provides a conceptual and practical framework that can inform future empirical work and policy interventions in the Indian context.

## II. REVIEW OF LITERATURE

### ***Inclusive development, gender and youth***

Inclusive development is generally understood as a process that expands opportunities for marginalised groups and ensures that the benefits of growth are broadly shared. Scholars have argued that gender equality and youth empowerment are not only intrinsic rights-based goals but also instrumental drivers of productivity, innovation and social resilience. Recent work emphasises that integrating gender perspectives into development and environmental policy enhances sustainability outcomes and broadens the base of social participation.

In the Indian context, women's economic participation remains lower than men's despite rising educational attainment, and youth unemployment and underemployment continue to be major policy concerns. Studies on youth livelihoods and adolescent empowerment show that skill-building interventions can enhance mobility, aspirations and progressive gender norms, but sustainability often depends on institutional innovations and long-term partnerships. The literature on women's empowerment in agriculture and rural livelihoods also highlights the importance of access to resources, leadership opportunities, and gender-responsive institutions.

### ***Digital transformation and entrepreneurship***

The rapid expansion of digital infrastructure in India—characterised by affordable data, widespread smartphone use and scalable digital platforms—has transformed the landscape of entrepreneurship and service delivery. Digital financial inclusion, e-commerce platforms, and online marketplaces have significantly reduced transaction costs and geographic barriers, opening opportunities for micro-entrepreneurs, home-based businesses, and social enterprises.

Research on digital entrepreneurship suggests that platform-based models allow small firms, including those led by women, to reach wider markets, build brands and access digital financial services. Evidence from initiatives such as Digital India underscores how digital payments and online platforms can help bridge gender gaps in entrepreneurship by providing formal financial channels and visibility to women-run enterprises. At the same time, scholars caution that digital divides in access, skills and usage persist, with marginalised groups often restricted to low-value segments of digital economies.

### ***Women, digital inclusion and entrepreneurship***

A growing body of research examines the role of digital technologies in promoting women's entrepreneurship in India. Policy briefs and studies indicate that women's enterprises are often constrained by limited access to finance, markets, technology, and skills, leading to a concentration in low-growth microenterprises, often in the informal sector. Digital tools such as online marketplaces, digital payments, e-learning platforms and social media have emerged as mechanisms that can help women overcome geographical and mobility constraints, access financial services and acquire business-related skills.

Systematic reviews of digital inclusion for women entrepreneurs in the unorganised sector highlight that digital financial access is associated with enhanced business sustainability, resilience to economic shocks and improved bargaining power within households. Some estimates suggest that increasing women's workforce participation through digital inclusion could significantly boost national GDP, underscoring the macroeconomic relevance of gendered digital inclusion. However, scholars also note that without supportive ecosystems—such as local training networks, gender-sensitive financial products and social support systems—digital tools alone cannot fully overcome structural gender barriers.

### ***Youth, social innovation and digital skills***

Youth-oriented social innovation has attracted scholarly and policy attention as a means of addressing livelihood, education and health challenges. Studies mapping social innovation among youth and adolescents in India show that many initiatives in livelihoods and skill-building are innovative at inception but face difficulties in scaling and sustaining impact due to funding constraints, lack of volunteerism and institutional fragmentation. These studies advocate institutional innovation and multi-stakeholder partnerships to design and implement sustainable, inclusive youth-centric livelihood projects.

Recent initiatives such as Youth Co: Lab, a regional programme co-led by UNDP and partners, and its national innovation challenges in India explicitly target youth-led startups, social enterprises and NGOs to address sustainable development challenges. Simultaneously, AI literacy initiatives like YUVA AI for All integrate digital skills into school and higher education ecosystems, aiming to democratise access to AI knowledge for students across socio-economic backgrounds. These developments underpin an emerging literature on youth digital empowerment, which emphasises the intersection of skills, entrepreneurship and civic engagement.

### ***Innovation ecosystems and inclusive policies***

Finally, the literature on innovation ecosystems stresses that inclusive outcomes require supportive institutional architectures that embed gender responsiveness, youth participation, and social inclusion into design and governance. Studies on women-led innovations in agricultural innovation systems (AIS) argue that meaningful participation of women in research and innovation platforms, gender-responsive budgeting, climate-resilient practices and robust gender-disaggregated data systems are crucial to scaling inclusive innovations. Policy analyses on digital entrepreneurship converge on the view that integrated approaches connecting infrastructure, regulation, skills, finance and mentoring are more likely to yield inclusive benefits.

This body of literature provides the conceptual foundation for the present study, which situates digital entrepreneurship at the intersection of gender, youth and inclusive development in India.

## **III. RESEARCH METHODOLOGY**

### **Research design and approach**

The study adopts a qualitative, descriptive and analytical research design based entirely on secondary sources. Given the emerging, multi-dimensional nature of digital entrepreneurship and inclusive development, a secondary research approach enables the integration of diverse policy documents, academic articles, policy briefs, programme reports, and conceptual analyses to build a holistic understanding.

The research is interpretivist in orientation, aiming to understand how digital entrepreneurship is framed, supported and experienced by women and youth within broader socio-economic and policy contexts. The analysis focuses on India as a rapidly digitising, demographically young society with explicit policy commitments to women's empowerment and youth development.

### Data sources and selection criteria

Secondary data were drawn from:

- Peer-reviewed journal articles and book chapters on digital inclusion, women's entrepreneurship, youth social innovation and inclusive development.
- Policy briefs and reports by international organisations and national agencies on digital technologies and women's entrepreneurship in India.
- Government and quasi-government sources, including official portals, press releases, and initiatives related to Digital India, Startup India, Skill India, AI missions, and youth innovation challenges.
- Analytical articles and knowledge pieces authored by experts on the role of women and youth in India's innovation-driven growth trajectory.

### Selection criteria included:

- Relevance to at least one of the core themes: women, youth, digital entrepreneurship and inclusive development.
- Focus on the Indian context, with limited use of comparative international evidence when conceptually necessary.
- Recent publication date, with particular emphasis on studies and policy documents from 2015 onwards to reflect contemporary digital ecosystems.
- Availability of explicit discussion on policy frameworks, programme outcomes or empirical data relating to women and youth.

### Analytical framework

The analysis is guided by an inclusive innovation framework that views innovation as a process that should:

- Expand access to opportunities, resources and capabilities for marginalised groups.
- Enable meaningful participation of women and youth as co-creators, entrepreneurs and decision-makers.
- Produce outcomes that enhance economic security, social empowerment and resilience.
- Within this framework, four analytical dimensions structured the review and synthesis:
- Access to digital infrastructure, skills and literacy.
- Access to finance, markets and entrepreneurial ecosystems.
- Participation and leadership of women and youth in digital innovation initiatives.
- Outcomes in terms of economic inclusion, social empowerment and sustainability.

Documents and studies were coded thematically along these dimensions, and patterns, convergences and divergences were identified. The resulting synthesis forms the basis for the data analysis and discussion section.

### Limitations

Because the study relies exclusively on secondary data, it cannot generate original statistical estimates or causal inferences on impact. The analysis is also limited by the availability and quality of gender- and age-disaggregated data on digital entrepreneurship, a systemic gap acknowledged by many sources. Despite these limitations, a secondary analytical approach remains valuable for theory-building, policy synthesis and identification of research gaps that can guide future empirical work.

## IV.Data Analysis and Discussions

### Digital entrepreneurship as a pathway to inclusion

Evidence from policy briefs and empirical studies indicates that digital entrepreneurship has opened new avenues for economic participation and innovation among women and youth in India. Digital platforms allow women to operate home-based businesses, leverage social media for marketing and use digital payments to formalise transactions, thereby reducing traditional constraints related to mobility, time and safety. Youth entrepreneurs, on the other hand, have been at the forefront of technology-enabled solutions in sectors such as agriculture, health, education and waste management, often using mobile applications and AI tools to address local challenges.

The analysis suggests that digital entrepreneurship supports inclusive development through several mechanisms:

- Lowering entry barriers by reducing fixed costs and enabling flexible work arrangements.
- Expanding market access beyond local geographies through e-commerce and digital marketing.



- Enhancing financial inclusion through digital payments, fintech platforms and online credit channels.
- Fostering innovation and problem-solving capabilities, particularly among youth.

However, these opportunities are not evenly distributed. Women and youth from rural, low-income and socially marginalised backgrounds continue to face significant obstacles in accessing digital tools, reliable connectivity and supportive ecosystems.

### **Policy initiatives targeting women and youth**

A review of policy initiatives shows that the Indian state and its partners have launched multiple programmes to harness digital innovation for inclusive development. For women, schemes such as Pradhan Mantri MUDRA Yojana have extended collateral-free loans to micro-entrepreneurs, with a large proportion of beneficiaries being women. Digital platforms under Digital India and specialised marketplaces like Mahila-e-Haat enable women entrepreneurs to reach broader markets and participate in e-commerce. Policy documents highlight that women's entrepreneurship is recognised as a driver of economic inclusion, employment creation and social progress.

For youth, programmes such as Skill India and various innovation challenges, including Youth Co: Lab's national initiatives, focus on providing skills, incubation support and networking opportunities. The launch of AI literacy programmes like YUVA AI for All positions AI knowledge as a foundational life skill, seeking to democratise access to frontier technologies across socio-economic backgrounds. These measures are complemented by broader startup and innovation policies that aim to develop an enabling environment for entrepreneurship.

The analysis reveals that while these initiatives have expanded access to credit, skills and platforms, their reach and depth vary across regions, sectors and social groups. Many programmes are still in early stages of implementation, and systematic impact evaluations remain limited.

### **Opportunities: Economic empowerment and social transformation**

Studies on digital inclusion show that participation in digital entrepreneurship can significantly enhance women's economic agency and household bargaining power. Digital financial access, such as mobile wallets and online banking, increases women's control over resources and resilience to economic shocks. For example, analyses estimate that increasing women's workforce participation through digital inclusion could substantially boost national GDP, underscoring the macroeconomic gains from closing gender gaps.

Similarly, youth-led digital innovations contribute to livelihoods, social value creation and community resilience. Case studies document how young entrepreneurs have developed telemedicine platforms, local-language AI chatbots for farmers, and waste management applications that address local needs while generating employment and community benefits. These examples illustrate how youth can transition from passive beneficiaries of programmes to active innovators shaping their socio-economic environments.

Socially, digital entrepreneurship provides spaces for self-expression, networking and collective action. Women's online business communities and youth innovation networks serve as informal support structures that facilitate knowledge sharing, mentorship, and solidarity. Over time, these networks can challenge gender stereotypes, expand aspirations and normalise women's and youth's presence in leadership and innovation roles.

### **Constraints: Structural barriers and ecosystem gaps**

Despite these opportunities, multiple constraints limit the extent to which digital entrepreneurship translates into inclusive development. First, women and youth face persistent digital divides in terms of device ownership, connectivity quality and advanced digital skills. While basic smartphone access has improved, gaps in digital literacy and confidence keep many in low-value, informal segments of the digital economy.

Second, access to growth-oriented finance remains a major barrier. Many women's enterprises are confined to micro-scale operations, with limited access to formal credit, venture capital or patient impact investment. Socio-cultural norms can further restrict women's ability to offer collateral, travel for business or participate in networks, thereby reinforcing structural disadvantage.

Third, evidence from youth social innovation initiatives reveals challenges related to sustainability, funding continuity and institutional support. Many youth-led projects begin with innovative concepts but falter due to a lack of long-term funding, fragmented support structures and dependence on short-term volunteerism. This indicates that innovation ecosystems are often not designed to support the full lifecycle of youth-led ventures from ideation to scale.

Fourth, several studies and policy briefs underscore the lack of robust gender- and age-disaggregated data on innovation participation, entrepreneurial performance and social outcomes. Without such data systems, it becomes difficult to monitor progress, design targeted interventions and hold institutions accountable for inclusive outcomes.

### **Towards gender- and youth-responsive innovation ecosystems**

The literature on women-led innovations in agricultural and rural systems offers important lessons for designing inclusive innovation ecosystems more broadly. It recommends embedding gender responsiveness into innovation system design and governance, mainstreaming gender analysis across all stages of strategy development, and mandating gender-responsive budgeting and evaluation metrics. Similar principles can be extended to youth inclusion, emphasising youth representation in decision-making bodies, co-creation processes and governance structures.

### **Strategic actions proposed in these studies include:**

- Scaling community-based, climate-resilient and digitally enabled practices tailored to women and youth.
- Investing in gender-disaggregated data systems and robust monitoring and evaluation frameworks.
- Providing leadership training, digital literacy and negotiation skills to strengthen agency and capacity.
- Ensuring meaningful participation of women and youth in research, innovation platforms and policy forums.

When aligned with digital entrepreneurship policies, these actions can help transform innovation ecosystems into genuinely inclusive spaces that recognise and support women and youth as central actors rather than peripheral beneficiaries.

## **V. Results and Findings**

Synthesising the reviewed literature and policy evidence yields several key findings concerning the role of digital entrepreneurship in promoting inclusive development for women and youth in India.

### **1. Digital entrepreneurship expands but does not automatically equalise opportunities**

The first major finding is that digital entrepreneurship significantly expands opportunities for economic participation and innovation among women and youth by lowering entry barriers, enabling flexible work and providing new channels for market access and financial inclusion. However, these benefits are unevenly distributed and mediated by pre-existing inequalities in digital access, education, income and social norms. Digital technologies thus function as amplifiers: they can enhance inclusion where enabling conditions exist, but can also reinforce or reproduce inequalities in their absence.

### **2. Policy initiatives have created important enabling conditions but remain fragmented**

A second finding is that government and partner initiatives—such as Digital India, Startup India, Skill India, MUDRA loans, Youth Co: Lab challenges and AI literacy programmes—have established important enabling conditions for digital entrepreneurship among women and youth. These include expanded connectivity, digital payment infrastructure, collateral-free microcredit, skills training and innovation platforms. Nevertheless, the policy landscape is fragmented, with programmes often operating in silos, varying significantly in implementation quality and lacking integrated monitoring of inclusive outcomes.

### **3. Economic empowerment gains are real but concentrated in the micro and informal sectors**

The evidence indicates tangible gains in women's and youth's economic empowerment through digital entrepreneurship, particularly increased income opportunities, greater financial control, and enhanced resilience to economic shocks. However, most women-led ventures remain small, informal and concentrated in low-growth sectors, limiting their ability to generate large-scale employment or move up the value chain. Youth-led digital ventures show strong innovation potential but often face sustainability and scaling challenges due to limited access to long-term finance, mentoring and institutional support.

### **4. Social empowerment and norm change are emerging but uneven**

Participation in digital entrepreneurship supports social empowerment by enhancing self-confidence, leadership roles and visibility for women and youth. Online networks and communities create spaces for knowledge-sharing and collective identity formation that can challenge traditional gender and age hierarchies. However, these transformative effects are uneven and contingent on local socio-cultural

contexts, with patriarchal norms and restrictive gender expectations continuing to limit women's mobility, decision-making and access to resources in many settings.

### **5. Data, governance and ecosystem gaps impede inclusive innovation**

Finally, the analysis underscores that gaps in gender- and age-disaggregated data, weak monitoring and evaluation systems and limited participation of women and youth in innovation governance structures constrain the effectiveness of inclusive development strategies. Without robust data and participatory governance, policies risk being supply-driven rather than responsive to the lived realities of intended beneficiaries.

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