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Analysis on the Development Path of Sharing Economy

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Abstract:

In recent decades, the sharing economy has undergone a paradigm shift—evolving from localized, informal resource exchange among acquaintances to a global, platform-centric service ecosystem that reshapes resource allocation, consumption patterns, and labor dynamics across multiple sectors. This study systematically examines the evolutionary trajectory of the sharing economy, identifies its core driving factors, and critically assesses the challenges inherent in its platform-based expansion. By dividing the sharing economy's development into three distinct stages (germination, expansion, and adjustment) and integrating case studies of prominent platforms (e.g., Airbnb, Uber, Turo, Rent the Runway), the research reveals how technological innovation, shifting consumer demand, and policy dynamics have collectively fueled its growth. Additionally, the study highlights key bottlenecks, including regulatory lag, trust deficits, and unintended social and environmental consequences, which threaten the sustainability of the sharing economy. Ultimately, this analysis aims to construct a holistic framework for understanding the evolution of sharing economy, offering actionable insights for policymakers, platform operators, and researchers to promote its equitable and sustainable development.

Keywords: Sharing economy; development path; digital.

1. Introduction

In recent years, the sharing economy has transcended its humble origins as a localized, community-driven practice to emerge as a transformative force in global markets, touching sectors as diverse as accommodation, transportation, food, fashion, and energy. What began as spontaneous neighbor-to-neighbor exchanges—such as borrowing tools or sharing home-cooked meals—has evolved into a sophisticated, platform-mediated ecosystem, enabled by advances in digital technology, mobile connectivity, and data analytics [1]. This shift has not only altered how resources are accessed and utilized but also redefined market interactions, labor relations, and even cultural engagement with heritage and sustainability.

Existing scholarly research has made significant

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strides in unpacking the sharing economy's multifaceted impacts, with case studies providing granular insights into its operations across sectors. In the accommodation space, some scholars conducted a global analysis of Airbnb, highlighting its dual role as a disruptor of traditional housing markets and a catalyst for tourism growth—while also noting its contribution to rising rents in high-demand urban areas [2]. In transportation, some scholars focused on Turo, a Peer-to-Peer (P2P) car-sharing platform, identifying trust as the linchpin of successful P2P transactions; their research emphasized how platform-designed trust mechanisms (e.g., user reviews, identity verification, and insurance coverage) mitigate the risks inherent in sharing high-value assets between strangers. Beyond these high-profile sectors, some scholars explored food-sharing platforms in Europe, linking their operations to broader goals of sustainable consumption by reducing food waste and promoting community resilience [3,4]. Meanwhile, some scholars delved into the gig economy's intersection with sharing platforms, using Uber as a case study to analyze the precarious labor dynamics that define platform work—including issues of worker classification, wage instability, and limited labor protections [5].

The sharing economy's reach has also extended to less obvious domains, such as cultural heritage and renewable energy. Some scholars examined P2P tour guiding in Kyoto, demonstrating how sharing platforms empower local residents to share authentic cultural experiences—thus democratizing tourism and preserving heritage that might otherwise be overlooked by mass tourism operators [6]. In urban energy systems, some scholars studied solar power sharing in Singapore, showing how community-based platforms enable households to collectively invest in and benefit from renewable energy, addressing both energy inequality and environmental goals [7]. Even the fashion industry has embraced sharing models: Some scholars analyzed Rent the Runway, a platform for renting high-end clothing, revealing how shifting consumer preferences—particularly among younger generations—toward "access over ownership" are driving demand for sustainable, circular fashion practices [8].

Yet, alongside its promise, the sharing economy's rapid expansion has exposed significant limitations and unintended consequences. Some scholars highlighted a critical equity issue, finding that Airbnb's presence in low-income neighborhoods exacerbates rental market inequality by reducing the supply of long-term housing, pushing rents beyond the reach of local residents [9]. Regulatory challenges have also emerged as a major barrier: Some scholars documented Uber's legal battles in the European Union (EU), where debates over whether drivers qualify as "employees" or "independent contractors" have led to inconsistent rulings across member states, creating uncertainty for both platforms and workers [10]. Furthermore, the sharing economy's purported environmental benefits have come under scrutiny: some scholars compared the carbon emissions of P2P ride-sharing services to their marketing claims, finding a significant gap between rhetoric and reality—with factors like increased vehicle miles traveled (due to drivers cruising for rides) undermining environmental gains.

While these studies collectively paint a detailed picture of the sharing economy's strengths and weaknesses, they often focus on isolated sectors or issues, leaving a gap in our understanding of its overarching evolutionary logic. This study adopts a cross-sectoral, stage-based approach, integrating insights from existing case studies to construct a holistic framework of the sharing economy's evolution. By analyzing its development stages, driving factors, and persistent challenges, this research aims to provide a comprehensive overview that bridges sector-specific silos, offering valuable guidance for theory, policy, and practice. The structure of this paper is as follows: Section II delineates the sharing economy's three key development stages—germination, expansion, and adjustment—highlighting the core characteristics, technologies, and actors that define each phase. Section III explores the interrelated drivers of its growth, including technological innovation, shifting consumer demand, and policy and environmental pressures. Section IV critically examines the challenges it faces, from regulatory adaptation to trust deficits and social inequities. Finally, Section V concludes with a summary of key findings and recommendations for fostering a more sustainable and equitable sharing economy.

2. Development Stages and Path Characteristics of the Sharing Economy

2.1 Germination Stage (Before 2010)

Prior to 2010, the sharing economy existed primarily as a localized, informal practice, rooted in acquaintance networks and community ties. This stage was defined by spontaneity, small scale, and a lack of formal structure—with sharing activities driven by necessity rather than commercial gain. For example, neighbors might share gardening equipment, community groups might organize second-hand clothing swaps, or families might coordinate carpooling for school runs. The core feature of this phase was its reliance on acquaintance trust: transactions occurred between individuals who knew each other directly or through mutual connections, reducing the need for formal verification or dispute-resolution mechanisms [1].

Technological support during this stage was minimal. Most sharing activities were coordinated offline, through word-of-mouth, flyers, or local bulletin boards, with no dedicated digital platforms to facilitate matching or pay-

ment. This lack of technology meant resource allocation was inefficient: individuals seeking to share or access resources faced significant barriers to find suitable partners, and transactions were limited to geographically proximate communities. There were no professional sharing platforms, and commercialization was largely absent sharing was typically non-monetary or involved nominal payments (e.g., reimbursing fuel costs for a carpool).

The impact of sharing during this stage was localized and modest. It addressed immediate, community-specific needs (e.g., reducing individual resource costs, fostering social cohesion) but lacked the scale to disrupt traditional markets or influence broader economic trends. For instance, a neighborhood tool library might help residents avoid purchasing expensive, rarely used tools, but it would not compete with hardware stores or alter the overall demand for home improvement products. Similarly, community food swaps reduced food waste at the local level but had no measurable impact on national or global food systems [2].

2.2 Expansion Stage (2010–2018)

The period between 2010 and 2018 marked a transformative shift in the sharing economy, driven by the convergence of mobile technology, venture capital investment, and changing consumer preferences. This stage was defined by the rise of professional sharing platform digital intermediaries that connected large numbers of users (suppliers and consumers) across geographic boundaries, enabling scalable, commercialized sharing of resources.

Technological innovation was the cornerstone of this expansion. The widespread adoption of smartphones and mobile internet allowed platforms to offer real-time, on-demand services: users could book a ride (Uber), reserve a short-term rental (Airbnb), or rent a dress (Rent the Runway) with just a few taps on their devices [2]. Mobile payment systems (e.g., PayPal, Apple Pay) eliminated cash-handling barriers, while location-based services (LBS) enabled platforms to match users with nearby resources—whether a driver, a rental property, or a shared meal. Big data and algorithms further optimized operations: Uber used dynamic pricing to balance supply and demand during peak hours, Airbnb employed machine learning to suggest optimal rental prices for hosts, and Turo leveraged user data to refine its trust scoring system [3,4].

Venture capital played a pivotal role in scaling these platforms. Investors poured billions of dollars into sharing economy startups, enabling them to pursue aggressive growth strategies—primarily through user subsidies. For example, Uber offered discounted rides to attract passengers and guaranteed earnings to recruit drivers, while Airbnb provided hosts with cash bonuses for listing their properties. These subsidies rapidly expanded market reach, converting casual users into loyal customers and establishing dominant platforms in key sectors [5].

The expansion stage also saw the sharing economy penetrate high-frequency, high-value sectors. Accommodation and transportation emerged as early leaders: Airbnb grew from a small platform for renting air mattresses in a San Francisco apartment to a global service with millions of listings, while Uber expanded to hundreds of cities worldwide, disrupting traditional taxi industries. By the end of this phase, the sharing economy had evolved from a niche practice to a mainstream economic force, with platforms mediating billions of dollars in transactions annually.

2.3 Adjustment Stage (2018–Present)

Since 2018, the sharing economy has entered a phase of consolidation and adjustment, marked by a shift from "growth at all costs" to profitability, regulation, and specialization. The unsustainability of early subsidy-driven models became apparent: many platforms burned through capital without achieving profitability, leading to market exits (e.g., HomeAway's acquisition by Airbnb, Sidecar's shutdown) and a focus on "refined operations" among survivors.

Regulatory scrutiny intensified during this stage, as governments sought to address the sharing economy's externalities—including labor exploitation, housing shortages, and safety risks. Some scholars documented Uber's legal battles in the EU, where the European Court of Justice ruled in 2021 that Uber drivers should be classified as employees (rather than independent contractors) in some member states, entitling them to minimum wage, holiday pay, and other protections. Similarly, cities like Berlin and Barcelona implemented strict regulations on short-term rentals, limiting Airbnb listings to address rising rents and housing displacement. These regulatory developments forced platforms to adapt: Uber revised its driver contracts in the EU, while Airbnb introduced tools to help hosts comply with local laws (e.g., registration number verification).

Another key trend of the adjustment stage is sector specialization. Rather than pursuing broad, multi-sector models, platforms have focused on niche markets to differentiate themselves and build loyal user bases. For example, Rent the Runway expanded beyond dress rentals to offer subscription services for everyday clothing, targeting consumers seeking sustainable alternatives to fast fashion. In energy, Singapore's solar power sharing platforms have tailored their services to low-income communities, offering flexible payment plans to increase accessibility. Even in tourism, platforms like Kyoto's P2P tour guides have specialized in niche experiences—such as traditional tea ceremonies or temple photography—to attract travelers seeking authenticity.

Sustainability has also become a central focus during this

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stage, though challenges remain. While food-sharing platforms in Europe have made progress in reducing waste—by redirecting surplus food from restaurants and households to those in need—some scholars caution that not all sharing models deliver on their environmental promises. Their research on P2P ridesharing found that increased vehicle miles traveled (due to drivers waiting for rides or taking longer routes) often offsets the carbon savings from reducing individual car ownership, highlighting the need for more rigorous environmental accounting.

3. Driving Factors for the Development of the Sharing Economy

The evolution of the sharing economy from a localized practice to a global ecosystem is the result of three interrelated drivers: technological innovation, shifting consumer demand, and policy and environmental pressures. These factors have interacted to create conditions for growth, enabling platforms to overcome traditional barriers to sharing and scale their operations.

3.1 Technological Drivers

Technological innovation is the foundational driver of the sharing economy, as it has addressed two critical challenges: information asymmetry and transaction costs—barriers that historically limited the scale of sharing beyond acquaintance networks.

The widespread adoption of mobile internet and smartphones has been transformative. Prior to the 2010s, sharing required direct communication between parties (e.g., a phone call to arrange a carpool), which was time-consuming and geographically constrained. Mobile platforms have eliminated this barrier by enabling real-time, on-demand interaction: users can search for resources, communicate with providers, and complete transactions—all from their devices. For example, Uber's mobile app allows passengers to request a ride, track the driver's location, and pay within minutes—while Airbnb's app lets travelers browse listings, message hosts, and book accommodations from anywhere in the world

Big data and algorithms have further optimized sharing economy operations by improving resource allocation efficiency. Ride-hailing platforms like Uber use predictive analytics to anticipate demand (e.g., during rush hour or concerts) and adjust pricing or driver availability, accordingly, reducing waiting times for users and increasing earnings for drivers. Accommodation platforms like Airbnb leverage machine learning to match travelers with listings that align with their preferences (e.g., budget, amenities, location), while also providing hosts with data-driven insight into optimal pricing. Even in niche sectors, data plays a role: Turo uses user data (e.g., driving history, review scores) to calculate insurance risks, enabling it to offer affordable coverage for P2P car sharing.

Blockchain technology, though still emerging, has also shown promise in enhancing trust in sharing transactions. Some food-sharing platforms in Europe use blockchain to track the origin and quality of surplus food, providing consumers with transparency about what they are receiving Similarly, solar power sharing platforms in Singapore are exploring blockchain to automate energy trading between households, reducing the need for intermediaries and lowering transaction costs.

3.2 Demand Drivers

Shifting consumer preferences and resource constraints have created a fertile market for the sharing economy, driving demand for access-based rather than ownership-based consumption.

One of the most significant demand drivers is the rise of usage-oriented consumption—particularly among millennials and Generation Z. Unlike previous generations, which often viewed ownership of assets (e.g., cars, homes, clothing) as a marker of success, younger consumers prioritize flexibility, affordability, and sustainability. For example, Rent the Runway's subscription model appeals to users who want access to high-quality clothing without the cost or environmental impact of purchasing items they will rarely wear. Similarly, Turo's car-sharing service attracts urban dwellers who do not want to bear the costs of car ownership (e.g., insurance, parking, maintenance) but need a vehicle occasionally.

Resource scarcity and inequality have also fueled demand for sharing models. In urban areas, housing shortages and rising rents have made long-term rentals unaffordable for many low-income residents—leading some to turn to short-term sublets via Airbnb In energy systems, the high upfront cost of solar panels has prevented many households from adopting renewable energy—making community solar sharing platforms (like those in Singapore) an attractive alternative, as they allow users to invest in solar power without purchasing their own panels. Even in food systems, the contradiction between food waste and food insecurity has driven demand for sharing platforms: in Europe, an estimated 88 million tons of food are wasted annually, while 38 million people face food poverty—creating a clear need for platforms that redirect surplus food to those in need.

The COVID-19 pandemic further accelerated demand for certain sharing economy services, particularly those that prioritize safety and convenience. For example, P2P car sharing (Turo) saw increased demand as consumers sought alternatives to public transportation to reduce virus exposure. Similarly, food-sharing platforms experienced growth as lockdowns disrupted supply chains, leading to more surplus food in restaurants and greater need for food

assistance among vulnerable populations.

4. Challenges and Bottlenecks in the Development of the Sharing Economy

4.1 Regulatory Adaptation Difficulties

The cross-border nature of the sharing economy has posed challenges to the traditional regulatory system. The legal relationship between platforms and service providers is vague; for example, disputes have arisen over the definition of the relationship between ride-hailing platforms and drivers [9]. The lack of service standards affects experience and safety; there are no unified norms for the hygiene of shared accommodation and the safety of shared vehicles, and regulatory lag restricts standardized development [1].

4.2 Trust and Sustainability Issues

The trust mechanism needs to be improved. Information asymmetry leads to frequent disputes, such as liability determination for damage in car sharing and quality disputes in food sharing, affecting users' willingness to participate. The profit model is single; most platforms rely on capital subsidies, and face operational difficulties when subsidies shrink, resulting in insufficient sustainable development capabilities [2,3,7].

4.3 Resource Mismatch and Social Impacts

Irrational expansion has led to resource mismatch; over-deployed shared transportation tools have caused space occupation and waste [10]. The impact on traditional industries has triggered contradictions: housing sharing has pushed up rents in some areas, exacerbating housing difficulties for low-income groups; ridesharing has squeezed the market of traditional taxi industries, requiring coordination of interests between new and traditional business forms [1,8].

5. Conclusion

This study sorts out the evolutionary path of the sharing economy from "idle resource sharing" to "platform-based services" and finds that it has gone through three stages: germination, expansion and adjustment, with significant differences in technical support and operation models at each stage. The evolution is jointly driven by technological empowerment, demand changes, and policy and environmental support: mobile internet and big data have broken through transaction barriers; changes in consumption concepts and resource contradictions have provided a market basis; inclusive supervision and environmental protection needs have created development conditions.

However, the platform-based development faces multiple challenges: regulatory adaptation lags behind, with prominent issues of ambiguous identity definition and lack of standards; imperfect trust mechanisms and single profit models affect sustainability; resource mismatch and industry impact trigger social coordination problems.

In the future, it is necessary to improve the regulatory system, clarify the rights and responsibilities and service standards; platforms should strengthen technological innovation, optimize trust mechanisms and profit models; promote the deepening of green consumption concepts and coordinate the development of new and traditional business forms. With technological progress and institutional improvement, the sharing economy is expected to play a greater role in optimizing resource allocation and promoting sustainable development.

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