

TRANSFORMATION TOWARDS A GREEN ECONOMY: LITERATURE REVIEW AND PRACTICAL IMPLICATIONS

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Abstract

This article explores the transformation towards a green economy, by reviewing literature that presents the concept, benefits and challenges faced in its implementation. The green economy is considered a solution to achieving sustainable development by reducing negative environmental impacts, improving resource efficiency and promoting inclusive economic growth. The research highlights the importance of cross-sector collaboration, technological innovation and policy change in supporting this transition. However, barriers such as limited funding, lack of awareness, and socio-cultural resistance need to be overcome through holistic and inclusive strategies. The study concludes that with multi-stakeholder support and the adoption of innovative practices, the transformation to a green economy can be achieved, delivering significant environmental and socio-economic benefits.

Keywords: Transformation, Green Economy, Practical Implications

Introduction

In recent decades, the negative impacts of conventional environmentally unsustainable economic activities have become a major concern worldwide. Increased greenhouse gas emissions, land degradation, water and air pollution, and decreased biodiversity are some examples of significant impacts on the environment. This global environmental crisis exposes the global economy's heavy reliance on non-renewable natural resources and on practices that damage ecosystems (Wang, 2021).

At the same time, there is an increasing awareness of the urgency of moving away from traditional economic models towards a more sustainable green economy. Green economy is a concept that integrates sustainability principles in every aspect of economic activity, from production to consumption. The ultimate goal is to achieve a balance between economic growth, social welfare, and environmental protection (Rai et al., 2021).

In a global context, the green economy plays an important role in tackling the environmental crises we face today, including climate change, biodiversity decline, and global pollution. The green economy promotes the efficient use of natural resources and minimises negative impacts on the environment through sustainable production

and consumption practices. At the global level, the implementation of a green economy supports the achievement of sustainable development goals (SDGs) initiated by the United Nations (UN) (Bradú et al., 2022) . By prioritising green technology innovation and renewable energy, the green economy helps reduce greenhouse gas emissions and slow the rate of climate change, which in turn benefits the global ecosystem and the well-being of all humanity (Zhang, 2021) .

At the local level, the green economy contributes to improving people's quality of life by creating cleaner and healthier jobs, and promoting fair and sustainable business practices. For example, the development of sustainable agriculture not only conserves farmland but also improves food security (Elum & Mjimba, 2020) . Implementation of the green economy at the local level can also reduce dependence on non-renewable resources and increase energy independence through the use of renewable energy, such as solar and wind power. Thus, the green economy offers a comprehensive solution in aligning economic growth with environmental protection and improved social welfare, which is critical for environmental sustainability and future prosperity of society (Rai et al., 2021) .

Along with global efforts to tackle climate change and achieve the Sustainable Development Goals (SDGs), countries have begun implementing policies and strategies that support the transformation to a green economy. These measures include increased energy efficiency, investment in renewable energy, better waste management, and more sustainable agricultural and industrial practices. However, the progress of this transformation is not uniform across the globe (Shuai & Fan, 2020) . Some developed countries have shown significant success in implementing the green economy, while many developing countries still face various challenges in its implementation. These challenges include funding, technology, and knowledge and capacity gaps (Sun et al., 2020) .

In this context, this study aims not only to explore the existing literature on green economy concepts and practices, but also to identify practical implications that countries, especially developing countries, can adopt to accelerate their transition to a more sustainable economy.

Research Methods

The study in this research uses the literature method. The literature research method is a research approach that focuses on collecting and analysing information from various existing written sources, such as books, scientific journals, articles, reports, and other documents relevant to the research topic. The steps in this method include identifying the research objectives, searching relevant literature, evaluating the quality and credibility of sources, and synthesising the information obtained to answer research questions or develop a theoretical framework. This method is particularly effective for understanding the context, trends, and developments in a particular field, as well as for

formulating hypotheses or conceptual frameworks that can be used in further research. By relying on literature research, researchers can identify gaps in existing knowledge and inform the design of the empirical study to be conducted.

Results and Discussion

Green Economy Concept

A green economy is an economic model that seeks to improve human well-being and social equality, while significantly reducing environmental risks and ecological scarcity. The model emphasises sustainable use of natural resources, reduction of carbon emissions, and preservation of biodiversity (Bai et al., 2022) . In the green economy, economic development and environmental protection are not seen as conflicting goals, but rather as two aspects that can and should go hand in hand to achieve sustainable development. This concept covers a wide range of sectors, including renewable energy, green transport, waste treatment, and sustainable agricultural practices (Cheng et al., 2022) .

Key characteristics of a green economy include efficiency in the use of energy and natural resources, development of green technologies, and social inclusiveness in the distribution of economic and environmental benefits. Efficiency is achieved through the adoption of energy-efficient production practices, material recycling, and waste reduction. Green technologies, such as renewable energy and clean transport systems, are also key pillars in the green economy that help reduce the carbon footprint (Hickel & Kallis, 2020) . In addition, the green economy takes into account environmental impacts in every economic policy and encourages active participation of society in environmental conservation. Thus, a green economy not only focuses on economic growth, but also ensures ecological balance and social justice (D'amato & Korhonen, 2021) .

The sustainability aspect of the green economy covers three main pillars: environmental, economic and social. On the environmental side, the green economy emphasises the importance of managing natural resources sustainably, which means minimising overexploitation and maintaining ecosystem balance. This involves practices such as reduction of greenhouse gas emissions, use of renewable energy, effective waste management, and preservation of biodiversity (Chen, 2023) . The ultimate goal is to ensure that the continuity of life and ecosystems can be maintained for future generations. Thus, economic decisions in this model always consider the long-term impact on the environment (Antasari ., 2020)

From an economic perspective, sustainability means creating an economic system that can survive in the long term without compromising natural resources. It involves the innovation of green technologies, the improvement of resource efficiency, and the promotion of green industries capable of delivering products and services with minimum impact on the environment (Zhao & Li, 2022) . On the social side, the green

economy ensures that the benefits of economic development are equitably shared by all segments of society, including vulnerable and marginalised groups. This includes creating decent jobs, improving quality of life, and equalising access to resources and economic opportunities. The integration of these aspects in a green economy is key to achieving truly sustainable development, where economic growth is not just about increasing numbers but also holistically improving quality of life without harming the earth (Yu et al., 2023).

In its implementation, a green economy requires strong co-operation between the government, private sector and society. The government has an important role in setting policies and regulations that encourage sustainable practices, such as incentivising renewable energy and implementing carbon taxes. In addition, the private sector can play a role by investing in green technologies and adopting more environmentally friendly business practices (Cao, 2023). Educating and raising public awareness about the importance of sustainability is also a key element, as active participation from the public in protecting the environment is essential. For example, through recycling programmes, reduction of plastic use, and energy conservation at the household level (Liu, 2023).

To achieve holistic sustainability, a green economy also requires continuous innovation and adaptation to changing climate and global conditions. Research and development in green technology, sustainable agriculture, and environmentally friendly urban design need to be encouraged and funded. In addition, countries must cooperate at the global level to address environmental issues that are transboundary in nature, such as climate change and damage to marine ecosystems. Only with this integrated and collaborative approach can the sustainability goals envisioned in the green economy concept be achieved (Jaravel., 2021)

As such, the green economy offers a solution that harmonises economic growth, environmental sustainability and social justice. The sustainability aspect of a green economy emphasises efficient management of natural resources, environmentally friendly technological innovation, and equitable distribution of economic benefits. The success of a green economy requires cross-sectoral cooperation and widespread awareness-raising. Appropriate policy-making, investment in green technologies, and public participation are key elements required to achieve a truly sustainable economy. By integrating the three pillars of sustainability-environmental, economic, and social-the green economy not only seeks to deliver sustainable growth, but also forms a strong foundation for the survival of future generations.

Key Factors in Green Economy Transformation

Key Factors in Green Economy Transformation consist of;

First, Government Policy and Regulation. The transformation towards a green economy relies heavily on the policy and regulatory framework implemented by the

government. Supportive policies, such as providing tax incentives for companies investing in green technologies and implementing regulations that reduce carbon emissions, can encourage the private sector to shift to more sustainable practices. In addition, strict environmental regulations can also ensure that mitigating negative environmental impacts is prioritised by industry. The government also needs to play a role in creating awareness and educating the public on the importance of sustainability (Sadiq et al., 2022).

Second, Investment in Green Technology. Green technology plays a crucial role in the green economic transformation. Innovations in renewable energy such as solar, wind and hydro power can replace environmentally unfriendly fossil energy sources. In addition, the development of more efficient waste management and recycling technologies is also crucial to reduce the burden on the environment. Investments in green technologies should not only come from the public sector, but also need to be supported by private capital and foreign investment. Collaboration between stakeholders to fund and develop green technologies can accelerate the transition to a more sustainable economy (Yuan et al., 2020).

Third, Public Education and Awareness. A society that is educated and aware of environmental issues is more likely to support and engage in sustainability practices. Effective education on the importance of energy conservation, plastic reduction, and wise use of natural resources can change consumer behaviour to be more environmentally friendly. Strong awareness campaigns and educational programmes in schools, communities and mass media can encourage public participation in efforts to protect the environment. This active involvement of the public is important because they are the end consumers who have a significant impact on the demand for sustainable products and services (Jinru et al., 2022).

Fourth, Inter-sector Collaboration. Transformation towards a green economy requires cross-sector collaboration involving the government, private sector, non-governmental organisations (NGOs), and communities. This collaboration can create synergies and accelerate the implementation of sustainable practices. For example, private sector initiatives to establish low-emission factories can be supported by government policies and public participation in favour of green products. In addition, global cooperation is also important in addressing transboundary environmental issues such as climate change. Countries need to work together to achieve international commitments to reduce global emissions and maintain overall environmental sustainability (Qiu et al., 2021).

Fifth, Funding and Financial Incentives. One of the key challenges in green economy transformation is access to adequate funding. Sustainable projects often require large initial investments, which may be beyond the reach of many small and medium-sized enterprises. Therefore, innovative funding mechanisms such as green bonds, green investment funds, and microfinance programmes are essential (Shah,

2022) . Financial institutions and banks should play their part by providing credit schemes that support green projects. This financial support, complemented by tax incentives and subsidies from the government, can make sustainable projects more attractive from a business perspective (Jiakui et al., 2023) .

Sixth, Sustainable Infrastructure Development. Sustainable and efficient infrastructure is the cornerstone of a green economy. The development of smart cities, eco-friendly transport networks and energy-efficient buildings can significantly reduce the carbon footprint. Green infrastructure also includes efficient water management and minimally polluting waste systems. Achieving this requires a comprehensive long-term plan and adequate investment. This involves the co-operation of various sectors to ensure that sustainable infrastructure development is possible without compromising environmental sustainability (Appolloni et al., 2022) .

Seventh, Innovation and Research. Innovation is a pillar in green economy transformation. Support for research and development in clean technology can lead to new solutions that reduce the environmental footprint. Universities and research institutes should get support from the government and private sector to develop projects that have the potential to pave the way for green innovation. In addition, creating an ecosystem that supports startups and startups in the field of green technology can lead to significant breakthroughs in the way we use natural resources and manage the environment (Lee, 2020) .

Thus, green economy transformation is a complex process that requires collaborative efforts from various stakeholders. Appropriate government policies, investment in green technologies, holistic public education, and cross-sector collaboration are some of the key factors that determine the success of this transition. In addition, adequate funding, sustainable infrastructure development, and encouragement for innovation also play a vital role. To ensure long-term sustainability, the green economy must be built on an equitable and inclusive foundation, ensuring that the benefits of innovation and progress are shared by all. With collective participation and strong commitment from all parties, the transformation to a green economy will not only deliver economic benefits, but also safeguard the future of the planet for generations to come.

Constraints and Challenges in Green Economy Implementation

One of the main obstacles in implementing a green economy is the limited funding and investment available. Sustainable projects often require significant start-up capital, which can be difficult to obtain, especially for small and medium-sized enterprises. In addition, investors may be sceptical of the rate of return obtained from green projects compared to traditional investments. Therefore, there is a need for innovative funding mechanisms, such as blended finance, green bonds, and government incentives to attract private investors (Chung, 2020) .

The general public and many businesses often still have a limited understanding of the benefits and importance of a green economy. This low awareness hinders widespread acceptance and implementation of green initiatives. More intensive education and campaigns are needed to raise awareness about the positive impacts of a green economy on the environment and social welfare. Without deep understanding, efforts to encourage behavioural change and consumption patterns towards sustainability will remain a major challenge (Sulich & Rutkowska, 2020).

Green technologies and adequate innovation are the backbone of successful green economy implementation. However, the availability of these advanced technologies is often limited and requires high costs for their development. In addition, the adoption process of new technologies can also be hampered by regulatory uncertainty and lack of supporting infrastructure. Investment in research and development of green technologies, as well as support from the government in the form of regulations that favour innovation and the removal of bureaucratic barriers are required to accelerate the adoption of such technologies (Tolliver et al., 2021).

Unsynchronised policies and regulations between central and local governments can be a barrier to green economy implementation. In addition, existing policies may not yet support the transition to a fully green economy, as they are still often focused on traditional economic approaches based on resource exploitation. Comprehensive and coherent policy reforms are needed to facilitate change, including incentives for environmentally friendly activities and penalties for environmentally damaging practices. Harmonisation of regulations across different levels of government should also be considered to encourage effective and consistent implementation (Fernandes et al., 2021).

The implementation of a green economy also often faces cultural and social barriers. Many communities are still attached to traditional ways that are not always environmentally friendly. It takes time for changes towards more sustainable living and working patterns to become widely accepted. Other social factors such as poverty and inequality can also hinder the implementation of a green economy. In communities where basic needs are not met, prioritising green practices may be perceived as an additional burden. Therefore, an inclusive and holistic approach is needed to ensure that the benefits of a green economy can be felt by all levels of society (Kumar & Paswan, 2021).

As such, green economy implementation faces a range of complex constraints and challenges. Limited funding, lack of awareness, technological challenges, regulatory barriers, and cultural and social barriers all require a holistic and coordinated approach. Overcoming these obstacles requires collaboration between various parties, including governments, the private sector, civil society and local communities. Investments in education, technological innovation, and policy reforms can be important strategies to accelerate the adoption of a green economy. With the right

steps, adopting a green economy will not only support environmental protection, but also promote sustainable and inclusive economic development for the future.

Conclusion

The transformation to a green economy is an unavoidable necessity to face environmental challenges and achieve sustainable development. A review of the literature shows that this transition does not only focus on environmental aspects alone, but also involves adjustments in economic policies, technological innovations, as well as changes in people's mindsets. The successful implementation of a green economy relies heavily on the integration of efforts across sectors and the participation of various stakeholders including the government, private sector, and society. The adoption of innovative solutions, such as renewable energy and environmentally friendly agricultural techniques, is expected to address environmental issues while promoting economic growth.

Practically speaking, implementing a green economy requires holistic and pragmatic strategies, such as fiscal incentives, regulatory reforms, and raising public awareness about the importance of sustainability. Despite challenges such as funding limitations and socio-cultural barriers, global partnerships and modern technological support can accelerate this transformation process. Ultimately, an inclusive and collaborative approach will ensure that the benefits of a green economy are equitably shared, positively impacting the environment and improving socio-economic well-being for all groups of society.

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