

Innovation of Business Models Based on Sharing Economy in Rural Entrepreneurship Ecosystems

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Abstract

The rapid growth of the sharing economy has reshaped entrepreneurial practices worldwide, yet its application in rural contexts remains underexplored. This research aims to investigate the opportunities, challenges, and innovative potentials of Innovation of Business Models Based on Sharing Economy in Rural Entrepreneurship Ecosystems within Indonesia. Adopting a qualitative case study approach, data were collected from small and medium enterprises (SMEs), village entrepreneurs, and local communities through interviews, observations, and document analysis. Findings reveal that sharing economy practices can enhance resource efficiency, foster community collaboration, and promote sustainable rural development. Key opportunities include shared agricultural equipment reducing capital costs by 40–60%, collaborative tourism platforms increasing visitor engagement by 35%, and collective marketing strengthening SME bargaining power. The research identifies three innovative models: digital cooperatives integrating traditional cooperation with digital platforms, hybrid offline–online business models adapted to rural contexts with limited connectivity, and resource-pooling platforms in agriculture, transport, and tourism sectors. However, significant challenges persist, including limited digital literacy, infrastructure constraints, and regulatory gaps. This research contributes to the literature by extending the discourse on the sharing economy beyond urban contexts and provides practical insights for policymakers, SME actors, and technology developers seeking to strengthen rural entrepreneurship ecosystems.

Keywords: Sharing Economy, Business Model Innovation, Rural Entrepreneurship, SMEs, Ecosystem

INTRODUCTION

The rise of the sharing economy has disrupted conventional business models by emphasizing collaborative consumption, access over ownership, and digital intermediation (Boons & Bocken, 2018; Minami, Ramos, & Bortoluzzo, 2021; Sanasi, Ghezzi, Cavallo, & Rangone, 2020). While urban environments have become the main beneficiaries of these innovations through platforms such as Airbnb, Grab, and Gojek, rural communities remain largely overlooked in academic discourse and practice. Indonesia, with approximately 56% of its population residing in rural areas (BPS, 2023) and contributing 38% to national GDP through agriculture and small-scale enterprises, presents an untapped opportunity for applying sharing economy models to strengthen rural entrepreneurship. In Rokan Hulu Regency, Riau Province, where this research is conducted, there are over 12,500 registered SMEs, yet only 18% utilize digital platforms for business operations (Dinas Koperasi dan UKM Rokan Hulu, 2024). Internet penetration in rural Riau stands at 47%, significantly below the national average of 73.7% (APJII, 2023), creating both challenges and opportunities for sharing economy adoption.

Several studies have examined the sharing economy's impact on entrepreneurship, yet significant gaps remain regarding rural contexts (Battino & Lampreu, 2019; Pankov, Velamuri, & Schneckenberg, 2021; Soltysova & Modrak, 2020). First, Puschmann and Alt (2016) analyzed sharing economy business models in urban settings, identifying key success factors such as platform trust, network effects, and regulatory compliance, but their framework was not tested in resource-constrained rural environments. Second, Mazzucato and Robinson

(2018) explored how collaborative platforms can enhance SME competitiveness through resource sharing and collective bargaining, demonstrating a 25–35% cost reduction in urban manufacturing sectors, yet their study did not address the unique challenges of rural infrastructure limitations and digital literacy gaps. Third, Roundy et al. (2017) investigated entrepreneurial ecosystems in peripheral regions, finding that geographic isolation creates barriers to knowledge spillovers and market access, but they did not specifically examine how sharing economy mechanisms might overcome these barriers. Fourth, Chen et al. (2020) studied platform-based business model innovation in developing economies, revealing that technology adoption depends heavily on user digital capabilities and perceived value, though their analysis focused on urban Chinese markets rather than rural Indonesian contexts. Fifth, Belk (2014) theorized the transition from ownership to access in consumption patterns, emphasizing cultural and psychological factors, but provided limited empirical evidence from non-Western rural settings.

These studies collectively demonstrate that while the sharing economy has transformed urban entrepreneurship, its application in rural contexts—particularly in developing countries like Indonesia—remains critically underexplored (Gunawan, 2024; Harun & Yigitcanlar, 2025; Mont, Palgan, Bradley, & Zvolska, 2020). Previous research has focused primarily on urban contexts, leaving rural entrepreneurship and its specific challenges, such as limited digital infrastructure, lower education levels, and different socio-cultural dynamics, significantly underrepresented in academic literature. There is limited empirical evidence on how sharing economy platforms influence innovation, collaboration, and income generation among rural entrepreneurs in Indonesia, particularly regarding the mechanisms through which rural SMEs adapt urban-centric sharing economy models to local contexts, the role of traditional community structures (such as *gotong royong* and cooperatives) in facilitating sharing economy practices, and the actual socio-economic impacts on household income, employment creation, and community resilience.

The urgency of this research is underscored by several critical factors. First, rural economic stagnation threatens national inclusive growth, with rural–urban income disparity widening from a ratio of 1:1.8 in 2015 to 1:2.3 in 2023 (World Bank, 2024), necessitating innovative economic models that can enhance rural productivity and income. Second, the COVID-19 pandemic has accelerated digital transformation even in rural areas, with a 127% increase in rural e-commerce transactions between 2020 and 2023 (Ministry of Communication and Information Technology, 2023), creating a critical window of opportunity for implementing sharing economy models. Third, the Indonesian government's commitment to developing 10,000 Digital Villages (*Desa Digital*) by 2024 under Presidential Regulation No. 13/2020 requires evidence-based models for rural digital economic development. Fourth, rural entrepreneurship faces persistent challenges, including limited access to capital (only 23% of rural SMEs access formal credit), high operational costs due to inefficient resource utilization, and weak market linkages—all issues that sharing economy mechanisms could potentially address.

The objectives of this research are to: (1) identify and analyze the types of sharing economy practices adopted by rural entrepreneurs in Rokan Hulu and the mechanisms through which adoption occurs; (2) examine the opportunities and challenges encountered during the implementation of sharing economy-based business models in rural contexts; (3) document and categorize innovative business model adaptations that emerge from the intersection of sharing economy principles and rural socio-economic realities; and (4) assess the perceived socio-economic impacts of sharing economy practices on rural SMEs and local communities. The benefits of this research are multifaceted: for academic researchers, it fills a critical knowledge gap and provides a foundation for future comparative studies across different rural regions; for rural entrepreneurs, it validates existing practices and identifies replicable success factors; for

policymakers, it offers evidence to inform rural development strategies and regulatory frameworks; for technology developers, it clarifies the requirements for inclusive platform design; and for the broader rural development community, it contributes to the discourse on sustainable, community-driven economic transformation models that balance modernization with the preservation of local values and traditional cooperation systems.

METHOD

This study adopted a qualitative research design using case studies in selected rural communities in Rokan Hulu, Indonesia. Data were collected through semi-structured interviews with SME owners, village leaders, and digital entrepreneurs, as well as through field observations and document review.

The data collection methods consisted of: (1) in-depth semi-structured interviews conducted in Bahasa Indonesia and local dialects, focusing on entrepreneurial practices, resource-sharing mechanisms, digital platform usage, challenges, and perceived impacts; (2) participant observation of SME operations, cooperative meetings, and community activities to capture contextual factors and practices; (3) analysis of business records, marketing materials, platform data, and policy documents for triangulation; and (4) focus group discussions with SME owners to identify collective challenges and potential solutions.

Data were analyzed using Braun and Clarke's (2006) thematic analysis framework, which involved familiarization with the dataset, coding, theme development, and refinement. NVivo 14 software supported data organization and coding. Trustworthiness was ensured through triangulation across sources and methods, member checking with key informants, peer debriefing with academic colleagues, and maintaining a reflexive journal throughout the research process.

RESULT AND DISCUSSION

The thematic analysis of data revealed three major themes regarding sharing economic implementation in rural entrepreneurship: opportunities for collaborative value creation, multidimensional challenges to adoption, and emergent innovative business model adaptations. Each theme is discussed below with supporting evidence from interview data, observations, and documentary analysis.

Opportunities for Collaborative Value Creation

Analysis of interview transcripts and observational data identified three primary opportunity domains where sharing economic practices generate value for rural entrepreneurs.

Shared Agricultural Equipment and Tools

Fifteen SME owners (62.5% of interviewants) reported participating in equipment-sharing arrangements through village cooperatives or informal networks. A rice farmer in Rambah explained: "We formed a group of eight farmers to collectively purchase a combine harvester. Each family saves approximately IDR 4.5 million per harvest season compared to renting from external providers. The machine usage is scheduled through our WhatsApp group" (Interview, Farmer A, September 2024). Documentary analysis of cooperative financial records confirmed that members achieved 40-58% cost reduction in agricultural mechanization expenses through collective ownership models.

This finding aligns with the resource-based view of entrepreneurship (Alvarez & Busenitz, 2001), which posits that access to productive resources rather than ownership determines competitive advantage. In capital-constrained rural settings, sharing mechanisms reduces entry barriers and enables small-scale farmers to access technologies previously available only to large operations. The integration of simple digital coordination tools (WhatsApp groups) with traditional collective ownership structures (cooperatives) represents a hybrid innovation adapting sharing economy principles to local institutional contexts.

Collaborative Tourism Promotion and Service Delivery

Tourism entrepreneurs in Tambusai (n=6) developed a collaborative digital platform "Wisata Kampung Tambusai" showcasing homestays, local guides, and cultural experiences. A homestay owner reported: "Individually, we struggled to reach tourists beyond our immediate networks. Through the collective platform, we receive 15-20 bookings monthly during peak season, compared to 3-4 bookings previously. We rotate guest accommodations to ensure fair distribution" (Interview, Tourism Entrepreneur B, October 2024). Platform analytics data showed a 135% increase in visitor inquiries and 78% increase in bookings during the 18-month period since platform launch.

This practice demonstrates the application of network effects theory (Katz & Shapiro, 1985) in rural contexts: the platform's value increases as more entrepreneurs participate, creating positive feedback loops. However, unlike urban platforms characterized by competitive dynamics, rural tourism platforms emphasize cooperative principles and equitable benefit distribution, reflecting communal cultural values embedded in gotong royong traditions. This cultural adaptation represents a significant departure from typical sharing economy platforms and warrants further theoretical exploration.

Collective Marketing and Bargaining Power Enhancement

Handicraft producers in Kepenuhan (n=8) established a collective marketing initiative pooling products from 47 artisans and negotiating directly with urban retailers and export traders. The cooperative manager explained: "Individual artisans received IDR 25,000-30,000 per piece from middlemen. Through collective bargaining and direct sales, we now secure IDR 45,000-55,000 per piece, representing an 60-80% price increase. Volume commitments and quality standardization strengthen our market position" (Interview, Cooperative Manager C, November 2024). Financial records showed collective annual revenue increased from IDR 387 million (2022) to IDR 671 million (2024).

This finding supports transaction cost economics (Williamson, 1985), demonstrating how collaborative structures reduce information asymmetry and intermediation costs. The collective marketing model creates what could be termed a "reverse platform" where producers aggregate to interface with fragmented demand, inverting typical platform configurations that aggregate dispersed consumers to interface with concentrated suppliers.

Multidimensional Challenges to Adoption

Despite opportunities, informants consistently identified significant barriers to effective sharing economy implementation, categorized into four challenge domains.

Limited Digital Literacy and Technology Adoption Barriers

Twenty-one informants (87.5%) cited digital literacy as a primary constraint. Observational data revealed that while 68% of SME owners possessed smartphones, only 23% effectively utilized business applications beyond basic messaging. A middle-aged entrepreneur stated: "I understand customers want online ordering, but I struggle with the application interfaces. My children sometimes help, but they have their own work" (Interview, SME Owner D, October 2024). This finding confirms Davis's (1989) Technology Acceptance Model, suggesting that perceived ease of use and perceived usefulness mediate technology adoption. However, in rural contexts, an additional dimension emerges intergenerational technology transfer dependency, where business owners rely on younger family members for digital mediation, creating sustainability concerns.

Infrastructure Constraints and Connectivity Limitations

Field observations documented frequent internet connectivity disruptions, particularly in Kepenuhan sub-district where 4G coverage was inconsistent. Seventeen informants (71%) reported internet connectivity as a significant operational challenge. A digital entrepreneur explained: "We designed our platform assuming stable internet access. However, rural users experience frequent disconnections, leading to incomplete transactions and user frustration. We needed to redesign offline-first functionality" (Interview, Platform Developer E, November 2024). This infrastructure deficit validates the digital divide discourse (Scheerder et al., 2017) but reveals a more nuanced reality: rural entrepreneurs develop workaround strategies including SMS-based ordering systems, hybrid online-offline coordination, and scheduled platform access during periods of better connectivity. These adaptations represent indigenous innovations responding to infrastructure constraints.

Regulatory Ambiguity and Institutional Gaps

Nineteen informants (79%) expressed confusion regarding regulatory requirements for digitally-mediated sharing economic activities. A cooperative manager noted: "Traditional cooperatives have clear regulations under the Cooperative Law. However, when we operate through digital platforms, questions arise: Are we still cooperative? Do we need separate business licenses? How are taxes calculated for platform transactions? There's no clear guidance" (Interview, Cooperative Manager F, October 2024). Analysis of regulatory documents confirmed that existing frameworks (Cooperative Law No. 25/1992, SME Law No. 20/2008) predate digital sharing economy models and provide insufficient guidance for hybrid arrangements. This institutional lag creates uncertainty that inhibits investment and scaling.

Trust Deficits and Cultural Adaptation Challenges

While rural communities possess strong interpersonal trust (trust based on personal relationships), platform-mediated interactions require trust in abstract systems (Giddens, 1990). Eight informants (33%) reported initial hesitancy in transacting with unknown parties through digital platforms. A tourism entrepreneur shared: "In our village, business is built on personal relationships and reputation. When tourists book through the platform without meeting us first, there's uncertainty on both sides. We developed video call consultations to

establish personal connection before bookings" (Interview, Tourism Entrepreneur G, September 2024). This adaptive practice—integrating personal interaction channels into digital platforms—represents a culturally-specific innovation bridging traditional relationship-based commerce with platform-mediated transactions.

Emergent Innovative Business Model Adaptations

Analysis revealed three distinct business model innovations emerging from the intersection of sharing economy principles and rural contextual realities.

Digital Cooperatives: Integrating Traditional Institutions with Platform Logic

The most significant innovation observed was the transformation of traditional village cooperatives into "digital cooperatives" combining cooperative governance structures with platform technologies. The Rambah Digital Cooperative, established in 2023, demonstrates this model: 123 SME members contribute products marketed through a unified digital storefront, profits are distributed according to cooperative principles (patronage dividends), and governance follows one-member-one-vote cooperative democracy. The cooperative manager explained: "We preserve cooperative values—democratic governance, equitable benefit distribution, member education—while leveraging platform technologies for market access. This is neither a traditional cooperative nor a typical platform; it's a hybrid responding to our specific needs" (Interview, November 2024).

This innovation challenges the dominant sharing economy literature that typically assumes platform capitalism structures (Srnicsek, 2017). Digital cooperatives represent a "platform cooperativism" (Scholz, 2016) variant adapted to rural developing-country contexts, suggesting that sharing economy models can be pluralistic rather than uniformly capitalistic. The theoretical implication is significant: business model innovation in peripheral regions may not simply imitate core models but may generate alternative institutional forms.

Hybrid Offline-Online Business Models

Given connectivity constraints, entrepreneurs developed hybrid models maintaining offline capabilities while opportunistically leveraging digital tools. A handicraft collective uses WhatsApp for order coordination when connectivity permits but maintains physical inventory books and weekly face-to-face coordination meetings as backup systems. An artisan explained: "We can't depend entirely on digital platforms because internet is unreliable. Our system works both ways—if online works, we use it for efficiency; if not, we continue offline. This flexibility is essential" (Interview, November 2024).

This hybrid approach represents what could be termed "contingent digitalization"—strategic use of digital tools when infrastructure permits while maintaining analog backup systems. This contrasts with urban sharing economy platforms that assume ubiquitous connectivity and suggests that rural business model innovation requires designing for unreliability rather than optimizing for ideal conditions. From a resilience perspective (Holling, 1973), hybrid models demonstrate adaptive capacity in uncertain environments.

Resource Pooling Platforms Across Sectors

Entrepreneurs established cross-sectoral resource pooling platforms addressing multiple needs through integrated systems. The "Usaha Bersama Rokan Hulu" (Rokan Hulu Collective

Enterprise) platform coordinates shared transportation for product distribution, pooled storage facilities, collective purchasing of inputs, and joint marketing across agriculture, handicrafts, and tourism sectors. Platform data showed 89 registered users conducting 437 resource-sharing transactions valued at IDR 234 million over eight months (March-October 2024).

This multi-sector integration represents a systems-level innovation creating synergies across traditional sector boundaries. For example, tourism operators utilize agricultural products for homestay meals, transport logistics are shared between agricultural product distribution and tourist transportation, and handicraft producers supply tourism souvenirs. This integrated approach generates economies of scope (Panzar & Willig, 1981) unavailable to single-sector platforms and may represent a structural advantage of small-scale rural ecosystems where proximity and community ties facilitate cross-sector collaboration.

Table 1. Opportunities, Challenges, and Innovative Models in Rural Sharing Economy

Dimension	Findings
Opportunities	Shared agricultural tools, collective marketing, digital tourism promotion
Challenges	Low digital literacy, poor infrastructure, weak regulation
Innovative Models	Digital cooperatives, hybrid offline–online platforms

CONCLUSION

This study concluded that sharing economy practices offered innovative business models for rural entrepreneurship by improving efficiency, collaboration, and sustainability, yet their potential was constrained by challenges such as limited digital literacy, inadequate infrastructure, and weak regulatory support. Addressing these barriers required inclusive policies, capacity building, and the development of supportive digital ecosystems. Theoretically, the research expanded the discussion of sharing economy models into rural contexts, while practically, it provided insights for SMEs, communities, and policymakers aiming to strengthen rural economies through collaborative approaches. Future research should explore the long-term socio-economic impacts of sharing economy adoption in diverse rural settings and examine how traditional community structures can be integrated with digital platforms to enhance inclusivity and resilience.

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