

# Circular economy practices for sustainable urban development: A Systematic literature review of real estate sector pathways toward SDG 11 in Dhaka, Bangladesh

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## Keywords

*Circular Economy, Real Estate, SDG 11, Systematic Literature Review & Urban Sustainability.*

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## Abstract

*This research paper examines how circular economy (CE) principles influence urban sustainability in the real estate sector of Dhaka, Bangladesh, especially in relation to Sustainable Development Goal 11 (SDG 11). Given the rapid urbanisation challenges in cities such as Dhaka, Bangladesh, understanding CE's potential to foster inclusive, safe, and resilient urban environments is crucial yet insufficiently explored.*

*Following PRISMA 2020 guidelines, we systematically searched the databases for peer-reviewed articles and grey literature published from January 2018 to October 2025. From 230 initial records, 81 studies were selected through rigorous screening and quality appraisal using the CASP and MMAT frameworks. This paper examines the economic alignment between Circular Economy (CE) strategies and the objectives of SDG 11. It explores economic barriers, financial enablers, and investment challenges, while proposing a comprehensive multi-theoretical framework and a conceptual model to understand the economic dimensions of CE transitions. CE practices significantly contribute to achieving SDG 11 by reducing waste and improving resource efficiency. However, notable research gaps exist regarding the economic aspects of CE in real estate, business-led transitions, informal sector inclusion, and social inclusion in rapidly urbanising areas.*

*This paper presents a multi-theoretical framework integrating Circular Economy Theory, Social Transition Theory, Institutional Theory, and Community Governance Theory to examine the adoption of CE practices in the real estate sectors of developing countries such as Bangladesh. It enhances theoretical understanding by uniting various perspectives on CE transitions relevant to the Global South. Additionally, it outlines practical strategies for policymakers, developers, and urban planners to effectively implement CE practices aligned with SDG 11 in Dhaka, Bangladesh. The review also identifies critical gaps in institutional frameworks and policy coherence that impede CE progress in rapidly urbanising cities, laying the groundwork for future empirical research on business-led CE initiatives.*

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## Introduction

### Background and Context

The twenty-first century has witnessed unprecedented urbanisation, with developing countries undergoing the most dramatic transformations (Abubakar, 2018). Dhaka city in Bangladesh, exemplifies this trend as one of the world's most densely populated cities, housing over 24 million inhabitants and facing serious sustainability challenges (Akhter, 2023, Rahaman et al., 2023). The city's rapid expansion has resulted in critical issues such as traffic congestion, air and water pollution, unplanned settlements, poor waste management, and climate vulnerability expressed through flooding and extreme heat events (Ahmad et al., 2024, Sarker, 2020).

Traditional linear economic models based on the take-make-dispose paradigm have proven inadequate for tackling these complex urban challenges (Elisha, 2020). The construction and real estate sectors significantly contribute to material waste, carbon emissions, and unsustainable resource consumption, while also accounting for substantial economic activity and investment (Alam et al., 2024, Gupta and Tiwari, 2022). In this context, the circular economy appears as a transformative framework that redefines resource flows, waste management, value creation, and economic sustainability within urban environments (Geissdoerfer et al., 2017, MacArthur, 2015a).

### Economic Dimension of Urban Sustainability in Relation to SDG 11

The circular economy offers a systemic alternative to the linear economic model by promoting closed-loop material flows, resource regeneration, and waste reduction (Pearce and Turner, 1989, Stahel, 2019). Grounded in industrial ecology (Frosch, 1992) and inspired by natural systems (Benyus, 1997), it aims to decouple economic growth from resource use through material reuse, remanufacturing, and regenerative design (Braungart and McDonough, 2009, Kirchherr et al., 2023). This model presents a strong business case based on resource security and cost savings (MacArthur, 2015b), with the European Investment Bank estimating that transitioning to a circular economy could generate €1.8 trillion in economic value across Europe by 2030, while creating jobs (EIB, 2024, Scholtysik et al., 2023). However, less than 10% of global economic activities currently utilise circular frameworks (CircleEconomy, 2024, OECD, 2020), with significant gaps in developing nations due to limited resources and infrastructure (CircleEconomy, 2024, Halog and Anieke, 2021, OECD, 2020, Rataj et al., 2024). Despite these challenges, informal circular activities in these countries, such as repair networks and material recovery systems, are already contributing economic value, often outside formal economic accounting (Abunyewah et al., 2023, Fianoo et al., 2024, Scheel et al., 2020).

According to the United Nations (2015), Sustainable Development Goal 11 aims to establish inclusive, safe, resilient, and sustainable cities by. This goal encompasses various dimensions, including affordable housing, sustainable transportation, inclusive urbanisation, cultural heritage preservation, disaster risk reduction, and accessible green spaces, all of which are fundamentally reliant on economic viability (Mahajan et al., 2024). Key economic aspects include ensuring adequate housing (target 11.1), providing sustainable transport options (target 11.2), promoting efficient resource utilisation (target 11.3), and mobilising financial resources for development (target 11.a) (Cervantes Puma et al., 2024). There exists considerable, yet underexplored, alignment between CE principles and the economic dimension of SDG 11, as circular approaches can enhance resource efficiency, minimise waste, and create job opportunities (Azizuddin et al., 2021, Khajuria et al., 2022). Recent research indicates that circular practices support multiple SDGs, including SDG 12, SDG 9, and SDG 8 (Panchal et al., 2021, Raman et al., 2025, Schröder and Barrie, 2024). Nevertheless, a significant gap persists in the examination of CE's economic dimensions, which are frequently overlooked in assessment frameworks and financial viability analyses (Ahmad et al.,

2024, Hossain et al., 2024b, Mishra et al., 2025). This oversight restricts evidence-based decision-making for stakeholders, including businesses and policymakers.

### Research Gap and Study Objectives

The existing literature on CE implementation highlights several critical gaps. First, the real estate sector has received less attention than manufacturing and waste management (Gupta and Tiwari, 2022). Second, the economic dimensions of CE in urban contexts are underexplored, particularly regarding investment needs and financial viability (Ahmad et al., 2024, Hossain et al., 2024a). Third, a systematic investigation into business-led CE transitions in developing countries is lacking (Ahmed et al., 2025, Khan et al., 2022). Lastly, the integration of informal sector practices into formal CE frameworks remains insufficiently addressed (Kadir et al., 2024, Sengupta et al., 2022).

This systematic literature review effectively addresses existing gaps by examining how CE practices in Dhaka's real estate sector can contribute to achieving SDG 11 by 2030, with a particular focus on economic dimensions. The specific objectives are:

1. To systematically identify and synthesise existing research on CE practices in urban real estate, emphasising economic aspects,
2. To assess the economic alignment between CE strategies and the targets of SDG 11,
3. To identify economic barriers, financial enablers, and investment challenges,
4. To develop a comprehensive multi-theoretical framework and a conceptual model for understanding the economic dimensions of CE transitions, and
5. To propose insightful research directions and practical recommendations for stakeholders.

### Theoretical framework and Conceptual model

Circular economy transitions in urban environments require integrating diverse theoretical perspectives, particularly those on economic mechanisms and business models. This review employs a multi-theoretical framework to analyse financial, social, institutional, and governance factors essential for successful implementation.

### Circular Economy Theory (Economic Value Retention)

Circular Economy Theory provides a framework for reimagining material flows and value creation, emphasising economic objectives (Pearce and Turner, 1989, Stahel, 2019). Its core principles include maximising asset utilisation through extended use and performance-based models, maintaining high-value applications to prolong material lifespan, and capturing residual value through remanufacturing and quality recycling practices that uphold material integrity (Kalmykova et al., 2018, Stahel, 2019).

In urban real estate, core principles emphasise maintaining building value through proactive upkeep and adaptive reuse rather than early demolition. This approach involves designing for disassembly, selecting durable materials with lower life-cycle costs, and fostering secondary markets for reclaimed construction materials (Boeri et al., 2019; Gupta & Tiwari, 2022; Pekdemir et al., 2025). The business case for CE practices includes reduced procurement and waste disposal costs, extended asset lifespans, operational cost savings, new revenue from material sales, increased property values from sustainability certifications, and enhanced brand reputation that appeals to environmentally conscious tenants and investors (Foroozanfar et al., 2022, Luthin et al., 2024, Sinha, 2022). To achieve the economic benefits of sustainable materials and circular economy design, barriers such as upfront costs, coordination issues, information gaps, underdeveloped secondary markets, and misaligned incentives must be addressed (Mishra et al., 2025; Mysha et al., 2024).

### **Social Transition Theory (Business Model Innovation)**

Social Transition Theory, particularly the Multi-Level Perspective (MLP), provides valuable insights into how systemic economic changes unfold across socio-technical regimes (Geels, 2002, Geels and Schot, 2007). From an economic standpoint, these transitions entail fundamental shifts in business models, market structures, investment patterns, and value-creation logics (Bertassini et al., 2021). The adoption of circular economy principles in urban real estate signifies a regime transition that necessitates coordinated changes across business models, procurement practices, financing mechanisms, contractual arrangements, and performance metrics (Graessler et al., 2024).

Niche innovations such as product-as-a-service models and collaborative consumption platforms must demonstrate economic viability and disrupt traditional business models (Foroozanfar et al., 2022, Scholtysik et al., 2023). Circular business models in real estate include using renewable inputs, monetising end-of-life materials, maximising asset utilisation, and enabling shared access to spaces (Puntillo, 2023, Scholtysik et al., 2023). Landscape pressures, regime characteristics, and niche capabilities shape economic transitions. Understanding these factors helps explain the marginal status of circular economy business models despite their potential benefits (Geels, 2002, Geels and Schot, 2007).

### **Institutional Theory (Economic Incentives and Market Structures)**

Institutional Theory examines how rules, norms, and cognitive frameworks shape economic behaviour and market outcomes (Powell and DiMaggio, 2012). Three key dimensions impact CE economics, including regulative institutions such as property rights and standards that influence financial incentives, normative institutions like professional practices and corporate social responsibility that shape market access, and cognitive-cultural institutions involving investor perceptions and consumer preferences that affect demand for circular products (DiMaggio and Powell, 1983, North, 1990, Powell and DiMaggio, 2012). Understanding these dimensions is crucial for advancing the CE.

In developing countries, weak institutions create both barriers and opportunities for implementing the circular economy (Ahmed et al., 2022, Islam, 2023). While formal frameworks may be lacking, informal systems like social networks can enable economic activity despite these challenges (Kahupi et al., 2024, Palafox-Alcantar, 2022). Enablers of the CE include fiscal policies, such as tax incentives and accelerated depreciation, as well as green finance mechanisms, such as concessional loans and green bonds (EIB, 2024). Public procurement policies, extended producer responsibility regulations, and building codes that emphasise circularity are also critical (OECD, 2020, Zahid et al., 2024).

On the other hand, economic barriers encompass misaligned incentives throughout the building lifecycle, underdeveloped secondary material markets, and information asymmetries regarding quality and pricing (Mishra et al., 2025). Additionally, regulatory uncertainty, limited access to patient capital, and weak intellectual property protection can impede innovation in circular technologies (Noman, 2024, Mysha et al., 2024).

### **Community Governance Theory: Collaborative Economic Arrangements**

Community Governance Theory underscores the significance of participatory decision-making, stakeholder collaboration, and collective resource management (Pillora and McKinlay, 2011, Totikidis et al., 2005). Effective governance addresses collective action dilemmas, coordinates investments, facilitates information exchange, and enables value capture across fragmented actor networks (Moore, 2021). The real estate sector comprises a complex array of stakeholders, including developers, investors, construction firms, material suppliers, facility managers, tenants, waste management providers, regulatory authorities, financial institutions, and insurance companies. Each stakeholder has unique economic incentives, time

preferences, risk tolerances, and performance metrics, which present significant coordination challenges for circular economy transitions (Hossain et al., 2024b).

Circular transitions require innovative governance structures to improve information exchange and reduce costs in secondary material markets (Böhm and Alexander, 2024). Key elements include investment coordination, risk-sharing among value chain participants, fair value distribution, and enhanced collective bargaining (Rađenović et al., 2024, Tabas et al., 2025).

Economic governance mechanisms can encompass industrial symbiosis networks connecting waste generators with users, collaborative platforms for aggregating demand, public-private partnerships that share investment risks, and community benefit agreements that ensure local economic gains (Colpo et al., 2022, Nugroho et al., 2025, Palafox-Alcantar, 2022).

### Integrated Framework for Economic Analysis

These four theoretical perspectives form an integrated framework for analysing the economic dimensions of CE adoption in Dhaka's real estate sector. CE Theory defines economic value-retention mechanisms and business-case components (Pearce and Turner, 1989, Stahel, 2019), Social Transition Theory illuminates business-model innovation dynamics and market-transformation pathways (Geels, 2002, Geels and Schot, 2007), Institutional Theory explains how formal rules and informal norms shape economic incentives, risks, and opportunities (DiMaggio and Powell, 1983, North, 1990, Powell and DiMaggio, 2012), and Community Governance Theory highlights collaborative arrangements that enable value creation and capture across stakeholder networks (Pillora and McKinlay, 2011, Totikidis et al., 2005). Together, they provide a comprehensive analytical lens for understanding both current economic barriers and future pathways toward financially viable circular urban development.

### Conceptual Framework

Figure 1 presents the conceptual framework for this systematic review, highlighting how CE practices in urban real estate support the achievement of Sustainable Development Goal 11, especially in developing countries through economic mechanisms and enabling conditions.

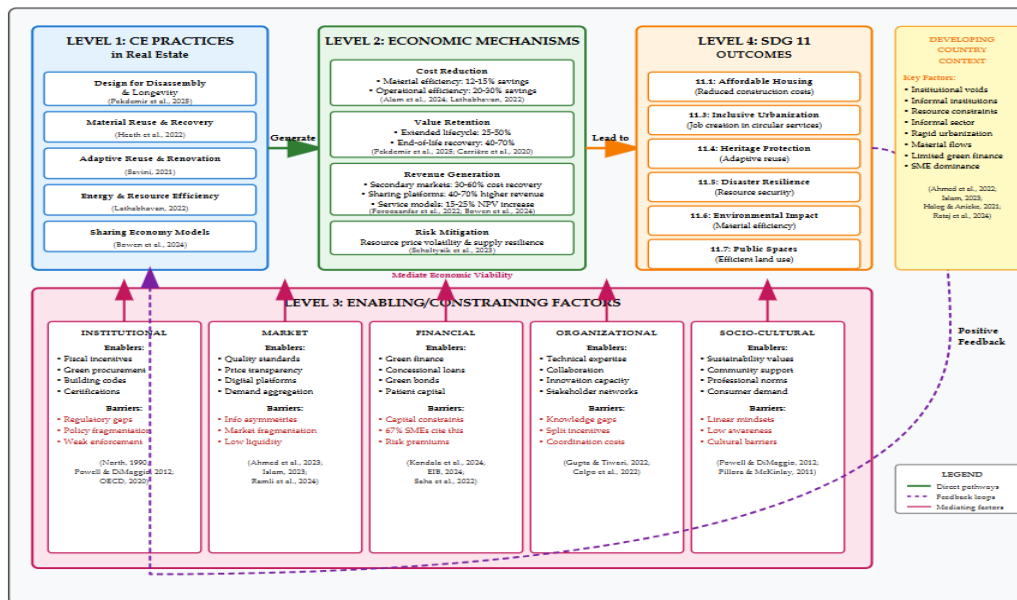


Figure 1: Conceptual Framework for CE Adoption in Urban Real Estate toward SDG 11 (Author's Creation).

### **The framework operates at four interconnected levels**

Level one highlights CE practices in Real Estate, focusing on designing for longevity (Pekdemir et al., 2025), material reuse (Heath et al., 2022), adaptive reuse (Savini, 2021), energy efficiency (Lathabhavan, 2022), sharing economy models (Bowen et al., 2024), and product-as-a-service approaches (Foroozanfar et al., 2022). Level two describes the economic mechanisms that drive value creation through 12-15% reductions in material costs and 20-30% improvements in operational efficiency (Alam et al., 2024, Lathabhavan, 2022). Value retention is achieved through extended lifecycles (25-50%) and end-of-life recovery (40-70%) (Carrière et al., 2020, Pekdemir et al., 2025). Revenue generation stems from secondary markets (30-60% cost recovery), sharing platforms (40-70% revenue increase), and service models (15-25% NPV growth) (Foroozanfar et al., 2022, Heath et al., 2022), while also reducing risks related to resource price volatility (Scholtysik et al., 2023). Level three examines factors influencing economic viability, such as regulatory frameworks (North, 1990, OECD, 2020, Powell and DiMaggio, 2012), market maturity (Ahmed et al., 2023, Islam, 2023, Ramli et al., 2024), access to finance (Ahmed et al., 2023, EIB, 2024, Islam, 2023, Kondala et al., 2024, Ramli et al., 2024, Saha et al., 2022), organisational capabilities (Colpo et al., 2022, Gupta and Tiwari, 2022), and socio-cultural influences (Pillora and McKinlay, 2011, Powell and DiMaggio, 2012). Level four highlights the contributions of CE practices to SDG 11, including affordable housing, job creation, heritage preservation, disaster resilience, and reduced environmental impact (Mahajan et al., 2024).

The framework incorporates essential feedback mechanisms, in which booming CE implementation strengthens enabling factors by demonstrating viability and attracting investment (Geels and Schot, 2007). In contrast, persistent barriers, particularly financial constraints, affect 67% of SMEs in Bangladesh (Saha et al., 2022), create negative feedback loops. Additionally, the framework recognises factors specific to developing countries, such as institutional voids, resource limitations, the informal sector, and rapid urbanisation, generating significant material flows (Ahmed et al., 2022, Halog and Anieke, 2021, Islam, 2023, Rataj et al., 2024).

## **Methodology**

### **Research Design**

This study employs a systematic literature review methodology following PRISMA 2020 guidelines (Page et al., 2021) to ensure transparency, rigour, and reproducibility (Booth et al., 2021, Gouch et al., 2012, Lame, 2019). Systematic reviews differ from traditional narrative reviews by using explicit, replicable search strategies, predefined inclusion criteria, and structured quality assessment procedures (Aveyard and Bradbury-Jones, 2023, Grant and Booth, 2009). This approach is particularly valuable for synthesising evidence on the economic dimensions of CE, where findings are dispersed across diverse disciplinary literatures, including business strategy, environmental economics, urban studies, and sustainability science.

### **Search Strategy**

We conducted extensive searches across various academic databases, including Scopus, Web of Science, EBSCO Business Source Complete, ProQuest, and Google Scholar, to gather peer-reviewed articles, conference proceedings, dissertations, and grey literature (Kamei et al., 2021). The search was conducted from January 2018 to October 2025, with an emphasis on recent advancements in CE scholarship, ensuring that our findings remain relevant and applicable to contemporary policy and business decision-making. The core Boolean search string employed was: ("Circular Economy" OR "Circularity") AND ("Real Estate" OR "Property Development" OR "Construction" OR "Built Environment" OR "Urban Development") AND ("Dhaka" OR "Bangladesh" OR "Developing Country" OR "Global South"

OR "Emerging Economy") AND ("Sustainability" OR "Sustainable Development" OR "SDG 11" OR "Sustainable Cities") AND ("Business" OR "Business Model" OR "Economic" OR "Enterprise" OR "Firm" OR "Stakeholder" OR "Policy" OR "Governance" OR "Institutional").

### Inclusion and Exclusion Criteria

To select the appropriate literature for the review process, the following inclusion and exclusion criteria are used:

Inclusion criteria	Exclusion criteria
<ul style="list-style-type: none"> <li>Published between 2018 and 2025.</li> </ul>	<ul style="list-style-type: none"> <li>Articles before 2018.</li> </ul>
<ul style="list-style-type: none"> <li>English language</li> </ul>	<ul style="list-style-type: none"> <li>Non-English publications</li> </ul>
<ul style="list-style-type: none"> <li>Focus on circular economy, urban sustainability, or business models</li> </ul>	<ul style="list-style-type: none"> <li>Articles unrelated to CE or urban development</li> </ul>
<ul style="list-style-type: none"> <li>Peer-reviewed journal articles, book chapters, and high-quality reports</li> </ul>	<ul style="list-style-type: none"> <li>Blogs, newsletters, and opinion pieces</li> </ul>

Table 1: Inclusion and exclusion Criteria of Articles.

### Screening and Selection Process:

The initial search yielded 230 records pertinent to the research topic. After an extensive screening process that eliminated 50 duplicate articles, 180 unique entries remained for further evaluation. A thorough review of titles and abstracts led to the selection of 150 full-text articles for in-depth analysis. Of these, 69 articles were excluded due to inadequate eligibility criteria, insufficient methodological rigour, and limited relevance to the research questions. Ultimately, 81 articles were selected for their strong methodological foundation, alignment with the research objectives, and valuable insights into the circular economy and urban sustainability.

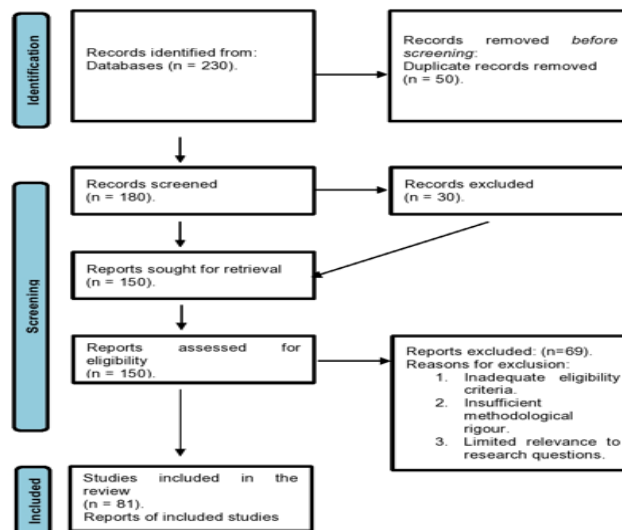


Figure 2: PRISMA 2020 flow diagram screening and selection method (Page et al., 2021).

### Data Extraction and Synthesis

A standardised data extraction template captured key information, including authors, research aim, methodology, and economic dimensions (Easterby-Smith et al., 2021). Thematic content analysis revealed

patterns and gaps in evidence within the literature (Braun and Clarke, 2006). Economic findings were categorised into key areas, and a multi-theoretical framework provided insights alongside empirical data.

### Quality Appraisal for included studies

A quality appraisal assessed the rigour and reliability of 81 studies, ensuring the credibility of the evidence. A modified checklist from the Critical Appraisal Skills Programme (CASP) and the Mixed Methods Appraisal Tool (MMAT) evaluated each study against five criteria. Each study was assessed against five distinct criteria.

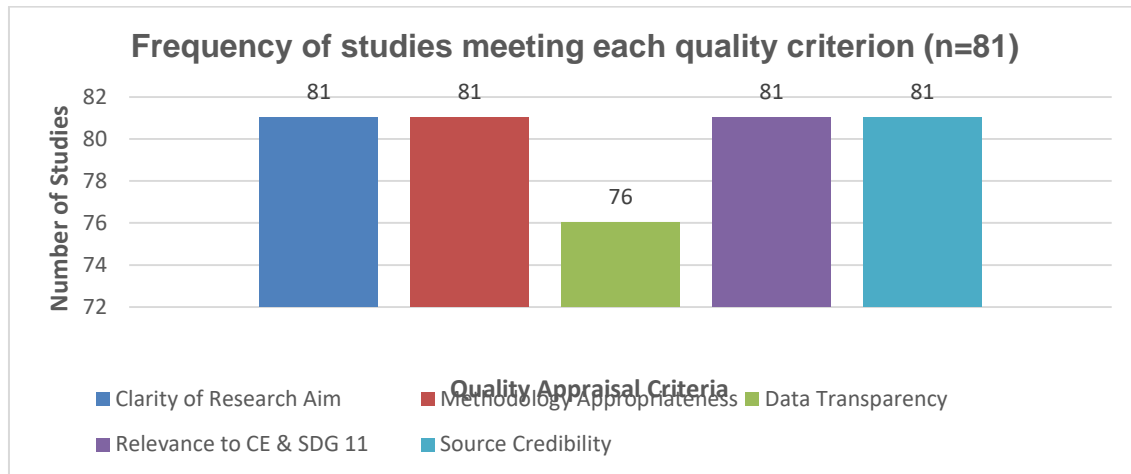


Figure 3: Frequency of studies meeting each quality appraisal criterion.

Most studies met key quality criteria aligned with circular economy principles. However, only 76 met data transparency standards, with five showing inadequate disclosure. This highlights the need for greater openness in research practices.

## Findings

### Overview of Literature Characteristics

The review encompasses 81 studies employing various methodologies: 34 empirical case studies, 18 systematic reviews, 15 conceptual papers, 10 mixed-methods studies, and 4 policy analyses. It underscores a significant gap: only 24 studies have investigated circular economy practices in real estate. Among 47 studies exploring economic aspects, only 19 offer in-depth analysis, with 7 focusing on real estate and 4 on investment costs and economic viability in developing countries.

### Economic Benefits of CE in Urban Real Estate

Material efficiency and waste reduction lead to significant cost savings for construction companies. In Bangladesh, green supply chain practices have reduced construction waste by 18-25% and lowered material costs by 12-15% (Alam et al., 2024). Green buildings often achieve 20-30% operational savings with payback periods of 3 to 7 (Lathabhavan, 2022). Proactive maintenance can be 20-40% cheaper than reactive strategies (Carrière et al., 2020).

Buildings designed for disassembly maintain 40-70% more material value at end-of-life (Pekdemir et al., 2025). Adaptive reuse cuts costs by 10-30% and speeds up project completion by 20-40% (Savini, 2021). Certified green buildings earn 3-7% sale price premiums (Lathabhavan, 2022). Additionally, product-as-a-service models offer 15-25% higher net present values (Foroozanfar et al., 2022) (Foroozanfar et al., 2022),

and co-working spaces yield 40-70% higher revenue per square meter than traditional leases (Bowen et al., 2024).

### **Economic Barriers and Investment Challenges**

High-performance building materials cost 10-30% more than conventional options (Alam et al., 2024), and design for disassembly increases costs by 5-15% (Pekdemir et al., 2025). In Bangladesh, where profit margins are 8-12%, a 10% increase in costs can threaten project viability (Hossain and Khatun, 2021). Sixty-seven percent of construction SMEs cite lack of financial resources as a significant barrier to CE adoption (Saha et al., 2022).

Secondary material markets are underdeveloped due to fragmented supply, regulatory issues, and a lack of quality certifications (Rafiq et al., 2024, Ramli et al., 2024). Recovered materials sell for 40-70% of virgin prices despite equivalent quality (Heath et al., 2022). Misalignment between CE investment costs and benefits complicates adoption (Islam et al., 2024). Contractual innovations such as green leases are rare (Hossain et al., 2024b). CE investments require patient capital, yet financial markets often lack green financing options (Ahmed et al., 2022). High-risk premiums are driven by limited technical expertise and perceived risks (EIB, 2024, OECD, 2020).

## **Discussion**

### **Economic Viability of CE in Dhaka's Real Estate Sector**

The findings reveal a paradox: CE practices can yield significant economic benefits, including operational cost savings of 12% to 30% and material value retention of 40% to 70% (Carrière et al., 2020, Pekdemir et al., 2025). However, adoption is hindered by upfront costs, underdeveloped secondary markets, and access to capital (Savini, 2021). In Dhaka, high density and land scarcity heighten the importance of space efficiency and adaptive reuse, while rapid infrastructure growth offers potential for industrial symbiosis. Yet, challenges such as fragmented governance and limited access to finance hinder implementation (Ahmed et al., 2022, Azizuddin et al., 2021, Islam, 2023, Zahid et al., 2024).

### **Alignment with SDG 11 Targets**

CE practices in real estate support several SDG 11 targets through economic mechanisms. Reduced construction costs aid affordable housing (target 11.1), while adaptive reuse and heritage preservation protect cultural heritage (target 11.4). Enhanced resilience to material price volatility helps mitigate economic losses from disasters (target 11.5), and job creation in material recovery supports inclusive urbanisation (target 11.3). Resource efficiency also reduces per capita environmental impact (target 11.6) (EIB, 2024, OECD, 2020, UNECE, 2023, UNEP, 2023). However, addressing economic barriers is essential, as 67% of Bangladeshi SMEs identify financial constraints as the main CE barrier, indicating the need for policy focus on financial enablers (Mishra et al., 2025, Saha et al., 2022, Zahid et al., 2024).

### **Theoretical Contributions**

This review advances theoretical understanding through its integrated multi-theoretical framework, emphasising economic dimensions. The framework reveals that successful CE transitions require simultaneous attention to technical feasibility (CE Theory) (Pearce and Turner, 1989, Stahel, 2019), business model viability (Transition Theory) (Geels, 2002, Geels and Schot, 2007), Institutional enablers (Institutional Theory) (DiMaggio and Powell, 1983, North, 1990, Powell and DiMaggio, 2012), and governance mechanisms (Community Governance Theory) (Pillora and McKinlay, 2011, Totikidis et al., 2005). Single-dimensional interventions addressing only technology, policy, or market development prove insufficient; coordinated multi-level action is necessary (Bertassini et al., 2021, Graessler et al., 2024).

### Practical Implications for Stakeholders

Establish a National Green Finance Facility to offer concessional loans (2–3% below market rates) for circular economy-compliant construction projects. The facility will also provide technical assistance to help small and medium-sized enterprises (SMEs) access funding, addressing a key barrier noted by 67% of Bangladeshi construction SMEs and reflecting successful models from similar developing countries (Ahmed et al., 2022, OECD, 2020, Saha et al., 2022, Zahid et al., 2024).

Key interventions include developing green finance mechanisms, such as concessional loans and green bonds, and offering fiscal incentives for CE investments, such as tax credits. Public procurement policies that drive demand for circular products and support secondary market development are crucial. In Bangladesh, strengthening building code enforcement and establishing infrastructure for material recovery could significantly enhance CE adoption (Ahmad et al., 2024, Islam, 2023).

Product-as-a-service models may achieve net present values that are 15-25% higher, and engaging in industrial symbiosis can lead to cost reductions of 20-50% (Alam et al., 2024). However, realising these advantages requires expertise in lifecycle costing and supply chain coordination, which many developing country firms currently lack (Gupta and Tiwari, 2022, Hossain and Khatun, 2021).

There are substantial opportunities for innovation in green finance products in real estate. Creating credit lines for sustainable construction and issuing green bonds can foster market development while providing returns (EIB, 2024, Zahid et al., 2024).

Community governance is crucial for information exchange, investment coordination, and inclusive participation. Civil society can promote industrial symbiosis networks, support social enterprises, and monitor sustainability commitments (Colpo et al., 2022, Palafox-Alcantar, 2022).

### Research gaps and Future directions

Despite increased research on the CE, significant gaps remain. First, empirical studies on the economic performance of CE practices in the real estate industry in developing countries are scarce, with only 4 of 81 studies providing detailed data (Ahmed et al., 2022; Gupta and Tiwari, 2022; Hossain and Khatun, 2021). Second, there's a need for a systematic investigation of business model innovation for circular real estate, as existing empirical case studies are limited (Foroozanfar et al., 2022). Third, developing secondary material markets requires a deeper analysis of quality assurance, pricing, and logistics (Colpo et al., 2022, Nugroho et al., 2025). Additionally, integrating the informal sector is crucial, given its role in material recovery (Abunyewah et al., 2023, Fianoo et al., 2024, Sarker, 2020), while research on financial mechanisms for CE investments needs innovation (EIB, 2024, Mishra et al., 2025, Zahid et al., 2024). Finally, examining the interplay between formal and informal institutions is essential for effective CE policy design (Hadfield et al., 2025).

### Conclusion

This systematic literature review examines circular economy practices in Dhaka's urban real estate sector, emphasising pathways to SDG 11. Analysing 81 studies, key findings indicate that circular economy practices can provide operational cost savings of 12 to 30% and material value retention of 40 to 70%. However, adoption is limited by upfront costs, underdeveloped secondary markets, and access to capital for SMEs.

The multi-theoretical framework employed highlights the need for coordinated action among policymakers, financial institutions, real estate businesses, researchers, and civil society organisations. Policymakers should develop green finance mechanisms and regulations, while financial institutions must offer tailored financing products. The urgency of achieving SDG 11 by 2030 requires immediate action to leverage circular-economy practices for sustainable urban development in Dhaka's real estate sector.

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