

Empowering Tribal Communities through Digital Labor Markets: Prospects and Pathways

Sandhya S B¹, Dr Smitha Etavalath Kozhukkunnon², Deepa A K³

¹Assistant Professor of Economics, Government College Madappally, Research Scholar (Part time) St. Josephs College, Devagiri (Autonomous), University of Calicut

²Associate Professor of Economics, Government college Madappally, Kozhikode

³Assistant Professor of Economics, Government College Madappally

Abstract

The digital economy offers new opportunities for empowering tribal communities by taming their access to jobs, entrepreneurship, and diverse livelihoods. Traditionally, many tribal groups depend on agriculture, forest resources, and informal work, which limits their ability to benefit from rapidly changing labour markets driven by technology and economic shifts. This paper observes how digital skills, market access, and tailored digital programs can help tribal populations participate more fully in the modern labour economy. Challenges such as poor internet connectivity, low digital literacy—especially among women and youth—and cultural barriers restrict tribal rendezvous with digital platforms. However, initiatives like AI-based skill development, localized vocational training, and digital marketplaces for tribal products determine promising ways to overcome these impediments. Government exertions to create transparent supply chains and boost tribal entrepreneurship through digital means have shown positive effects. For these developments to be sustainable and inclusive, investments in digital infrastructure and culturally sensitive education are crucial. Partnerships between government, NGOs, and technology providers can help tailor digital solutions to tribal contexts, conserving their culture while expanding economic opportunities. Empowering tribes through digital labour markets make even with broader goals of reducing poverty and promoting decent work, offering a path toward socio-economic bendiness. In conclusion, closing the digital divide and fostering digital literacy within tribal communities are essential steps to ensure their meaningful enclosure in the future.

KEYWORDS: Tribal digital labour market, Tribal digital inclusion, Tribal digital literacy

1. INTRODUCTION

Digital technologies have renovated the nature of work globally. In India, the rise of digital platforms, gig work systems, remote service work, and e-commerce ecosystems has opened new avenues for income generation. This shift has created what is collectively known as the **digital labour market**—a technology-mediated system where work is assigned, performed, and paid through digital tools. India's tribal communities, constituting 8.6% of the population (Census 2011), With India having the world's second-largest tribal population after Africa, bridging the digital divide is essential for inclusive growth. The country's tribal groups, categorized into Primitive (Vulnerable) Tribal Groupings (PTGs) and Scheduled Tribes, encompass over 705 diverse communities. As India moves towards its vision of Vikshit Bharat 2047, digital empowerment of these communities is not just an opportunity but a necessity for holistic

development. Because they face deep socio-economic disadvantages, including low literacy levels, weak access to infrastructure, and limited participation in formal employment. Traditional tribal livelihoods are largely dependent on agriculture, forest-based activities, wage labour, and artisanal crafts. Migration to cities for work has grown, but often under exploitative or unstable conditions.

Among these challenges, one prominent issue is the struggle to sustain viable livelihoods in the face of changing market dynamics and sociocultural shifts. No Poverty," one of the Sustainable Development Goals (SDGs), entails ensuring that all individuals have access to basic resources, services, and opportunities to lift themselves out of poverty. It emphasizes the importance of economic empowerment and social inclusion to eradicate poverty in all its forms. Similarly, "Decent Work and Economic Growth" SDG focuses on promoting sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all. This goal emphasizes the creation of decent jobs, the protection of labour rights, and the promotion of entrepreneurship and innovation. It aims to ensure that economic growth benefits all segments of society, including marginalized groups such as tribal communities.

In recent years, however, the emergence of digital marketing as a transformative tool has offered a glimmer of hope for empowering tribal livelihoods and fostering economic resilience. In this context, the emergence of digital labour markets presents a significant opportunity for tribes—especially youth—to participate in new forms of employment without needing high educational qualifications or permanent migration. The digital labour market offers remote work possibilities, flexible gig opportunities, online entrepreneurship, and direct access to customers through e-commerce platforms. These characteristics align closely with the needs, constraints, and aspirations of tribal communities.

Digital employment for tribal communities can be created through embattled digital skilling programs, e-commerce platforms for tribal products, and gig economy incorporation via government schemes and private partnerships. The integration of modern technology into traditional enterprises in the Birbhum district has significantly boosted tribal entrepreneurship, leveraging the region's cultural heritage and traditional skills to improve business operations and market reach. The dawn of digital tools has facilitated access to broader markets, improved productivity, and fostered innovation among tribal businesses (World Bank, 2019). In Birbhum, mobile technology and internet connectivity have been game-changers, enabling local artisans to sell their products online, thus transcending geographical limitations (Das & Mukherjee, 2020). E-commerce platforms have provided a vital link to global consumers, ensuring better pricing and reduced dependency on middlemen. Furthermore, technology-driven initiatives like digital payment systems have rationalized financial transactions, making it easier for tribal entrepreneurs to manage their finances and invest in business growth (Singh, 2021).

India's digital economy, projected to reach \$1 trillion by 2026, offers unprecedented labour market opportunities amid global shifts toward gig and platform work. For tribal communities, historically reliant on agriculture (over 80% per PLFS) and forest produce, digital labour markets promise diversification beyond informal sectors, enhancing incomes and mobility. Yet, exclusion persists: only 2-5% of STs engage in digital roles due to connectivity gaps in 189 Kerala colonies alone and literacy barriers. This paper synthesizes initiatives like TRIFED's Van Dhan Yojana (3.6 lakh gatherers employed) and GOAL (10 lakh youth targeted), evaluating their impact on entrepreneurship and gig participation. It argues for integrated strategies linking digital skills to PLFS-tracked occupational shifts, fostering self-reliance.

1.1 Digital Labour Market Landscape for Tribes

Digital labour encompasses gig platforms (UrbanClap, Swiggy), freelancing (Upwork), e-commerce (Amazon Karigar), and remote services (BPO). For tribes, entry points include NTFP sales, handicraft

marketplaces, and micro-tasks suiting low formal education. India's gig workforce hits 15 million, with ST share under 1%, but pilots show 25% income rises in Birbhum via online sales.

Sector	ST Participation (% est.)	Growth Drivers
E-commerce (handicrafts)	2-3%	TRIFED integrations
Gig Delivery/Freelance	<1%	Skill India courses
Digital Agri/Forest	5%	GOAL mentorship

1.2 Government Initiatives and Models

Effective digital entrepreneurship models for tribal communities in India revolve around e-commerce platforms for selling handicrafts and forest produce, mentorship and digital skill-building programs, and tech-driven micro-enterprises that transform traditional skills for international markets. Initiatives like TRIFED's Tribes India and the Van Dhan Yojana are notable, having provided support to over 11.83 lakh tribal people with ₹587 crore in funding, thereby increasing incomes through sustainable value chain development.

1.3 TRIFED-Led E-Commerce Models

TRIFED's Tribes India e-Marketplace and brick-and-mortar stores provide tribal artisans with direct access to B2B and international buyers, offering handlooms, handicrafts, and minor forest products while helping to preserve their cultural heritage. The Van Dhan Yojana has launched more than 300 centers dedicated to processing tribal products, fostering self-sufficiency and greater market reach. These initiatives have resulted in reduced exploitation and improved productivity. In areas like Birbhum, technology-driven solutions have increased household incomes by 25% through digital marketing platforms. GOAL Program Mentorship

Meta's GOAL (Going Online As Leaders) 2.0, with the Ministry of Tribal Affairs, digitally upskills 10 lakh tribal youth and women in entrepreneurship, digital literacy, and platforms like Facebook for sectors such as agriculture, handicrafts, and health. Phase 1 trained 167 youth, with 75% improving communication skills, 69% expanding digital commerce reach, and success stories like a Leh tribal woman launching her own venture post-mentorship. It integrates with 50,000 TRIFED self-help groups for branding and marketing.

1.4 Regional and Emerging Models

In Andhra Pradesh, digital literacy training and government policy collaborate to support tribal businesses in agro-processing and crafts. Although tribal-specific examples include gig freelancing and vernacular apps that indirectly assist high-literacy tribal areas like Wayanad, Kerala's inclusive startup ecosystem, valued at \$1.7 billion with 6,500 enterprises, encourages rural entrepreneurs through LEAP Co-works. Kerala indigenous people are trained for online companies through Amrita University's e-Literacy program.

1.5 Skill India Digital Hub and Regional Efforts

The **Tribal Cooperative Marketing Development Federation of India, (TRIFED)**, is involved in the marketing and development of tribal goods, such as handicrafts, under the Ministry of Tribal Affairs. Tribal goods have been marketed by TRIFED through its own stores, "TRIBES India," as well as through state emporia outlets on a consignment basis.

TRIFED has established a framework for obtaining artistic and crafted goods produced by tribal producers who have been empanelled. Individual tribal artists, tribal SHGs, and organizations, agencies, and non-governmental organizations that collaborate with tribal people make up the suppliers. They have been appointed as TRIFED suppliers in accordance with the supplier empanelment rules. Following procurement, TRIFED sells the goods via its "Tribes India" marketing platform.

1.6 Tribes India E-Marketplace

The biggest marketplace for organic goods and handicrafts in India is Tribes India E-Marketplace. In order to source various handicrafts, handlooms, and natural food products nationwide and provide you with the finest tribal output, the project seeks to onboard 5 lakh tribal farmers. Individual tribal craftsmen, tribal SHGs, and organizations, agencies, and non-governmental organizations that collaborate with tribal people make up the suppliers. The platform gives tribal suppliers an omni-channel opportunity to market their products via their own distributors and merchants, TRIFED's network of outlets and eCommerce partners, and their own e-Marketplace account. It showcases tribal products (produce and handicrafts) from all over India one place, the E-marketplace is a state-of-the-art e-commerce platform which can be accessed on the web and also mobile (Android and iOS) for both customers and the tribal vendors registered.

- **e-Commerce platform of Tribes India**

Going digital will promote tribal trade and make tribal goods more readily accessible, which will benefit tribal craftspeople more. As a consequence, all of its products have become accessible for purchase on the e-commerce (electronic commerce) website www.tribesindia.com.

The categories of tribal products sold in the platform include metal Craft, Tribal Textiles, Tribal Jewellery, Tribal painting, Cane & Bamboo, Terracotta & Stone Pottery, Gift and Novelties, Organic and Natural Food Products. Through direct online marketplaces or partnerships with industry titans like Amazon and Flipkart, tribal-led e-commerce platforms in India mainly concentrate on gathering and selling handicrafts, handlooms, forest produce, and cultural artifacts. They place a strong emphasis on fair trade, cultural preservation, and artisans' independence. These approaches frequently use digital supply chains to empower tribal farmers while including government backing through TRIFED.

- **Truly Tribal**

This platform curates and sells authentic tribal art, crafts, and indigenous designs directly from artisans across India, focusing on cultural heritage products like handicrafts for home decor. Its model emphasizes reasonable pricing, punctual delivery, and artisan support, acting as a direct-to-consumer marketplace that celebrates diversity and provides festive gifting options. Customer feedback highlights its role in encouraging tribal craftsmanship.

- **Universal Tribes**

Established in 2017 by Pune entrepreneur Rajat Raghatwan, it collects the goods of more than 100 tribal artisans from Maharashtra and completes orders through online marketplaces like Amazon and Flipkart. With ambitions for a tribal art community in Junnar to preserve endangered art forms through access to

international markets, the aggregator-for-aggregators business takes bulk orders, forwards them to artists, and invests in scaling (raising Rs 10–15 lakh).

- **Regional Partnerships and Kerala Context**

Amazon Karigar partners with Andhra Pradesh Forest Department to sell Visakhapatnam tribal produce from Kambalakonda Sanctuary, empowering artisans via sustainable e-commerce hubs. In Kerala, no purely tribal-led platforms dominate, but tech-savvy initiatives like Anjali Ramesh's artisan-global buyer connector preserve handlooms and coir through supply chain modernization, supported by Kerala Startup Mission

Problems in the Digital Labour Market for Tribal Communities

Tribal communities in India, which make up 8.6% of the country's population, or more than 10 crore people, face significant structural obstacles when it comes to engaging in digital labor markets, which include gig platforms, freelance websites, e-commerce, and remote services. Due to infrastructure deficiencies, these markets—which are expected to create 90 million employments by 2030—remain mainly inaccessible. Kerala's 189 Adivasi colonies serve as an example of the problem, with over 40% of tribal settlements lacking dependable broadband. Remote hamlets in Wayanad and Idukki have no access, making services like Upwork and Swiggy useless. Rugged terrain increases logistics costs for e-commerce delivery by 30–50%, and power instability exacerbates this by interfering with device charging and online sessions.

Digital literacy gaps exacerbate exclusion. Tribal digital competency is 45% compared to 70% nationwide, with 22% of artisans hampered by English language obstacles and 28% unable to use platforms because of complicated interfaces. According to PLFS data from 2016 to 2025, ST workers predominate in casual agriculture (60–70% in Kerala), which is indicative of their low level of formal education—just 15% complete higher secondary—which restricts their access to high-skill jobs like content production. Adoption is also hampered by cultural inertia: travel for training upends family structures, and community norms value communal agrarian relationships over individualistic platform employment. Due to household responsibilities and safety concerns in gig deliveries, ST women, who make up 55% of the workforce, achieve less than 20% digital involvement, exacerbating the problem.

The dynamics of the market and platforms maintain uncertainty. On apps like Urban Company, algorithmic biases favor urban profiles while marginalizing tribal workers who don't have digital footprints or reviews. In MFP supply chains, middlemen continue to capture 60% of margins prior to e-platforms, and hefty commission fees (15–25%) reduce profits from Amazon Karigar sales. 70% of gigs in rural areas pay less than ₹10,000 per month, reflecting the weaknesses of the informal economy in the absence of social security, health insurance, or minimum wages. Data asymmetries impede progress: district-level ST trends are obscured by PLFS aggregates, making targeted interventions difficult to implement. Wayanad's 23% ST population sees very little gig entry (<5%) despite Kerala's 94% state literacy rate, highlighting intersectional failures in location, caste prejudice, and policy silos.

1.7 Prospects of the Digital Labour Market for Tribes

Notwithstanding these obstacles, digital labor markets present revolutionary opportunities for tribal empowerment, utilizing India's \$1 trillion digital economy and 80% cell coverage to expand beyond agriculture. E-commerce sites like Amazon Karigar and TRIFED's Tribes India allow direct international sales of MFPs and handicrafts, eschewing middlemen and generating 25% income increases for pilots like

Birbhum. With 3.6 lakh workers, Van Dhan Yojana's 1205 facilities handle goods for online B2B via GeM/ONDC, aiming for ₹2 trillion in commerce. Storytelling about indigenous crafts, or culturally resonant branding, attracts premiums, maintaining history while expanding output through flexible hours. Tribal environments are well suited for gig economy integration: low-barrier jobs in delivery (Swiggy), microtasks (Amazon MTurk), and freelancing (Fiverr design from traditional themes) allow for mobility and partial education. High-literacy tribes are positioned for IT/BPM jobs thanks to Kerala's 20% post-pandemic freelancing increase, which is driven by \$1.7 billion companies. Language upskilling is made possible by popular apps like Duolingo. Government initiatives exacerbate this: 10 lakh young people are trained in Facebook Shops through Meta's GOAL 2.0 program, which has resulted in a 69% increase in commerce; SHGs receive free AI and marketing courses from Skill India Digital Hub. In order to support startups in NTFP e-sales, Tech for Tribals (2025) with IITs provides 120-session entrepreneurship modules.

Hybrid models combine technology and tradition: According to PLFS predictions, Wayanad youth combine coir e-commerce with Upwork tasks, projecting a 35% non-farm shift. By 2030, the potential for rural gigs will reach 2.35 crore, and access will be democratized by mobile-first platforms like WhatsApp bots. Reduced migratory anxiety and women-led SHGs gaining agency through home-based gigs are examples of sustainability advantages. With Kerala's SAMANWAYA and Amrita e-Literacy (2,000 trained) serving as scalable pilots, Viksit Bharat 2047 envisions 20 lakh tribal entrepreneurs through Process Labs. Longitudinal effects: 1.5x occupational mobility multipliers are correlated with a 75% GOAL skill boost.

1.8 Conclusion

The digital labor market offers opportunities to break long-standing cycles of socioeconomic marginalization and agrarian dependence, making it a crucial frontier for tribal empowerment in India. In particular, for Kerala's Scheduled Tribes (STs) in areas like Wayanad and Idukki, this article has clarified the twin story of significant obstacles and enormous opportunities. Digital literacy gaps (45% ST competence vs. 70% national) and infrastructure deficiencies (189 disconnected Adivasi communities, unstable power, and 40% broadband voids) prevent tribes from using gig platforms, freelancing, and e-commerce. Exploitation is sustained by cultural barriers, gender disparities (ST women have less than 20% digital entry despite making up 55% of the workforce), algorithmic biases, and precarity in informal gigs, as demonstrated by PLFS patterns that consistently show 60–70% casual labor dominance. Rural gigs might generate 2.35 crore by 2030 amid India's \$1 trillion digital economy and 80% cell penetration, with 35% non-farm ST shifts and 20% mobility gains predicted in Kerala, a state with strong literacy rates. To make this vision a reality, comprehensive policy is necessary: 5% platform quotas for ST products, Bharat Net saturation for tribal hamlets, disaggregated PLFS tracking using a Tribal Digital Index, and vernacular voice apps through Tech for Tribals (2025). Kerala is positioned as a leader where Wayanad startups, and milestones in the eradication of poverty. Digital labor markets can create resilient livelihoods that respect tribal history while advancing economic agency by bridging gaps through culturally sensitive initiatives. Future studies must monitor gig prejudices and district panels in order to improve these trends and guarantee that tribes dominate India's digital renaissance.

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