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Transition to Circular Economy in Vietnam: Barriers, Opportunities and Policy Recommendations from an Institutional Analysis Perspective

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Abstract
This study analyzes the transition process to circular economy (CE) in Vietnam from an institutional analysis perspective, aiming to identify barriers, opportunities and propose appropriate policy recommendations. Using desk research methodology with qualitative design, the study analyzes the current institutional framework through a systematic review of legal documents, development strategies and reports from state management agencies. Results show that Vietnam's current institutional framework does not create favorable conditions for CE transition due to its fragmented nature, lack of synchronization and incomplete integration of CE principles. The study identifies three main groups of barriers: (i) formal institutional barriers including lack of specialized legal framework and effective incentive mechanisms; (ii) informal institutional barriers from linear consumption culture and limited awareness; (iii) institutional capacity barriers related to resources and coordination mechanisms. Simultaneously, the study identifies opportunities from international integration pressure, political commitment and Vietnam's specific advantages. Based on these findings, the study proposes four solution groups: improving the legal framework, reforming management institutions, developing policy tools and strengthening institutional capacity, contributing to promoting successful transition to CE in Vietnam.

Keywords: Circular Economy, Institutional Analysis, Institutional Barriers, Sustainable Development Policy, Vietnam

1. Introduction

In the context of climate change and global resource depletion, the circular economy model has emerged as a strategic solution for sustainable development. Unlike the traditional linear economic model of "take - make - consume - dispose", CE aims to maintain the value of products, materials and resources in the economy for as long as possible while minimizing waste generation (Ellen MacArthur Foundation, 2015) [1]. In Vietnam, the transition to CE is becoming an urgent requirement as the country faces dual pressure from economic growth and environmental protection, especially with the commitment to achieve Net Zero by 2050.

Although Vietnam has made initial efforts to promote sustainable development through national strategies and action plans, the transition to CE still faces many challenges. Research by Kirchherr *et al.* (2018) [4] indicates that institutional barriers, including both formal and informal institutions, are often the key factors determining the success or failure of CE transition processes. In Vietnam, the gap between the current policy framework and practical CE requirements is creating significant barriers to this transition process.

From an institutional theory perspective, North (1990) [5] emphasizes that institutions - understood as "the rules of the game" in society - play a decisive role in shaping economic activities and development processes. In the context of transitioning to CE, analyzing and understanding the current institutional framework, as well as barriers and opportunities from an institutional perspective, becomes particularly important for developing a transition roadmap appropriate to Vietnam's specific characteristics.

This study aims to comprehensively analyze the transition process to CE in Vietnam from an institutional perspective, with three specific objectives: (i) evaluate the current institutional framework related to CE; (ii) identify main institutional barriers in the transition process; and (iii) identify CE development opportunities based on Vietnam's specific context. Through desk research methodology and comparative institutional analysis, the study seeks to answer the question: How is Vietnam's current

institutional framework supporting or hindering the transition to CE, and what institutional adjustments are needed to promote this transition process?

2. Literature Review and Analytical Framework

2.1 Circular Economy Concept

Circular economy is an economic system that is regenerative and restorative, in which products, materials and resources are maintained at their highest value for as long as possible (Geissdoerfer *et al*., 2017) [3]. Fundamentally different from the traditional linear economic model, CE operates based on three core principles: (i) design out waste and pollution; (ii) keep products and materials in use; and (iii) regenerate natural systems. CE implementation strategies have evolved from the basic 3R model (Reduce, Reuse, Recycle) to more complex frameworks like 9R, including refuse, rethink, reduce, reuse, repair, refurbish, remanufacture, repurpose, recycle and recover (Potting *et al*., 2017) [6].

2.2 Institutional Theory and Economic Development

From an institutional economics perspective, Williamson (2000) developed a four-level institutional analysis framework, distinguishing informal institutions (culture, customs), formal institutional environment (constitution, laws), governance structures (contracts, organizations), and resource allocation (prices, quantities). Each level has different rates of change, with informal institutions potentially taking centuries to change, while resource allocation adjusts continuously. In the context of transitioning to CE, the interaction between these institutional levels creates both drivers and barriers to the transition process. Particularly, the mismatch between change rates of different institutional levels can create "institutional voids", hindering the implementation of CE policies.

2.3 International Experience in Institutionalizing Circular Economy

The European Union (EU) pioneered in institutionalizing CE through the Circular Economy Action Plan issued in 2015 and updated in 2020, establishing a comprehensive legal framework with specific targets for recycling, waste minimization and eco-design (European Commission, 2020) [2]. China approaches CE from an industrial ecology development perspective, with the Circular Economy Promotion Law of 2009 focusing on resource use efficiency at enterprise, industrial park and city levels. Meanwhile, Japan developed the concept of "sound material-cycle society" with a detailed hierarchical legal system for each type of waste and specific industry. Each model reflects specific institutional contexts and development priorities, but all emphasize the key role of a strong legal framework and multi-stakeholder coordination mechanism in promoting CE.

2.4 Research Analytical Framework

Based on theoretical synthesis, this study develops a multi-dimensional analytical framework to assess the CE transition process in Vietnam. The analytical framework includes three main components: (i) A 2x3 institutional matrix examining both formal institutions (laws, policies, regulations) and informal institutions (culture, business practices, social awareness) at macro, meso and micro levels; (ii) Institutional effectiveness evaluation criteria based on four factors: policy consistency, enforceability, level of inter-sectoral coordination, and adaptability to change; (iii) Driver-barrier analysis to identify factors promoting and hindering CE transition from an institutional perspective. This analytical framework allows comprehensive and systematic evaluation of institutional aspects of the CE transition process, while creating a basis for proposing policy solutions appropriate to Vietnam's context.

3. Research Methodology

This study applies desk research methodology with qualitative research design, using comparative institutional analysis to evaluate the transition process to circular economy in Vietnam. The choice of this method is appropriate to the objective of comprehensively analyzing the institutional framework and identifying barriers and opportunities in the transition context.

Secondary data is collected from four main sources: (i) Vietnam's legal document system including laws, decrees, circulars related to environment, waste management, cleaner production and sustainable development from 2010 to present; (ii) National strategies and action plans on green growth, sustainable development and circular economy; (iii) Reports from ministries and sectors, especially the Ministry of Natural Resources and Environment, Ministry of Planning and Investment on the status of resource and waste management; (iv) International academic research and reports from international organizations on circular economy in Vietnam and Southeast Asia.

The data analysis process is carried out through three steps: First, content analysis of policy documents to assess the level of circular economy principles integration in the current legal system. Second, applying the institutional analysis matrix to systematize formal and informal institutional factors at different levels. Third, comparison with international experience to identify gaps and appropriate lessons. The reliability of the research is ensured through cross-checking between data sources and information verification from multiple perspectives.

4. Results and discussion

4.1 Analysis of Current Institutional Framework

Analysis of Vietnam's legal document system shows that the institutional framework related to circular economy is currently scattered across many different laws and documents, lacking unified integration of CE principles. The 2020 Environmental Protection Law mentions the concept of "circular economy" for the first time but mainly focuses on waste management and recycling, not yet fully covering CE aspects such as eco-design, product life extension or service-based business models. Other legal documents such as the Law on Economical and Efficient Use of Energy, High Technology Law, though having regulations indirectly supporting CE, lack linkage and synchronization mechanisms.

At the strategy and action plan level, the National Green Growth Strategy for 2021-2030 period and the National Action Plan on Sustainable Production and Consumption have set targets related to efficient resource use and waste minimization. However, these targets remain generally oriented, lacking specific indicators and clear roadmaps for CE transition. The state management organizational structure for CE is currently scattered among many ministries, with the Ministry of Natural Resources and Environment mainly responsible for waste management, Ministry of Industry and Trade managing industrial

production, and Ministry of Science and Technology in charge of technology innovation, leading to difficulties in coordination and synchronized policy implementation.

4.2 Institutional Barriers in Circular Economy Transition

4.2.1 Formal Institutional Barriers

The first and most fundamental barrier is the lack of a specialized legal framework for CE. Unlike the EU with its comprehensive CE Action Plan or China with its separate CE Promotion Law, Vietnam does not yet have an overall legal document regulating CE activities. This creates a legal vacuum in clearly defining CE concepts, principles and standards, making it difficult for businesses to determine transition directions.

Second, the current legal system has many overlaps and contradictions. For example, regulations on waste classification in the Environmental Protection Law are not synchronized with regulations on imported scrap in documents from the Ministry of Industry and Trade, creating barriers to developing the secondary raw material market - an important element of CE. The current incentive mechanism system is mainly based on administrative measures and lacks effective economic tools such as carbon tax, extended producer responsibility fees or financial incentives for CE pioneering enterprises.

4.2.2 Informal Institutional Barriers

Linear consumption culture deeply rooted in Vietnamese society creates significant barriers to CE transition. Consumers still prefer new, cheap products and view repair and reuse as expressions of economic shortage rather than sustainable choices. In the business sector, awareness of CE remains limited, with most businesses still viewing CE as additional costs rather than new business opportunities. Inertia in traditional vertical management thinking also hinders the formation of circular value chains that require inter-sectoral cooperation.

4.2.3 Institutional Capacity Barriers

Limited financial resources are an important barrier as the state budget for CE support activities remains modest, while private investment capital for CE projects faces difficulties due to high risks and long payback periods. Vietnam also faces serious shortages of CE expertise, from state management officials to technical experts in enterprises. Weak inter-sectoral coordination mechanisms are reflected in the lack of a focal agency coordinating CE activities, leading to overlap, resource waste and reduced implementation effectiveness.

4.3 Opportunities for Circular Economy Development in Vietnam

4.3.1 Opportunities from International Context

New generation free trade agreements such as EVFTA, CPTPP set high requirements for environmental standards and sustainable development, creating positive pressure for Vietnam to transition to CE. At the same time, the global green investment trend is opening potential capital sources for CE projects, with ESG investment funds increasingly interested in the Vietnamese market. International cooperation in the CE field also facilitates technology transfer and experience sharing, especially through cooperation programs with the EU, Japan and South Korea.

4.3.2 Opportunities from Domestic Context

Strong commitment from high-level leadership on sustainable development and the Net Zero 2050 target creates important political momentum for CE transition. The economic structure undergoing strong transformation with the development of service and high-tech sectors creates favorable conditions for integrating CE principles from the beginning. The rapidly developing creative startup ecosystem, with many startups focusing on green technology solutions and circular business models.

4.3.3 Opportunities from Vietnam's Specifics

Vietnam possesses diverse and abundant biological resources, creating great potential for developing circular bio-industries. Indigenous knowledge about reuse and repair still preserved in many communities can be promoted and upgraded with modern technology. The young population structure with ability to quickly absorb new trends creates favorable conditions for changing consumption behavior towards sustainability and accepting new CE business models.

4.4 Synthesis Discussion

Analysis shows the dialectical relationship between barriers and opportunities in CE transition in Vietnam. While formal institutional barriers can be overcome through legal and policy reform, changing informal institutions requires long-term and multi-dimensional efforts. Comparison with international experience shows that Vietnam is in the early stage of CE transition, similar to the EU in 2010-2015 or China in the early 2000s.

The key role of institutional reform is confirmed through the fact that countries successful in CE all have strong and synchronized institutional frameworks. However, Vietnam cannot mechanically copy models from other countries but needs to build its own roadmap appropriate to specific socio-economic contexts. Leveraging existing opportunities, especially momentum from political commitment and international integration pressure, can create momentum for overcoming institutional barriers, towards a true circular economy in Vietnam.

5. Conclusions and recommendations

5.1 Main Conclusions

The study has comprehensively analyzed the transition process to circular economy in Vietnam from an institutional perspective, clarifying three important findings. First, Vietnam's current institutional framework does not create favorable conditions for CE transition due to its fragmented nature, lack of synchronization and incomplete integration of CE principles. Second, institutional barriers exist at all three levels - formal, informal and institutional capacity - among which informal institutional barriers such as linear consumption culture and limited CE awareness require long-term efforts to overcome. Third, Vietnam possesses many unique opportunities for CE development, from positive pressure of international integration, strong political commitment to specific advantages in resources and demographic structure.

The analysis confirms the key role of institutional reform in promoting CE transition. The success of the transition process depends on the ability to build a synchronized, effective institutional framework appropriate to Vietnam's context, while leveraging existing opportunities to overcome institutional barriers.

5.2 Policy Recommendations

5.2.1 Improving the Legal Framework

Vietnam needs to prioritize developing a Circular Economy Law as the foundational legal document, clearly stipulating CE principles, objectives and implementation tools. This law needs to clearly define core concepts, determine responsibilities of related parties and establish inter-sectoral coordination mechanisms. In parallel, a comprehensive review of the current legal document system is needed to eliminate contradictory, overlapping regulations and supplement CE support regulations. Building technical standards and regulations for circular products, eco-design and product lifecycle management is an urgent requirement to create a legal basis for business operations.

5.2.2 Management Institutional Reform

Establish a National Circular Economy Committee under the Prime Minister with inter-sectoral coordination functions, ensuring unity and effectiveness in CE policy implementation. Strengthen management decentralization to localities in piloting CE models appropriate to regional characteristics, while building horizontal coordination mechanisms between ministries and vertical coordination between central and local levels. Establish a monitoring and evaluation system for CE transition progress with specific, transparent indicators updated periodically.

5.2.3 Developing Policy Tools

Design green financial mechanisms including CE transition support funds, green bonds and preferential financial products for CE projects. Develop domestic carbon markets linked to international markets, creating economic incentives for businesses to reduce emissions and apply clean technology. Build a comprehensive tax incentive system for CE activities, including corporate income tax reduction for pioneering enterprises, import tax exemption for CE technology and applying higher environmental taxes for difficult-to-recycle products.

5.2.4 Strengthening Institutional Capacity

Implement large-scale training programs on CE for state management officials at all levels and integrate CE content into education programs from high school to university. Establish CE research and development centers at leading universities and research institutes, creating a knowledge foundation for transition. Develop technology infrastructure supporting CE such as digital platforms connecting secondary raw material supply and demand, product traceability systems and modern waste collection and treatment networks.

5.3 Research Limitations and Future Research Directions

This study has certain limitations due to using desk research methodology, without field surveys with stakeholders for deeper assessment of CE awareness and practices. The lack of quantitative data on economic efficiency of CE models in Vietnam also limits the ability to make more specific recommendations on economic tools.

Future research directions should focus on: (i) Empirical research evaluating the effectiveness of CE models being implemented in Vietnam; (ii) Cost-benefit analysis of CE transition in specific industries; (iii) In-depth comparative study on CE institutions between Vietnam and ASEAN countries to identify regional cooperation models; (iv) Evaluating the impact of CE policy tools on business and consumer behavior through experimental methods.

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