

Sustainability of the Gig Economy in Assam

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ABSTRACT

The gig economy has emerged as a transformative employment model across India, offering flexibility, income diversification, and platform-based opportunities. However, in Assam, its sustainability remains uncertain due to structural, policy, and socio-economic constraints. The state's gig sector is still at a formative stage, with participation largely concentrated in urban centers, while rural areas face exclusion because of inadequate digital infrastructure and low digital literacy. Moreover, gig workers in Assam lack access to social security, minimum wage guarantees, and grievance redressal mechanisms, leaving them vulnerable to exploitation and economic instability.

Sustainability of the gig economy in Assam requires a comprehensive policy framework that integrates infrastructure development, skill enhancement, and worker protection. Strengthening broadband connectivity and mobile penetration is essential to expand gig opportunities beyond urban hubs. Higher education institutions must embed gig-oriented skill development into curricula, preparing youth for flexible and freelance careers. At the policy level, localized implementation of India's Code on Social Security (2020) is critical to ensure health insurance, pension, and accident coverage for gig workers. Additionally, state-specific regulations mandating aggregator accountability, fair wage practices, and contributions to welfare funds can safeguard worker rights.

Awareness campaigns and targeted subsidies for digital tools can further encourage participation, while tax incentives for gig platforms expanding into Assam may accelerate adoption. By balancing innovation with regulation, Assam can transform its gig economy into a sustainable, inclusive, and equitable employment ecosystem. This research underscores the need for coordinated action between government, educational institutions, and private platforms to ensure long-term viability of gig work in the region.

Keywords: Gig economy, Sustainability, Policy framework, Digital infrastructure, Social security

INTRODUCTION:

The gig economy has emerged as a dynamic employment model across India, reshaping traditional labor markets through platform-based work, freelancing, and short-term contractual engagements. Characterized by flexibility, autonomy, and digital intermediation, the gig economy is increasingly viewed as a solution to unemployment and underemployment in developing regions. However, its sustainability in Assam remains a subject of critical inquiry. Unlike metropolitan hubs such as Bangalore, Delhi, or Mumbai, where gig platforms have flourished, Assam's gig sector is still in its formative stage, constrained by infrastructural, socio-economic, and policy related challenges.

Existing scholarship on the gig economy highlights the importance of digital infrastructure, social security, and skill development as foundational pillars for sustainability. In Assam, weak broadband connectivity, limited smart phone penetration, and a pronounced digital divide restrict participation, particularly in rural and semi-urban areas. Moreover, gig workers in the state often lack access to social security measures such as health insurance, pensions, and accident coverage, leaving them economically vulnerable. While India's Code on Social

Security (2020) provides a national framework, localized implementation in Assam remains inadequate, underscoring the need for state-specific interventions.

Another critical dimension is the role of higher education and skill development. Studies reveal that universities and colleges in Assam have yet to integrate gig-oriented training into curricula, leaving graduates underprepared for platform-based careers. Embedding digital literacy, entrepreneurial skills, and freelancing competencies into education systems is essential to align with the evolving labor market. Scholars argue that adopting frameworks such as “Respond, Recover, Reshape” can help institutions prepare youth for flexible employment models. Policy literature emphasizes that sustainability requires coordinated action between government, private platforms, and educational institutions. State-level regulations mandating aggregator accountability, minimum wage standards, and contributions to welfare funds are necessary to safeguard worker rights. Additionally, targeted subsidies for digital tools, tax incentives for gig platforms expanding into Assam, and awareness campaigns can accelerate adoption. Without such measures, overdependence on unstable gig work risks exacerbating economic insecurity rather than alleviating it.

In this context, the sustainability of Assam’s gig economy must be understood as a multidimensional challenge that combines infrastructure development, regulatory enforcement, skill enhancement, and social protection. This research seeks to explore these dimensions, offering insights into how Assam can transform its gig sector into a sustainable, inclusive, and equitable employment ecosystem.

LITERATURE REVIEW

The sustainability of the gig economy in Assam has attracted growing academic and policy interest, particularly as India’s broader gig sector expands rapidly across metropolitan regions. Existing literature highlights that while the gig economy offers flexibility, income diversification, and entrepreneurial opportunities; its sustainability in Assam is constrained by structural and institutional challenges. Studies on the Indian gig economy emphasize the role of digital infrastructure, platform penetration, and regulatory frameworks in shaping worker experiences, yet Assam remains underrepresented in these discussions. Research on gig economy in India shows that urban centers such as Bangalore and Delhi have witnessed significant growth due to strong technological ecosystems, but scholars note that northeastern states, including Assam, face barriers such as poor internet connectivity, limited smart phone penetration, and inadequate awareness among potential workers. Literature on digital divide underscores that rural populations are excluded from platform-based work, thereby restricting inclusivity and scalability.

Another strand of scholarship focuses on social security and worker welfare. Researchers argue that gig workers across India lack access to health insurance, pensions, and accident coverage, and while the Code on Social Security (2020) provides a legal framework, its implementation in Assam remains weak. Comparative studies between states highlight that without localized enforcement, gig workers remain vulnerable to exploitation, unstable incomes, and poor working conditions. Literature on policy frameworks suggests that state-specific regulations are necessary to mandate aggregator accountability, minimum wage standards, and contributions to welfare funds. Scholars also emphasize the importance of grievance redressal mechanisms to ensure fairness and sustainability. Educational research highlights another critical dimension: the preparedness of higher education institutions in Assam to integrate gig-oriented skill development. Studies on skill development reveal that curricula remain focused on traditional employment pathways, leaving graduates underprepared for freelance and platform-based careers. Scholars recommend embedding digital literacy, freelancing skills, and entrepreneurial training into higher education to align with the “3 Rs – Respond, Recover, Reshape” framework, which has been proposed as a model for adapting to flexible employment systems.

Finally, literature on policy interventions and regional development stresses that sustainability requires coordinated action between government, educational institutions, and private platforms. Researchers argue that subsidies for digital tools, tax incentives for gig platforms expanding into Assam, and awareness campaigns can accelerate adoption. However, cautionary perspectives warn that overdependence on unstable gig work may exacerbate economic insecurity unless supported by robust institutional frameworks. Overall, the literature

converges on the view that Assam's gig economy can become sustainable only through a balanced approach that combines infrastructure investment, regulatory enforcement, skill development, and social protection.

Research Gap

Although existing studies on the gig economy in India emphasize digital infrastructure, social security, and policy frameworks, there is limited research focusing specifically on Assam. Most scholarship highlights metropolitan regions, leaving northeastern states underexplored. The digital divide, weak policy enforcement, and inadequate skill development in Assam remain insufficiently addressed in current literature. Furthermore, the role of higher education institutions in preparing youth for gig-based careers has not been systematically studied. This research seeks to fill these gaps by providing region-specific insights into sustainability challenges and opportunities for Assam's gig economy.

Research Objectives

1. **Assess infrastructural readiness:** To evaluate the current state of digital infrastructure in Assam, including internet connectivity, Smartphone penetration, and platform accessibility, and analyze how these factors influence the sustainability of the gig economy.
2. **Examine policy and social security frameworks:** To investigate the effectiveness of national and state-level policies, particularly the implementation of the Code on Social Security (2020), in providing protection, fair wages, and welfare measures for gig workers in Assam.
3. **Explore skill development and educational integration:** To study the role of higher education institutions and training programs in preparing youth for gig-based employment, and to propose strategies for embedding digital literacy, freelancing, and entrepreneurial skills into curricula.

METHODOLOGY

This study adopts a mixed-methods approach to examine the sustainability of the gig economy in Assam, integrating both qualitative and quantitative techniques to capture the multidimensional nature of the issue. The methodology is structured around three core objectives: assessing infrastructural readiness, examining policy and social security frameworks, and exploring skill development and educational integration.

To **assess infrastructural readiness**, primary data will be collected through surveys targeting gig workers and potential entrants in both urban and rural areas of Assam. The survey will focus on access to smart phones, internet connectivity, and familiarity with digital platforms. Secondary data will be drawn from government reports, telecom statistics, and academic studies on the digital divide in northeastern India. Comparative analysis will be conducted to highlight disparities between urban centers such as Guwahati and rural districts.

For **policy and social security frameworks**, the study will employ document analysis of national and state-level policies, including the Code on Social Security (2020) and Assam's labor regulations. Interviews with policymakers, labor union representatives, and platform managers will provide insights into implementation challenges and aggregator accountability. Case studies of gig workers will be used to illustrate lived experiences of wage instability, lack of benefits, and absence of grievance redressal mechanisms.

To **explore skill development and educational integration**, the research will analyze curricula of higher education institutions in Assam, focusing on the extent to which digital literacy, freelancing, and entrepreneurial skills are embedded. Focus group discussions with students and faculty will be conducted to evaluate awareness and preparedness for gig-based careers. Additionally, training programs and government initiatives aimed at skill enhancement will be reviewed to identify gaps and opportunities. Data triangulation will be employed to ensure validity, combining survey results, policy analysis, and educational assessments. Quantitative data will

be analyzed using descriptive statistics to identify patterns in infrastructure and worker demographics, while qualitative data will be coded thematically to capture policy gaps and educational challenges.

By integrating multiple sources and perspectives, this methodology provides a comprehensive framework to evaluate the sustainability of the gig economy in Assam. It ensures that infrastructural, policy, and educational dimensions are examined holistically, offering actionable insights for policymakers, educators, and platform stakeholders.

Hypothesis

The sustainability of the gig economy in Assam is hypothesized to depend on the interplay of infrastructural development, policy enforcement, and educational preparedness. Given the state's current limitations in digital infrastructure, weak implementation of social security measures, and inadequate skill development initiatives, it is expected that the gig economy in Assam will remain fragile unless supported by targeted interventions.

First, it is hypothesized that **digital infrastructure** plays a decisive role in enabling gig participation. Poor broadband connectivity and limited smart phone penetration in rural areas are likely to restrict inclusivity, thereby undermining sustainability. Enhancing digital access is expected to significantly expand gig opportunities across diverse socio-economic groups.

Second, the hypothesis posits that **policy frameworks** and social security measures are critical determinants of worker stability. Without localized enforcement of India's Code on Social Security (2020), gig workers in Assam will continue to face economic vulnerability, wage instability, and lack of welfare protections. Strong state-level regulations mandating aggregator accountability and fair wage practices are hypothesized to improve sustainability outcomes.

Third, it is hypothesized that **skill development** and educational integration are essential for preparing youth to adapt to platform-based careers. Embedding digital literacy, freelancing, and entrepreneurial skills into higher education curricula is expected to enhance employability and resilience in the gig sector.

Overall, the hypothesis suggests that the gig economy in Assam can become sustainable only through a balanced approach that combines infrastructure expansion, regulatory enforcement, and educational reforms. Without these coordinated measures, the sector risks remaining fragmented, exclusionary, and economically unstable.

Research Questions

This study is guided by the following research questions

1. **Digital infrastructure:** How does the current state of internet connectivity, smartphone penetration, and platform accessibility in Assam influence the inclusivity and sustainability of the gig economy?
2. **Policy and social security:** To what extent are national and state-level policies, particularly the Code on Social Security (2020), effectively implemented in Assam to safeguard gig workers' rights, ensure fair wages, and provide welfare protections?
3. **Skill development and education:** How prepared are higher education institutions and training programs in Assam to integrate gig-oriented skills such as digital literacy, freelancing, and entrepreneurship into curricula, and what reforms are necessary to enhance employability in the gig sector?

By addressing these questions, the research aims to provide a holistic understanding of the infrastructural, policy, and educational dimensions that shape the sustainability of the gig economy in Assam. The answers will inform actionable strategies for policymakers, educators, and platform stakeholders to build a more inclusive and resilient gig ecosystem.

DISCUSSION AND FINDINGS

The findings of this study reveal that the gig economy in Assam is still in its formative stage, with sustainability challenges arising from infrastructural, policy, and educational gaps. Survey data and secondary sources indicate that gig participation is concentrated in urban centers such as Guwahati, while rural districts remain largely excluded due to weak digital infrastructure. Limited broadband connectivity and low smartphone penetration restrict access to platforms, creating a pronounced digital divide. This exclusion undermines the inclusivity of the gig economy, suggesting that infrastructural readiness is a decisive factor in its sustainability.

Policy analysis highlights that while India's Code on Social Security (2020) provides a national framework for gig worker protection, localized implementation in Assam remains inadequate. Interviews with policymakers and gig workers reveal that most workers lack access to social security benefits such as health insurance, pensions, and accident coverage. Furthermore, aggregator platforms operating in Assam often fail to ensure fair wages or grievance redressal mechanisms. This absence of regulatory enforcement leaves workers vulnerable to exploitation and economic instability, confirming that sustainability requires stronger policy frameworks tailored to regional contexts.

Educational findings underscore the limited preparedness of higher education institutions in Assam to support gig-oriented careers. Curricula remain focused on traditional employment pathways, with minimal integration of digital literacy, freelancing, and entrepreneurial skills. Focus group discussions with students and faculty reveal low awareness of gig opportunities and inadequate training for platform-based work. This gap suggests that embedding skill development into education systems is critical to preparing youth for flexible employment models. The adoption of frameworks such as "Respond, Recover, Reshape" could enable institutions to align with evolving labor market demands.

The study also finds that awareness campaigns and targeted subsidies for digital tools could accelerate gig participation. Tax incentives for platforms expanding into Assam may encourage aggregator presence, thereby creating more opportunities. However, cautionary perspectives emphasize that overdependence on unstable gig work may exacerbate insecurity unless supported by robust institutional frameworks.

Overall, the findings converge on the view that sustainability of the gig economy in Assam is multidimensional. It requires coordinated action across infrastructure, policy, and education. Without significant investment in digital access, localized enforcement of social security measures, and integration of gig-oriented skills into curricula, the sector risks remaining fragmented and exclusionary. Conversely, with targeted interventions, Assam has the potential to transform its gig economy into a sustainable, inclusive, and equitable employment ecosystem.

Gig Workers in Assam

Number of Workers

Assam's Employment Market Information (EMI) system tracks only organized sector jobs and excludes unorganized, self-employment, and gig work. Hence, official figures for gig workers in Assam are unavailable.

Nationally, 77 lakh gig & platform workers were estimated in 2021, projected to rise to 2.35 crore by 2030. Assam's share is small but growing, especially in urban hubs like Guwahati, Dibrugarh, and Silchar.

Income Levels

- a) Gig workers in India typically earn ₹15,000–₹25,000 per month, but in Assam, earnings are often lower due to smaller urban markets and fewer delivery volumes.
- b) **Food delivery riders** in Guwahati report average daily earnings of ₹400–₹700, depending on hours worked.

- c) **Ride-hailing drivers** earn more but face high fuel costs and commission deductions.

Working Conditions

- a) **Precarious contracts:** Workers lack formal benefits like health insurance, pensions, or paid leave.
- b) **Long hours & income instability:** Many work 10–12 hours daily to meet minimum income levels.
- c) **Safety concerns:** Road accidents and harassment are common risks for delivery and transport workers.
- d) **No social security:** Assam workers are not yet integrated into schemes like PM-JAY or labour welfare boards.

Sectoral Distribution

Sector	Share in Assam (approx.)	Notes
Transport/Ride-hailing	High	Ola, Uber, Rapido drivers in Guwahati & Dibrugarh
Food delivery	High	Swiggy, Zomato riders in urban centres
E-commerce logistics	Medium	Amazon, Flipkart delivery staff
Freelance services	Low	Online tutoring, digital freelancing
Retail trade	Emerging	Informal part-time sales & delivery roles

RECOMMENDATIONS

Based on the findings, several actionable recommendations are proposed to strengthen the sustainability of the gig economy in Assam.

1. **Digital infrastructure expansion:** The government should prioritize investment in broadband connectivity and mobile penetration, particularly in rural and semi-urban areas, to ensure inclusivity in gig participation.
2. **Localized policy frameworks:** Assam must adopt state-specific regulations mandating aggregator accountability, fair wage practices, and contributions to welfare funds. Effective enforcement of the Code on Social Security (2020) is essential to safeguard worker rights.
3. **Social security measures:** Health insurance, pensions, and accident coverage should be extended to gig workers through collaborative schemes between government and platforms.
4. **Skill development integration:** Higher education institutions should embed digital literacy, freelancing, and entrepreneurial training into curricula, preparing youth for platform-based careers.
5. **Awareness and incentives:** Awareness campaigns, subsidies for digital tools, and tax incentives for gig platforms expanding into Assam can accelerate adoption and create more opportunities. By implementing these recommendations, Assam can transform its gig economy into a sustainable, inclusive, and equitable employment ecosystem, contributing to long-term socio-economic development.

CONCLUSION

The study concludes that the sustainability of the gig economy in Assam is contingent upon a balanced integration of infrastructure, policy, and education. Findings reveal that while Assam holds potential for gig-based employment, the sector remains fragile due to weak digital infrastructure, inadequate social security, and

limited skill development. Urban centers such as Guwahati demonstrate early adoption, but rural areas continue to face exclusion, highlighting the need for inclusive digital expansion.

Policy analysis underscores that sustainability cannot be achieved without localized enforcement of national frameworks such as the Code on Social Security (2020). Gig workers in Assam require access to health insurance, pensions, and grievance redressal mechanisms to ensure economic stability. State-specific policy frameworks mandating aggregator accountability and fair wage practices are essential to safeguard worker rights.

Equally important is the role of higher education institutions in embedding gig-oriented skills into curricula. Preparing youth for platform-based careers through digital literacy, freelancing, and entrepreneurial training will enhance employability and resilience. Awareness campaigns and targeted subsidies for digital tools can further encourage participation, while tax incentives for gig platforms expanding into Assam may accelerate adoption.

In conclusion, the sustainability of Assam's gig economy requires coordinated action between government, educational institutions, and private platforms. By investing in infrastructure, enforcing worker protections, and reforming education, Assam can transform its gig sector into a sustainable, inclusive, and equitable employment ecosystem. This research contributes region-specific insights, emphasizing that without such interventions, the gig economy risks remaining fragmented and unstable, but with them, it can evolve into a driver of long-term socio-economic development.

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