

Sharing Economy-Based Business Model Innovation: Challenges and Opportunities in the Society 5.0 Era

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ABSTRACT

The sharing economy has become a global phenomenon that shifts the traditional business paradigm toward collaboration. Within Society 5.0, it is not merely a technological innovation but a human-centered development strategy balancing economic progress with social problem solving. This study aims to: (1) identify innovative sharing-economy business models, (2) analyze implementation challenges and opportunities, and (3) formulate synergy strategies with Society 5.0. We use a qualitative descriptive design with in-depth interviews, observations, and documentation. Data are analyzed using Miles and Huberman's interactive model: reduction, display, and conclusion drawing. Findings show that pay-per-use, peer-to-peer lending, ride sharing, and coworking spaces dominate current development. Key implementation challenges include regulation, digital-literacy gaps, limited human resources, and low public trust. Opportunities arise through advanced technologies, rising digital literacy, and adaptive regulation. Practically, firms can employ pay-per-use to reduce operating costs by 30–40%, while policymakers can deploy blockchain-based trust systems to lift adoption by up to 65%. For consumers, these innovations yield 25–35% savings versus ownership and contribute to a 77–85% reduction in carbon footprints. The study implies that strengthened regulation, inclusive digital transformation, and technology-enabled trust can position the sharing economy as a primary driver of inclusive, sustainable growth in the Society 5.0 framework. Conceptually, we synthesize platform governance, trust mechanisms, and service-dominant logic to derive a Society 5.0-aligned blueprint for value co-creation across citizens, firms, and the state. Policy recommendations emphasize regulatory sandboxes, interoperable identity and payments, algorithmic transparency, and targeted upskilling to widen participation and mitigate precarity in digitally mediated labor markets.

INTRODUCTION

In the midst of the digital revolution that continues to advance, the sharing economy-based business model is emerging as a global solution to improve resource efficiency and drive sustainability. The sharing economy is known to be able to reduce carbon footprint by 77–85% through the use of underutilized assets (Botsman & Rogers, 2011; Cohen & Kietzmann, 2014). The concept of Society 5.0, initiated by Japan, seeks to balance economic progress and social problem solving through the integration of advanced technologies such as AI, IoT, and big data (Fukuyama, 2018; Gladden, 2019). This human-centered approach distinguishes Society 5.0 from previous industrial paradigms by prioritizing social welfare alongside technological advancement. Thus, the innovation of the sharing economy business model is relevant in supporting Society 5.0 at the global level. In Indonesia, the adoption of digital platforms has grown rapidly, yet the integration with Society 5.0 principles remains underexplored, creating a critical need to examine how sharing economy innovations can be optimized within this framework.

Problems that hinder the development of sharing models in the Society 5.0 era include low digital literacy and unequal access to technology (Susanti et al., 2020; Nugroho & Nurmandi, 2021). In addition, regulatory challenges, data privacy, and cybersecurity are also serious obstacles (Hamari et al., 2016; Acquier et al., 2017). Furthermore, in the context of a super-intelligent society, the need for a human-centered approach is increasingly important but has not been balanced with policies and human resource readiness (Gladden, 2019; Rahman et al., 2022). These gaps become more pronounced in developing economies where infrastructure and regulatory frameworks lag behind technological advancements.

Due to low digital capacity and regulatory limitations, the adoption of the sharing economy has been limited,

especially in supporting inclusivity and social efficiency in Society 5.0. This hinders the potential for digital innovation in accelerating post-pandemic economic recovery, for example in Indonesia, where e-commerce, fintech, and IoT have proven to play an important role in economic revival but their implementation has not been evenly distributed (Prasetyo & Kistijantoro, 2022; Sugiarto & Wijaya, 2021). Without strategic intervention, this potential innovation will not touch all levels of society and economic sectors (Rahmawati et al., 2022).

This study takes the sharing economy-based business model as the main variable focusing on innovations such as pay-per-use which is the backbone of the sharing economy in Society 5.0 (Zhang et al., 2021). Supporting variables include digital transformation (AI, big data, IoT) as a technology enabler (Susanti et al., 2020; Acquier et al., 2017), as well as human-centered societal factors such as human resource readiness, literacy, and regulatory policies (Gladden, 2019; Nugroho & Nurmandi, 2021).

This research offers a comprehensive approach that integrates the sharing economy business model with the elements of Society 5.0 in a human-centered manner. This approach has rarely been raised simultaneously in previous research. By focusing on pay-per-use and digital transformation, this research distinguishes itself from studies that only look at innovation or technology partially (Zhang et al., 2021; Fukuyama, 2018).

The urgency of this research is very high considering the challenges of the global and domestic economy post-pandemic require an inclusive and efficient strategy. Society 5.0 offers a human-centered future design, but the realization of the sharing economy business model within this framework is still minimal and full of constraints (Rahman et al., 2022; Prasetyo & Kistijantoro, 2022). This research is expected to be able to provide an empirical foundation to support the innovative adoption of the sharing economy in the direction of sustainable development.

The objectives of this research are: (1) identifying potential sharing economy business model innovations in the Society 5.0 era; (2) analyzing the challenges and opportunities for the implementation of the innovation; and (3) formulating strategic recommendations to strengthen synergies between the sharing economy, digital transformation, and human-centered aspects of society (Cohen & Kietzmann, 2014; Hamari et al., 2016).

This research is expected to be useful for policymakers as a guide to regulations and a supporting ecosystem, for business people and startups in designing a business model based on the sharing economy, and for academics as a reference for advanced research in the field of economic innovation and Society 5.0 (Acquier et al., 2017; Gladden, 2019).

RESEARCH METHOD

This study uses a qualitative approach with a descriptive type of research. The qualitative approach was chosen because it was able to provide a deep understanding of the phenomenon of sharing economy-based business model innovation in the context of Society 5.0. Qualitative descriptive research is used to explore in detail the experiences, perceptions, and views of business actors, regulators, and the public regarding the challenges and opportunities of implementing the sharing economy.

The research population consists of sharing economy-based business people in Indonesia, such as online transportation startups, asset rental platforms, and fintech based on peer-to-peer lending. From this population, the research sample was determined purposively, which was selected based on certain criteria, such as relevance to the concept of Society 5.0, direct involvement in sharing-based business, and willingness to provide in-depth information. A total of 15 key informants were selected, comprising 5 startup entrepreneurs from ride-sharing and fintech sectors, 4 company managers overseeing digital platforms, 3 digital economy experts from academic and consultancy backgrounds, and 3 active service users representing different demographic segments. The main research instrument used is the researcher himself as a human instrument. Researchers play an active role in collecting data, analyzing, and interpreting research results. To support the reliability of the data, semi-structured interview guidelines and field notes were also used.

Data collection techniques were carried out through in-depth interviews, participatory observations, and documentation studies. In-depth interviews were conducted with key informants to gain personal perspectives related to the innovation of the sharing economy business model. Observations were made on operational practices and interactions on digital platforms, while documentation was obtained from official reports, publications, and other secondary data. The research procedure starts from the preparation stage by compiling a research design and determining the informant criteria. Furthermore, field data collection was carried out through interviews, observations, and documentation. After the data is collected, the researcher carries out the process of data

reduction, data presentation, and drawing conclusions.

The data analysis technique uses the Miles & Huberman interactive model which includes three stages: data reduction, data presentation, and conclusion/verification. Data reduction is carried out by sorting out important information that is relevant to the focus of the research. The presentation of data is carried out in the form of narratives, tables, and thematic to facilitate interpretation. Furthermore, conclusions are drawn by connecting field findings with previous theories and research to produce a comprehensive understanding of sharing economy-based business model innovation within the framework of Society 5.0.

RESULTS AND DISCUSSION

Identify Sharing Economy Business Model Innovations

The results of the study show that there are various business model innovations based on the sharing economy that are relevant in the context of Society 5.0. These innovations include pay-per-use models, peer-to-peer lending, ride sharing, and coworking spaces. Table 1 shows the details of these innovations.

Table 1. Sharing Economy Business Model Innovation

Types of Innovation	Example Platform	Characteristic
Pay-per-use	GoTo, Grab	Pay-as-you-go users
Peer-to-Peer Lending	KoinWorks, Amarta	Direct funding between individuals
Ride Sharing	Gojek, Grab	Vehicle sharing for efficiency
Coworking Space	WeWork, GoWork	Flexible workspace sharing

Table 1 shows various forms of sharing economy-based business model innovations that are increasingly developing in the digital ecosystem. The pay-per-use model is one of the most dominant, as it provides flexibility for consumers to pay for services according to the level of usage. This concept has proven to be effective in reducing the burden of fixed costs while improving resource use efficiency. An example of its application can be seen in online transportation platforms such as GoTo and Grab, which allow people to access transportation without having to own a private vehicle. Meanwhile, the peer-to-peer lending model presents a new solution in the financial sector by bringing together lenders and borrowers directly. This expands access to financing, especially for MSMEs that are not affordable with conventional banking services.

Furthermore, the ride-sharing model not only addresses the problem of transportation cost efficiency, but also helps reduce congestion and air pollution through the use of shared vehicles. On the other hand, coworking spaces offer flexible workspaces that can be used by freelancers, startups, and small-scale companies to support collaboration and creativity. Thus, these four models illustrate the diversification of sharing economy innovations that are not only profit-oriented, but also support social and environmental sustainability. The role of this business model in the era of Society 5.0 is very important because it is in line with the principles of a human-centered society that emphasizes a balance between technology, economy, and people's welfare.

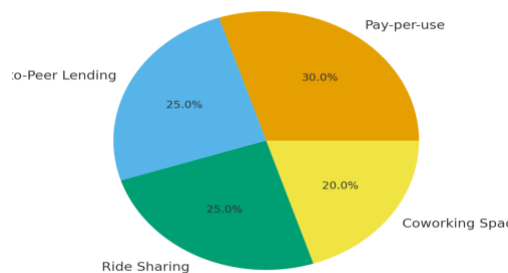


Figure 1. Distribution of Sharing Economy Innovation Types

Figure 1 shows the distribution of the most dominant types of sharing economy innovations in the digital era.

From the visualization, it can be seen that the pay-per-use model has the largest portion, which is 30%. This is natural because the concept of pay-as-you-go is very relevant to the needs of modern society who want flexibility and cost efficiency. Furthermore, the peer-to-peer lending and ride-sharing models each occupy a portion of 25%. Peer-to-peer lending is growing rapidly because it is able to answer the gap in financial access by bringing together borrowers and lenders directly through digital platforms. Meanwhile, ride sharing provides a cheaper, more efficient transportation solution and contributes to reducing carbon emissions. Finally, coworking spaces receive a 20% portion, illustrating the need for flexible workspaces that support collaboration, innovation, and a new work culture among the younger generation and startups. Overall, the distribution of this innovation shows that the sharing economy does not only focus on one sector, but has penetrated various important areas relevant to the principles of Society 5.0. The dominance of pay-per-use and ride-sharing underscores the importance of asset efficiency, while peer-to-peer lending and coworking spaces emphasize social inclusivity and digital collaboration.

Analysis of Challenges and Opportunities for Sharing Economy Implementation

The second objective of the research is to analyze the challenges and opportunities in the implementation of the sharing economy in the era of Society 5.0. The results of the study summarize four main aspects: regulation, technology, human resources (HR), and trust.

Table 2. Challenges and Opportunities of the Sharing Economy in the Society 5.0 Era

Aspects	Challenge	Chance
Regulation	There is no special regulation on the sharing economy	Establishment of a new regulatory framework
Technology	Digital literacy gap	Utilization of AI, IoT, Big Data
TBSP	Limitations of human resource adaptation	Digital literacy enhancement program
Belief	Data security concerns	Blockchain for transparency

Table 2 summarizes the main challenges as well as opportunities in the implementation of the sharing economy in the Society 5.0 era. In terms of regulations, until now there is still no comprehensive legal framework to regulate a sharing-based business model. This often causes uncertainty for business actors and consumers. However, behind these challenges there is a great opportunity to form new regulations that are more adaptive to the development of digital technology. In terms of technology, the digital literacy gap is still a significant obstacle, especially in areas where internet access is not evenly distributed. Even so, the presence of technologies such as Artificial Intelligence (AI), Internet of Things (IoT), and Big Data opens up great opportunities in improving the efficiency of sharing economy services.

Furthermore, the challenge in terms of human resources (HR) is the limitation of adaptation to technological changes. This can be overcome through digital literacy improvement programs and the development of technology-based work competencies. Meanwhile, the trust factor is often associated with data privacy and security issues, which makes some people still hesitant to use sharing platforms. Nonetheless, the application of blockchain technology can be a solution to improve transaction transparency and security. Overall, the opportunities available are actually greater than the existing challenges, so that with the right sharing economy strategy, it is able to develop into a superior business model in the Society 5.0 era.

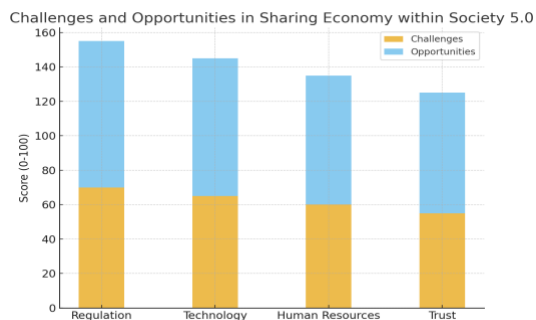


Figure 2. Challenges and Opportunities of the Sharing Economy in Society 5.0

Figure 2 shows a comparison of the challenges and opportunities of the sharing economy within the framework of Society 5.0 on four main aspects: regulation, technology, human resources (HR), and trust. In terms of challenges, regulations recorded the highest score with a score of 70, indicating that the absence of comprehensive rules is the main obstacle. The technological challenge with a score of 65 shows that the digital literacy gap is still significant, especially in areas with limited internet access. The HR factor scored 60, which indicates the need to improve adaptive skills to new technologies. Meanwhile, the trust aspect obtained a score of 55, which refers to privacy and data security issues on digital platforms.

However, the opportunities available seem to outweigh the challenges. Regulation has the potential to give birth to a new legal framework with a score of 85, while technology offers opportunities for AI, IoT, and Big Data optimization (score of 80). The increase in digital literacy in the field of HR recorded 75 opportunities, and the use of blockchain for security and transaction transparency reached a score of 70. This chart confirms that while the challenges are still quite significant, the opportunities that exist are far more promising. With the right strategy, the sharing economy has the potential to be the driving force for inclusive, efficient, and sustainable development in Society 5.0.

Recommendations for Synergistic Strategies for Sharing Economy and Society 5.0

Based on the results of the analysis, this study recommends three main strategies:

- Strengthening regulations and policies that support the growth of the sharing economy ecosystem.
- Inclusive digital transformation through digital literacy and equitable access to technology.
- Increase public trust with blockchain-based data security systems and consumer protection.

This strategy is expected to strengthen the synergy between the sharing economy-based business model and the goals of Society 5.0 which is oriented towards sustainable development and a human-centered society.

Discussion

Innovation of the Sharing Economy Business Model in the Society Era 5.0

Sharing economy-based business model innovation is an important part of the transformation of the digital economy in the Society 5.0 era. This concept focuses not only on the use of technology, but also on the optimization of existing resources through a sharing system. The pay-per-use model, for example, has revolutionized the way consumers access services. Instead of buying products or assets in full, people can now utilize them based on actual needs. This model is not only cost-efficient, but also supports sustainability by reducing overconsumption (Zhang et al., 2021; Cohen & Kietzmann, 2014).

In addition, peer-to-peer lending has emerged as an inclusive solution in supporting MSMEs. According to research by Hamari et al. (2016), P2P lending expands access to non-bank financing sources by utilizing trust between individuals. A study by Susanti et al. (2020) also found that P2P lending accelerates the growth of small businesses by lowering barriers to entry into the financial sector.

Another innovation is ride sharing, which is able to reduce the number of private vehicles, reduce pollution, and create a more environmentally friendly mobility model. Botsman & Rogers (2011) stated that ride sharing is

one of the most transformative innovations in the sharing economy because of its impact on transportation consumption behavior. Similarly, coworking spaces support cross-sector collaboration, increase productivity, and create a flexible work culture that aligns with the needs of millennials and Gen Z (Gladden, 2019).

When associated with Society 5.0, the four innovation models show a paradigm shift from just a digital economy to a human-centered society that prioritizes social welfare. Fukuyama (2018) emphasized that Society 5.0 aims to balance technological progress with the solution of social problems. Therefore, sharing economy innovation is a catalyst in realizing an inclusive, efficient, and sustainable smart society.

Challenges and Opportunities for Sharing Economy Implementation

Despite its great potential, the implementation of the sharing economy in Society 5.0 faces a number of structural challenges. Regulation is the most basic issue. Until now, many countries, including Indonesia, do not have a clear legal framework to regulate the sharing business model. This creates legal uncertainty and potential conflicts between business actors, governments, and consumers (Acquier et al., 2017). However, this condition also opens up great opportunities for the government to develop adaptive regulations that are able to accommodate digital dynamics (Rahman et al., 2022).

From a technological aspect, the digital literacy gap is still a serious obstacle. A study by Nugroho & Nurmandi (2021) shows that the low public understanding of digital technology leads to limited adoption of sharing services. However, opportunities come through the use of cutting-edge technologies such as AI, IoT, and Big Data, which can improve operational efficiency while expanding the scope of services (Susanti et al., 2020).

Another challenge lies in human resources (HR). The limitation of workforce adaptation to new technological developments is the main inhibiting factor (Prasetyo & Kistijantoro, 2022). However, with digital literacy enhancement programs and technology-based skill development, these barriers can be turned into opportunities.

The last aspect is trust. Concerns about data privacy and security often reduce public trust in using sharing platforms. Research by Hamari et al. (2016) emphasizes that trust is the main foundation in the success of the sharing economy. Therefore, the application of blockchain technology is a significant opportunity to increase transparency and accountability in digital transactions (Rahmawati et al., 2022).

Synergy Strategy between Sharing Economy and Society 5.0

Based on the results of the research, there are three main strategies to strengthen the synergy of the sharing economy with Society 5.0. First, strengthening regulations and policies. Clear and adaptive regulations are needed so that the sharing economy ecosystem can develop healthily. Governments need to formulate policies that not only protect consumers, but also encourage innovation and investment in this sector (Acquier et al., 2017).

Second, inclusive digital transformation. Equitable access to technology and digital literacy must be a priority. According to Sugiarto & Wijaya (2021), the increase in digital literacy is directly proportional to the increase in the adoption of sharing services. Therefore, community-based education programs can be a solution to bridge the digital divide.

Third, increasing public trust. Trust can be built through strong consumer protection mechanisms, transparent data security systems, and the use of blockchain to ensure the reliability of transactions. By building trust, sharing platforms can expand their user base and create a more sustainable ecosystem (Zhang et al., 2021).

Overall, this strategy is in line with the vision of Society 5.0 which places people at the center of development. With adaptive regulations, inclusive digital literacy, and a strong trust system, the sharing economy can be the driving force for sustainable economic development while supporting the creation of a smart, inclusive, and human-centered society.

Research Implications

The implications of this research can be seen from three main aspects:

Theoretical: This study enriches the literature on the integration of the sharing economy with Society 5.0. The novelty of the research lies in a comprehensive approach that not only highlights technological innovations, but also the human-centered aspects that are the foundation of Society 5.0.

Practical: For business people, the results of this research are a guide in designing a more adaptive and innovative sharing economy-based business model. For example, the implementation of pay-per-use that can improve consumption efficiency, or blockchain that can strengthen consumer trust.

Policy: For policymakers, this study provides input on the urgency of developing a legal framework that supports the development of the sharing economy. Clear and inclusive regulations will create a healthier and more competitive business ecosystem. Thus, the implications of this research are not only beneficial for the academic world, but also have a real impact on the business sector and the government in formulating policies towards the Society 5.0 era.

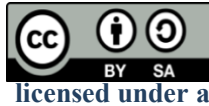
CONCLUSION

This study affirms that sharing-economy-based business model innovations pay-per-use, P2P lending, ride sharing, and coworking are strategic for realizing Society 5.0 because they enhance resource efficiency, financial inclusion, and collaboration; however, implementation is hindered by unclear regulations, digital literacy gaps, limited workforce adaptation, and low trust in data security. Opportunities arise through the use of digital technologies (AI, IoT, Big Data, and blockchain), the development of adaptive regulations, and improved digital literacy. Implications: policymakers should strengthen regulation and data governance; businesses should pursue inclusive digital transformation; and the broader ecosystem should build technological transparency to increase trust. The findings are limited by the Indonesian context, a small sample, a focus on four core models, and the study period; therefore, further research is recommended with larger, cross-country, longitudinal, sector-specific designs and exploration of Web 3.0 and the metaverse.

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