Digital Platforms and Product–Service Business Models in Promoting the Circular Economy: A Comparative International Analysis and Policy Implications For Vietnam

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Abstract
In the context of the circular economy having been institutionalized in Vietnam through the 2020 Law on Environmental Protection and Decision No. 687 approving the Scheme for Circular Economy Development, and amid a broader shift in developed economies from product-ownership models toward digital-platform-enabled product–service systems (PSS), this study aims to analyze the mechanisms through which digital platforms affect the operation of product–service business models in advancing the circular economy, to compare international experience across country groups with differing levels of digital readiness, and to propose policy implications for Vietnam. Using a desk-research method that synthesizes, analyzes, evaluates, and compares secondary literature grounded in three theories - transaction cost theory, business model innovation theory, and technology diffusion theory - the study constructs a three-layer conceptual framework linking digital platform functions, PSS operating mechanisms, and circular economy outcomes, and shows that the difference between country groups lies in which actor leads the institutionalization process rather than merely in technological availability. On this basis, the study identifies two main gaps facing Vietnam and proposes a set of policy implications grouped by implementing actor, contributing a unified analytical pathway to a field that still lacks evidence from transitioning-economy contexts.

Keywords: *circular economy; digital platforms; product–service system; Vietnam*

1. Introduction

The shift from the linear "extract–produce–consume–dispose" economic model toward a circular economy has become a global development trend, with Vietnam among the first countries in Southeast Asia to institutionalize this concept within its legal system. Article 142 of the Law on Environmental Protection No. 72/2020/QH14, passed by the National Assembly on 17 November 2020, defines the circular economy as an economic model in which design, production, consumption, and service activities aim to reduce the extraction of raw materials, extend product life cycles, limit waste generation, and minimize adverse environmental impacts (National Assembly of Vietnam, 2020). On this basis, the Prime Minister issued Decision No. 687 on 7 June 2022 approving the Scheme for Circular Economy Development in Vietnam, which sets out specific requirements for building mechanisms and policies to encourage enterprises to shift production and consumption toward circularity (Prime Minister of Vietnam, 2022). Alongside this domestic institutionalization process, many developed economies have seen a marked shift from ownership-based business models toward product–service system (PSS) models, in which value is created by providing the function of use rather than transferring physical ownership, thereby extending product life cycles and reducing the extraction of virgin resources (Kjaer et al., 2019). Digital platforms serve as the key technical

infrastructure that allows PSS models to operate at scale and at reasonable cost. Through functions such as real-time matching of supply and demand, monitoring and tracing product usage status throughout the life cycle, and establishing payment mechanisms based on actual usage levels, digital platforms significantly reduce the transaction costs and monitoring costs that were long the main barrier to traditional product–service models (Fernandes et al., 2020). Han et al. (2023) show that digital technologies such as the Internet of Things and big-data analytics have fundamentally changed the ability to personalize services and optimize the use of idle assets within PSS models oriented toward the circular economy. The international literature on this topic can be identified along two main strands. The first strand focuses on explaining the mechanism through which digital platforms drive circular business model innovation; Lüdeke-Freund et al. (2019) systematized circular business model patterns and highlighted the central role of data-sharing mechanisms in realizing these patterns, while Tian et al. (2024), through a systematic literature review, confirmed that digital platforms contribute to circular economy goals by improving the efficiency of information exchange and supply-network operation. The second strand examines PSS as a mechanism for decoupling economic growth from resource consumption, with an important finding by Kjaer et al. (2019) that not every PSS model necessarily delivers circular benefits unless it is deliberately designed to reduce resource consumption. A notable commonality across both strands is that most of the empirical evidence is drawn from developed-economy contexts, where digital infrastructure and institutional conditions are fully in place. Nemilentseva et al. (2024), in their review of the relationship between digital platforms and the circular economy, point out that developing economies remain a significant research gap, owing to the absence of systematic analysis of the opportunities and challenges specific to this group of countries. Similarly, the recent review by Blackburn et al. (2026) of circular-economy platform research also highlights the lack of comparative analytical frameworks across country groups with differing levels of digital readiness. In Vietnam, although the policy framework for the circular economy has been established, academic research on the specific operating mechanisms of digital platforms within PSS models - as well as on policy implications suited to the country's digital infrastructure and institutional characteristics - remains very limited. This is precisely the research gap that this study seeks to address. From a management and practice standpoint, this gap carries urgent significance. In the absence of a systematically developed theoretical foundation and internationally comparative evidence, state management agencies and the domestic business community risk mechanically copying foreign experience without accounting for the country's specific level of digital readiness, SME capacity, or the existing legal framework - which would reduce the effectiveness of implementing the already-approved Circular Economy Development Scheme. Building on this context and gap, the study aims to analyze the mechanism through which digital platforms affect the operation of product–service business models in advancing the circular economy, to compare implementation experience across country groups with differing levels of digital readiness, and on this basis to propose policy implications suited to Vietnam's practical conditions. Two central research questions are posed: through which mechanisms do digital platforms affect the circular effectiveness of product–service models, and which institutional and infrastructural conditions need to be established for Vietnam to effectively harness these mechanisms? The study's contribution lies in providing a systematic comparative analytical framework that can serve as a reference for policy design and circular business model development in Vietnam. The remainder of the paper is structured as follows: Section 2 presents the theoretical framework and research methodology; Section 3 presents the results of the analysis and discussion; Section 4 proposes policy implications; and Section 5 concludes.

2. Theoretical Framework and Research Methodology

2.1. Core concepts

Before proceeding to the analysis, three core concepts underlying the study need to be clarified. The circular economy, as set out in Article 142 of the Law on Environmental Protection No. 72/2020/QH14, is an economic model in which design, production, consumption, and service activities aim to reduce the extraction of raw materials, extend product life cycles, and limit waste generation (National Assembly of Vietnam, 2020). At the international academic level, Kirchherr et al. (2017), through an analysis of 114 definitions, found that the circular economy is most commonly described as a combination of reduction, reuse, and recycling activities, operating simultaneously at three levels: products and firms, eco-industrial parks, and the national or regional level. The second concept, the product–service system, is understood as a business approach in which value is created by providing the function of a product rather than transferring ownership, so that the provider retains responsibility for the product's life cycle and has an economic incentive to extend its useful life and optimize asset utilization (Kjaer et al., 2019). The third concept, the digital platform, is defined as an extensible codebase built on programmable systems that enables different software systems to interact through shared modules and interactive interfaces (Tiwana et al., 2010, as cited in Tian et al., 2024). The relationship among these three concepts is the central analytical focus of this study, specifically the mechanism through which digital platforms enable product–service models to become a viable vehicle for realizing circular economy objectives.

2.2. Theoretical framework

The study draws on three complementary theories to explain this mechanism of influence, rather than stopping at a mere description of the phenomenon. First, business model innovation theory, applied following the approach of Bocken et al. (2016), holds that the transition from a linear to a circular economic model requires firms to simultaneously change their product design strategy and value-creation structure, with slowing, closing, and narrowing resource-loop strategies only becoming effective when deliberately integrated into the business model. This theory explains why digital platforms are not merely an operational support tool but an enabler of the wholesale restructuring of a firm's value-creation logic toward product–service delivery. Second, technology diffusion and adaptation theory, applied following Chauhan et al. (2022), shows that the extent to which digital technologies diffuse within the circular economy depends on organizational capability, leadership commitment, and institutional-context factors, thereby explaining why the speed and intensity of digital-platform adoption for PSS models vary considerably across country groups with different institutional and infrastructural conditions. Third, transaction cost theory, based on the analytical framework of Akbar and Tracogna (2022), explains the underlying microeconomic mechanism behind the role of digital platforms: specifically, digital platforms reduce the frequency of costs involved in searching for transaction partners, reduce transaction uncertainty, and reduce the need for transaction-specific investment, thereby making product–service models - which typically require high monitoring and coordination costs - economically viable at scale. These three theories are used complementarily across three levels of analysis: the firm-strategy level, the organizational and institutional level, and the micro-level economic transaction.

2.3. Research methodology

The study uses a desk-research method comprising the steps of synthesizing, analyzing, evaluating, and comparing secondary literature, consistent with the objective of building an internationally comparative analytical framework without requiring primary data collection. Case selection was based on three criteria: the prevalence of digital-platform-enabled PSS models in the national or regional practice under consideration, the availability of published

academic literature and policy reports, and representativeness of country groups with differing levels of digital readiness. On this basis, three case groups were selected: a group of countries leading in institutional and digital infrastructure, a group of emerging economies with rapid digitalization, and Vietnam as the point of comparison; this grouping approach is consistent with the recommendation of Nemilentseva et al. (2024) regarding the need for systematic analysis of the specific conditions of developing economies. The secondary data sources used comprise three categories: peer-reviewed academic publications retrieved from the Scopus and Web of Science databases; policy and technical reports from reputable international organizations; and legal documents and domestic policy materials relating to the circular economy. The comparative criteria framework across country groups was built on five dimensions: the typical type of product–service model, the digital platform used, the level of institutional maturity, the supporting policy mechanism, and the main barrier to implementation. The study's scope is limited to the analysis of publicly available published literature and does not include field surveys or expert interviews; the analytical results are therefore synthetic and generalized from secondary evidence, a limitation discussed further in the study's conclusion.

3. Results and Discussion

3.1. The mechanism through which digital platforms affect the operation of product–service business models in the circular economy

Building on the three underlying theories presented in Section 2, the mechanism through which digital platforms affect product–service models can be generalized into a three-layer pathway, from technical infrastructure to business practice to circular outcomes, as illustrated in Figure 1. At the first layer, four core functions of digital platforms create the technical conditions for product–service models to operate at scale. The real-time supply–demand matching function allows the provider to accurately identify usage demand at any given time, thereby reducing the excess-capacity problem that is an inherent weakness of the traditional ownership model. The life-cycle monitoring and traceability function allows the provider to track the technical condition of the asset throughout its period of use, enabling appropriate maintenance and recovery planning. The usage-based payment mechanism removes the need for large upfront capital investment by the customer, while aligning the provider's financial interest with the asset's actual utilization performance rather than the quantity of products sold. Finally, big-data analytics for predictive maintenance allow technical intervention before failures occur, thereby extending the operational life of the asset (Han et al., 2023). At the second layer, the technical functions above are translated into three specific product–service operating mechanisms. The first is the principle of access over ownership, whereby the customer pays for the function of use rather than owning the physical asset. Second, the provider retains responsibility for the product's entire life cycle, including the recovery and recycling stage after use - a condition that Kjaer et al. (2019) emphasize as a prerequisite for a product–service model to genuinely deliver circular benefits rather than merely constituting a financialized form of sales. Third, the optimization of idle-asset utilization, through sharing or rotation among multiple users, increases the utilization rate per unit of product manufactured. Two theoretical mechanisms identified in Section 2 explain the translation between these two layers. Transaction cost theory, following the analytical framework of Akbar and Tracogna (2022), explains why digital platforms make it cost-feasible to monitor thousands of dispersed usage transactions - something the traditional product–service model could not achieve at scale because of prohibitively high monitoring and partner-search costs. Business model innovation theory, following the approach of Bocken et al. (2016), explains why adopting a digital platform is not simply a matter of digitizing an existing sales process but requires restructuring the firm's entire value-creation logic toward narrowing and closing resource loops.

At the third layer, the three operating mechanisms above generate three observable circular outcomes: extended product lifespan, reduced extraction of virgin resources, and closed-loop material flows within the production–consumption system. However, as Figure 1 shows through the moderating pathway at the top, the intensity with which this entire pathway is realized is not uniform across countries but depends on the level of institutional and digital readiness, consistent with the technology diffusion theory approach of Chauhan et al. (2022). This is the theoretical basis for the international comparative analysis in Section 3.2.

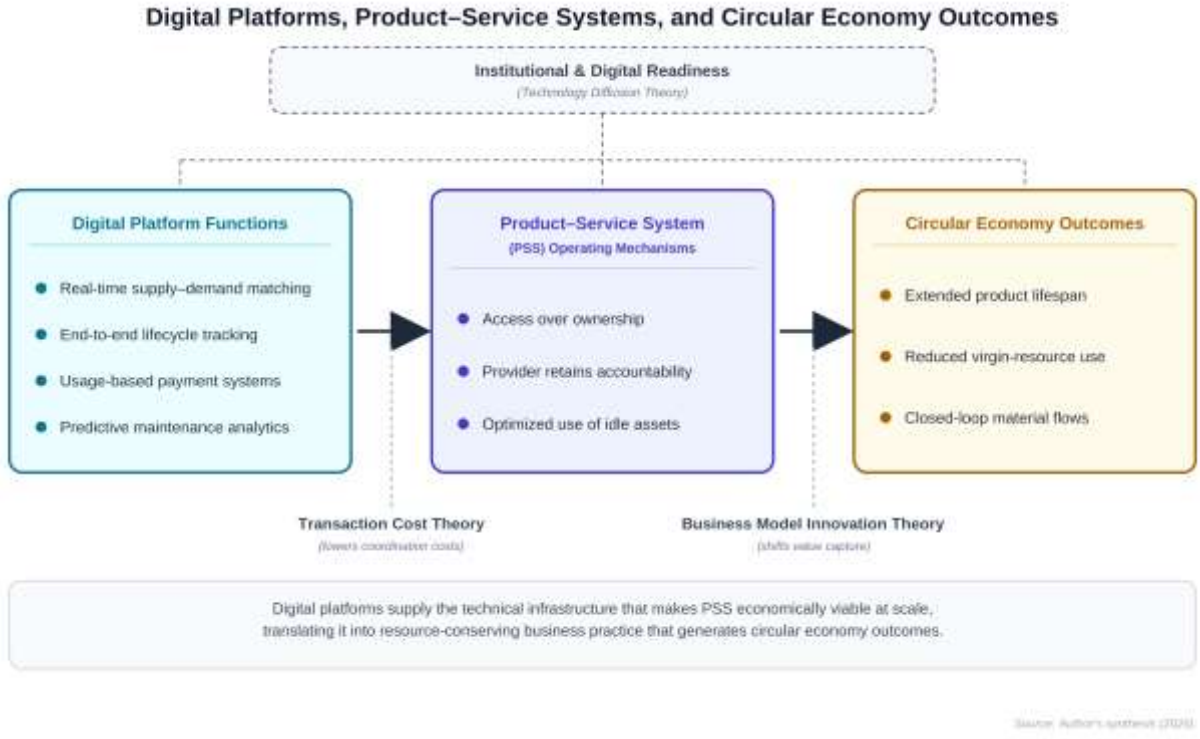


Figure 1. Conceptual framework linking digital platform functions, product–service system operating mechanisms, and circular economy outcomes. Source: author's synthesis.

3.2. Comparative analysis of international experience across country groups

To test the extent to which the theoretical pathway above is realized in practice, three illustrative cases were selected according to the criteria set out in Section 2.3, representing three different levels of institutional and digital readiness.

The first case belongs to the group of countries leading in institutional maturity, illustrated by Philips's "light-as-a-service" model in the Netherlands. Instead of selling light bulbs, Philips provides the lighting function under a long-term contract, retaining ownership of the equipment and bearing responsibility for maintenance, upgrades, and end-of-life recovery, while the customer pays only for the amount of light used. This model is operated on an Internet-of-Things-enabled lighting monitoring platform that allows real-time tracking of usage performance. The European Union's public procurement policy framework, which increasingly integrates circularity criteria into tenders, has created favorable institutional conditions for this model to expand from the private sector into the public sector.

The second case belongs to the group of emerging economies with rapid digitalization, illustrated by two complementary examples. In Singapore, the Singapore Institute of Manufacturing Technology under the Agency for Science, Technology and Research developed a digital platform that connects waste-generating firms with firms that can use that waste as an input resource, in which a matching algorithm automatically proposes potential

partners, helping small firms such as Alpha Biofuels overcome the obstacle of manual coordination costs (A*STAR SIMTech, n.d.). In China, Sun's (2021) study of the free-floating bike-sharing model in Beijing shows that a real-time positioning digital platform helped raise the average number of uses per bike over its life cycle from roughly 900 to 1,060, an increase of about 16%, while reducing the required bicycle supply scale by about 21% relative to the individual-ownership model. Both cases demonstrate the common characteristic of this country group - a strong state-led role in centralized digital infrastructure investment - though Sun (2021) also cautions that platform profitability remains a challenge to the long-term sustainability of the model.

Table 1 summarizes the comparison of these three cases across the five criteria defined in the methodology section.

Table 1. Comparison of International Experience with Digital Platforms and Product–Service Business Models in the Circular Economy

Criteria	**Institutionally leading group (Netherlands – Philips)**	**Rapidly digitalizing emerging group (Singapore, China)**	**Vietnam**
Typical PSS model	Long-term performance leasing (light-as-a-service)	Waste-to-resource matching platform; station-free bike sharing	Early stage; predominantly traditional ownership-based sales
Digital platform used	IoT-enabled lighting monitoring platform	B2B matching algorithm; real-time GPS positioning	Mainly e-commerce and ride-hailing platforms; no dedicated circular platform
Level of institutional maturity	High; integrated into public procurement policy	Medium–high; driven by state investment	Nascent; only a foundational legal framework exists (2020 Law on Environmental Protection; Decision No. 687/QĐ-TTg)
Supporting policy mechanism	Circularity criteria embedded in public tenders	State-led pilot programs (Singapore's Zero Waste Masterplan; operational regulation in China)	Circular Economy Development Scheme (Prime Minister of Vietnam, 2022); no dedicated mechanism for digital-platform PSS
Main implementation barrier	High upfront contracting and metering investment costs	Platform profitability; data fragmentation across firms	Low SME digital readiness; absence of a dedicated platform

*Source: compiled by the author from A*STAR SIMTech (n.d.), Sun (2021), National Assembly of Vietnam (2020), and Prime Minister of Vietnam (2022).*

The most notable difference between the two comparator country groups lies not in whether a digital platform exists, but in which actor leads the institutionalization process. In the Netherlands, the institutional driver comes from integrating circularity criteria into the existing

public-procurement market mechanism; in Singapore and China, the driver comes from direct public investment in digital-platform infrastructure. Both pathways require a level of institutional capacity and public financial resources that Vietnam, at its current stage of development, has not yet fully attained, as analyzed in Section 3.3.

3.3. Assessment of conditions and gaps for application in Vietnam

Against the comparative framework in Table 1, Vietnam's gap is most evident in two respects. The first is the gap in digital capability among enterprises, which are the direct actors operating product–service models. According to data from the General Statistics Office as cited in a secondary source, up to 95% of enterprises in Vietnam are of medium, small, or micro scale, of which about 45% remain in the low-to-medium technology group (Tạp chí Kinh tế - Tài chính, 2024). With such a technological base, most domestic enterprises do not yet have the technical and financial capacity to independently develop or operate a digital platform for a product–service model at the level of sophistication seen in the Netherlands or Singapore cases. The second is the gap in dedicated policy design. Although the 2020 Law on Environmental Protection and Decision No. 687 have established a foundational legal framework for the circular economy, neither document specifically addresses the role of digital platforms or a dedicated policy mechanism to encourage product–service models, in contrast to the European Union's approach of integrating circularity criteria into public procurement or Singapore's state-led digital-platform pilot programs. This policy gap is consistent with the observation of Nemilentseva et al. (2024) that developing economies often lack a dedicated policy framework connecting the fields of digitalization and the circular economy, even where separate policy frameworks exist for each field individually. Nevertheless, Vietnam also possesses certain favorable initial conditions, including a relatively high level of consumer digital-platform penetration through e-commerce and ride-hailing applications, together with a clear political commitment expressed through the Circular Economy Development Scheme. The issue at hand is not a general lack of digital infrastructure, but the absence of a mechanism to deliberately convert existing digital infrastructure into a function that operates circular product–service models. This is precisely the gap that the policy implications in Section 4 aim to address.

4. Policy Implications for Vietnam

Based on the two gaps identified in Section 3.3, policy implications are presented for three groups of actors, with each recommendation tied to a specific implementing agency or stakeholder, a prerequisite condition, and an order of priority.

For state management agencies, three recommendations are proposed in order of priority. First, the Ministry of Planning and Investment, as the standing agency for the Enterprise Digital Transformation Support Program, should add product–service circular-economy criteria to the existing program rather than building a new one. This approach makes use of existing machinery and resources, similar to how the European Union integrated circularity criteria into its public procurement mechanism rather than creating a parallel system. The prerequisite is issuing a specific set of evaluation criteria for product–service models, distinct from the criteria for ordinary digital transformation. This is a short-term priority step. Second, the relevant industry and environmental management agencies should pilot a circular digital-connection platform at a narrow scale, selecting a sector with readily available data - such as textiles or recycled plastics - rather than rolling it out across all sectors simultaneously. Singapore's experience shows that a narrow pilot scale helps control initial investment costs and allows technical issues to be identified early. This step is suited to medium-term implementation, following completion of the first step. Third, the circular-economy pilot mechanism that Decision No. 687 has assigned the Ministry of Planning and Investment to develop needs to include specific provisions on product life-cycle responsibility within leasing or sharing

contracts, providing the legal basis for providers to retain ownership and recovery responsibility. This is a long-term step requiring an impact assessment before formal issuance. For enterprises, the recommendation focuses on action that does not depend on the pace of policy development. Medium-sized enterprises should pilot product–service models at a narrow scope, limited to a single product line or customer segment, making use of existing commercial digital platforms rather than investing in building a proprietary platform. The prerequisite is that the enterprise assess the asset-monitoring cost for leased products against expected revenue before scaling up. Large enterprises with technological capacity, particularly foreign-invested enterprises that have applied similar models in other markets, should take the lead in disclosing product life-cycle data, setting a market precedent that smaller enterprises can reference when designing their own contracts.

For industry associations, the intermediary role should be strengthened in two respects. One is the periodic consolidation of members' digital needs and capacity, serving as the basis for proposing a priority pilot-sector list to the Ministry of Planning and Investment, to be carried out in parallel with the pilot step mentioned above. The other is developing a technical reference handbook for designing leasing or sharing contracts, thereby reducing the individual legal-consultation costs that small enterprises would otherwise have to bear on their own.

5. Conclusion

This study has built and provided an initial test of an integrated analytical framework combining three theories - transaction cost theory, business model innovation theory, and technology diffusion theory - to explain the mechanism through which digital platforms are translated into product–service business models and generate circular outcomes. The study's theoretical contribution lies in connecting three theories that are typically used separately in prior research into a single, unified analytical pathway. Its practical contribution is reflected in the three-country-group comparative framework and the set of policy implications grouped by implementing actor, prerequisite condition, and specific order of priority, suited to Vietnam's current institutional context and digital capacity. The study's main limitation stems from the nature of the desk-research method. Because no primary data were collected, the comparative findings and policy implications are drawn from published secondary literature and have not been directly verified through surveys or interviews with Vietnamese enterprises; the suitability of each recommendation to the specific operating conditions of individual sectors may therefore require adjustment in practical application. On this basis, future research should conduct empirical surveys assessing Vietnamese enterprises' readiness for circular product–service models, as well as evaluate the impact of pilot programs once they have been implemented in practice.

References

A*STAR Singapore Institute of Manufacturing Technology (SIMTech). (n.d.). *Waste-to-resource reverse logistics platform: Facilitating B2B waste-to-resource operations for circular economies.* Agency for Science, Technology and Research. https://www.a-star.edu.sg/simtech/mm/features/waste-to-resource-reverse-logistics-platform

Akbar, Y. H., & Tracogna, A. (2022). The digital economy and the growth dynamics of sharing platforms: A transaction cost economics assessment. *Journal of Digital Economy, 1*(3), 209–226. https://doi.org/10.1016/j.jdec.2023.01.002

Blackburn, O., Ritala, P., Keranen, J., & Bocken, N. (2026). Circular economy platforms: A systematic review. *Business Strategy and the Environment*. Advance online publication. https://doi.org/10.1002/bse.70307

Bocken, N. M. P., de Pauw, I., Bakker, C., & van der Grinten, B. (2016). Product design and business model strategies for a circular economy. *Journal of Industrial and Production Engineering, 33*(5), 308–320. https://doi.org/10.1080/21681015.2016.1172124

Chauhan, C., Parida, V., & Dhir, A. (2022). Linking circular economy and digitalisation technologies: A systematic literature review of past achievements and future promises. *Technological Forecasting and Social Change, 177*, Article 121508. https://doi.org/10.1016/j.techfore.2022.121508

Fernandes, S. da C., Pigosso, D. C. A., McAloone, T. C., & Rozenfeld, H. (2020). Towards product-service system oriented to circular economy: A systematic review of value proposition design approaches. *Journal of Cleaner Production, 257*, Article 120507. https://doi.org/10.1016/j.jclepro.2020.120507

Han, Y., Shevchenko, T., Yannou, B., Ranjbari, M., Shams Esfandabadi, Z., Saidani, M., Bouillass, G., Bliumska-Danko, K., & Li, G. (2023). Exploring how digital technologies enable a circular economy of products. *Sustainability, 15*(3), Article 2067. https://doi.org/10.3390/su15032067

Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the circular economy: An analysis of 114 definitions. *Resources, Conservation and Recycling, 127*, 221–232. https://doi.org/10.1016/j.resconrec.2017.09.005

Kjaer, L. L., Pigosso, D. C. A., Niero, M., Bech, N. M., & McAloone, T. C. (2019). Product/service-systems for a circular economy: The route to decoupling economic growth from resource consumption? *Journal of Industrial Ecology, 23*(1), 22–35. https://doi.org/10.1111/jiec.12747

Lüdeke-Freund, F., Gold, S., & Bocken, N. M. P. (2019). A review and typology of circular economy business model patterns. *Journal of Industrial Ecology, 23*(1), 36–61. https://doi.org/10.1111/jiec.12763

National Assembly of Vietnam. (2020). *Luật Bảo vệ môi trường số 72/2020/QH14* [Law on Environmental Protection No. 72/2020/QH14]. https://thuvienphapluat.vn/van-ban/Tai-nguyen-Moi-truong/Law-72-2020-QH14-on-Environmental-Protection-463512.aspx

Nemilentseva, M., Tariq, A., Tariq, W., Aghajani, D., & Torkkeli, M. (2024). A review of digital platform and circular economy: Opportunities and challenges for developing countries. https://doi.org/10.1201/9781032616810-3

Prime Minister of Vietnam. (2022). *Quyết định số 687/QĐ-TTg phê duyệt Đề án Phát triển kinh tế tuần hoàn ở Việt Nam* [Decision No. 687/QĐ-TTg approving the Scheme for Circular Economy Development in Vietnam]. https://thuvienphapluat.vn/van-ban/Thuong-mai/Quyet-dinh-687-QD-TTg-2022-De-an-phat-trien-kinh-te-tuan-hoan-o-Viet-Nam-516231.aspx

Sun, S. (2021). How does the collaborative economy advance better product lifetimes? A case study of free-floating bike sharing. *Sustainability, 13*(3), Article 1434. https://doi.org/10.3390/su13031434

Tạp chí Kinh tế - Tài chính. (2024). *Đổi mới đào tạo nguồn nhân lực quản lý trong các doanh nghiệp nhỏ và vừa để đáp ứng nhu cầu chuyển đổi số* [Innovating management workforce training in small and medium enterprises to meet digital transformation needs]. https://nghiencuu.tapchikinhtetaichinh.vn/doi-moi-dao-tao-nguon-nhan-luc-quan-ly-trong-cac-doanh-nghiep-nho-va-vua-de-dap-ung-nhu-cau-chuyen-doi-so-154268.html

Tian, S., Sharma, A., Wu, L., & Pawar, K. S. (2024). A systematic literature review on the digital platform and its role in the circular economy: State-of-the-art and future research directions. *Journal of Digital Economy*. Advance online publication. https://doi.org/10.1016/j.jdec.2024.12.001

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