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The Role of Infrastructure in Driving Economic Growth: A Qualitative Literature Study

Basri Bado[1]*, Samirah Dunakhir[2]
Faculty of Economic and Business, Universitas Negeri Makassar, Indonesia
Corresponding Author: Basri Bado basri.bado@unm.ac.id

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A B S T R A C T
This research aims to explore the role of infrastructure in promoting economic growth through a qualitative literature study approach. Good infrastructure is recognized as a key factor in economic development, especially in developing countries, where accessibility and efficiency are often hampered by a lack of basic facilities. This study collects and analyzes various literature sources including scientific journals, books, and policy reports to identify how infrastructure, such as transportation, energy, and telecommunications, affect economic growth. Findings from the literature show that investments in infrastructure not only improve economic efficiency and productivity, but also contribute to reducing social and economic inequality by expanding access to markets and employment opportunities. However, challenges such as resource constraints, inefficient project management and corruption often hinder the success of infrastructure projects. This study also identifies gaps in the existing literature and provides recommendations for further research and policies that can improve the effectiveness of infrastructure development. The results of this study are expected to provide greater insight into how effective infrastructure strategies can contribute to sustainable and inclusive economic growth.

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INTRODUCTION

The development of the economy in a country cannot be separated from the conditions of the global economy, considering that it is an influence of globalization. Globalization is considered to have a huge impact on international trade, causing negative and positive impacts where with globalization, the whole world can be reached easily in terms of trade, especially during the era of free trade. Thus, to minimize the negative impact and maximize the positive impact on international trade, it is important to know the impact on international trade both in the scope of developed and developing countries that can affect economic development in a country (Azzahra, Rijal, and Prinanda 2022).

Indonesia is a developing country in the form of an archipelago. Its land area is separated by vast sea waters. Various special characteristics (purity, character, specialty, and uniqueness) owned by each regional unit as well as the existence of human activities and natural forces provide opportunities between regions to connect with each other. A number of differences in physical and cultural characteristics have so far not been optimally utilized as a potential to support regional development. Regional development is carried out with the support of economic growth both through economic accumulation, technological progress, labor migration and investment flows.

Construction affects the economy of a country regardless of its development. A more advanced construction industry has both positive and negative impacts on a country's economy. Indonesia has a history of construction corruption. One of the signs of increasing corruption in the construction and infrastructure sector is the declining social image of the construction industry in developing countries such as Indonesia (Hermawan 2024).

Currently, decentralization does not only stop at the district/city level but also at the village level. Indonesia's geography makes it difficult to organize equitable development. Moreover, rural areas are always the last to be affected by development, so the poverty rate in villages is always much higher than in cities. In the 70s, urban poverty was 38% and rural poverty was 40%. However, in 2010, urban poverty had reached 9.8% but rural poverty was still at 16.56%. Decentralization to the village level is one of the current government's efforts to unravel inequality and reduce poverty. The imbalance caused by uneven development has led to high poverty rates in Indonesia, especially between rural and urban development. Villages are always synonymous with poverty, underdevelopment, limited land, difficulty accessing technology and being marginalized. Village development is one of the government's efforts to unravel poverty and inequality (Dewi 2021).

Economic development is one of the key aspects in the effort to achieve progress and community welfare. Indonesia as a developing country has an interesting journey in its efforts to accelerate economic growth and improve the quality of life of its population. Over the past few decades, Indonesia has achieved significant progress in economic development, which is reflected in high growth rates, improved infrastructure, and declining poverty rates.

However, to comprehensively understand the dynamics of Indonesia's economic development, not only quantitative factors such as investment, inflation, and GDP need to be considered, but also qualitative factors that contribute to sustainable growth (Juliana, Safitri, and Fadillah 2023).

The stable development of Indonesia, as seen from the growth of the economy, cannot be separated from the contribution of infrastructure factors. Infrastructure is undeniably a trigger for the economy. Infrastructure development is absolutely necessary in increasing Indonesia's economic growth which carries the principles of pro-poor, pro-growth, and pro-job. In addition, infrastructure provides a large multiplier effect in creating jobs and creating an Infrastructure Development Composite Index (Faradis and Afifah 2020).

Infrastructure is the engine of economic progress, the locomotive of national and regional development. In macroeconomics, the availability of infrastructure affects the marginal productivity of private capital. In microeconomics, the availability of infrastructure affects the reduction of production costs. Infrastructure also has an important effect on improving the quality of life and human welfare and will increase investment and economic growth, this economic growth and the amount of incoming investment will absorb labor. Good infrastructure will also stimulate an increase in people's income, because economic activity is increasing as a result of the mobility of production factors and higher trade activities (Santian, Karismawan, and W.M 2019).

LITERATURE REVIEW

Development

According to neo-classical economic growth theory, economic growth is influenced by factors of production (capital and labor) and technological development. This theory was pioneered by Robert Solow, Edmund Phelps, Harry Johnson and J.E. Meade (Syahputra, 2017). According to the classical economic growth theory, economic growth is influenced by population, the amount of capital goods, land area and natural resources, and technology. This theory was pioneered by Adam Smith, David Ricardo, Malthus, and John Stuart Mill (Eka et al. 2022).

According to Fakih (2001:10), development is defined as a process and effort that aims to improve various aspects of life, including the economy, politics, culture, and community infrastructure. Development is an effort to fulfill basic human needs, both individually and in groups, in a way that does not harm social life or the natural environment. Effendi (2002:2) states that development is a planned and sustainable effort to increase all resources with the principle of equitable and fair use. Similarly, Siagian (2005:9) defines development as a consciously planned effort of growth and change by a nation, state, and government towards modernity in order to develop the nation (Zahra et al. 2024).

Development with the aim of efforts to improve the economic sector, politics, culture, community infrastructure, etc. Development is an effort made to create an increase in resources that is carried out in a planned manner using the principle of usability evenly and sustainably. Development is an activity or effort that is always oriented continuously without end (Hayati 2022).

Endogenous growth theory states that improvements and technological advances result from investment which directly causes growth, so investment can contribute to long-term economic growth (Economic Planning Advisory Commission, 1995). Reungsri (2010) also stated that investment is one of the important factors in the endogenous growth model, investment can lead to improvements in production capacity and increased profits which have implications for economic growth. In neoclassical growth theory, the assumption of the "law of diminishing returns" leads to the argument that investment is unable to affect growth. However, in endogenous growth theory, even under the assumption of "law of diminishing returns" investment is still able to increase growth (Kartiasih 2019).

Infrastructure

Infrastructure can be defined as facilities derived from a variety of key works that have historically been supported by the public sector to increase private sector output and enable household spending. Infrastructure is not just limited to an economic perspective but also relates to the areas of defense and government sustainability (Berutu et al. 2021).

Infrastructure development is very important and meaningful to shorten the process of national or regional development. The acceleration of economic growth and investment in a region is indistinguishable from the availability of infrastructure, such as transportation, telecommunications and sanitation. The purpose of providing infrastructure is to provide optimized services to the community. Therefore, one of the efforts to continue to spur the optimization of infrastructure service provision is to know the level of public satisfaction with the provision of infrastructure services that have been provided by the government (Krisnadi and Asriati 2023).

METHODOLOGY

This research uses a qualitative approach with a desk study design to explore the role of infrastructure in driving economic growth. This research will collect and analyze secondary data from various literature sources, including scientific journals, books, policy reports, and case studies related to the topic of infrastructure and economic growth. The data collection process will be conducted through systematic searches in academic databases such as Google Scholar, JSTOR, and ProQuest, using relevant keywords such as "infrastructure," "economic growth," "economic development," and "developing countries." Once the data is collected, thematic analysis techniques will be used to identify patterns, themes, and relationships that emerge from the selected literature. This analysis will focus on how infrastructure contributes to economic growth, both directly through increased efficiency and productivity and indirectly through improved access to markets and public services. The results of this analysis will be synthesized to provide a comprehensive understanding of the role of infrastructure in the context of development economics, as well as to identify research gaps and future policy implications.

RESEARCH RESULT AND DISCUSSION

Reducing Social and Economic Inequality

Economic inequality between regions is still a serious problem. Although the government has worked hard to overcome this problem, there are still many regions that experience underdevelopment in terms of economic development. In the perspective of Islamic economics, national development strategies must pay attention to principles, such as justice, balance, and sustainability. Thus, it is expected that the implemented national development strategy can overcome economic inequality between regions and encourage sustainable economic growth (Marpaung et al. 2024).

The development of adequate infrastructure plays an important role in reducing social and economic inequality in various regions. Good infrastructure, such as roads, public transportation, electricity, and internet services, enables greater access to economic, educational, and health opportunities, especially in rural and remote areas. With increased accessibility, people in these areas can participate more actively in economic activities, increase their income, and improve their quality of life. In addition, strong infrastructure can attract investment and encourage the growth of the informal sector into the formal, thereby broadening the economic base and improving the quality of life. providing more employment opportunities. These impacts not only increase social inclusion, but also help reduce income inequality between urban and rural areas and between different social groups, thus creating a more just and prosperous society.

Infrastructure and Economic Growth in Developing Countries

Frishchmann (2006:923-928) states that the term “infrastructure” evokes the notion of a system of physical resources created by humans for public use. Infrastructure resources are divided into two namely “traditional infrastructure” and “non-traditional infrastructure”. Recognizing the importance of infrastructure in promoting economic growth, infrastructure experts agree that in promoting infrastructure development, the government as the main player in the infrastructure sector must maintain the sustainability of development investment and prioritize infrastructure in the national development plan, so that infrastructure can be improved both in quantity and quality (Afrilian et al. 2024).

Infrastructure development is usually a priority for governments, especially in developing countries, as an effort to improve people's quality of life and enhance economic competitiveness. However, infrastructure development also requires large investments and high risks. Thus, facility development requires efficient planning, effective management, and sustainable financing. In addition, infrastructure development also requires attention to environmental and social aspects. Infrastructure development can have an impact on the environment such as deforestation, displacement of community settlements, and environmental pollution (Halim, Sonda, and Paereng 2024).

Infrastructure plays a critical role in driving economic growth in developing countries. Investments in infrastructure, such as roads, ports, transportation systems, power grids, and clean water facilities, can increase economic efficiency by improving connectivity and reducing logistics costs. Adequate infrastructure development also allows better access to local and global markets, encouraging trade and investment activities. In addition, good infrastructure can improve labor productivity by facilitating access to quality education and healthcare, as well as creating new jobs in the construction and maintenance process. However, challenges often faced by developing countries include limited financial resources, weak project management, and corruption that can hinder the effectiveness of infrastructure projects. Nevertheless, with proper planning and strong policy support, infrastructure development can be a key factor in accelerating economic growth and achieving more inclusive development in developing countries.

Challenges and Barriers to Infrastructure Development

Infrastructure development in many countries, especially developing countries, faces significant challenges and barriers. One of the main challenges is limited financial resources that often hamper the government's ability to invest in large and expensive infrastructure projects. In addition, lack of institutional capacity and inefficient project management can lead to delays in project implementation, cost overruns and inadequate quality of outcomes. Other barriers include excessive regulation, cumbersome bureaucracy, and lack of coordination between government agencies that can slow down the approval process and project implementation. Corruption issues also often arise, where misuse of public funds and non-transparent practices can reduce the effectiveness of infrastructure projects. Social challenges, such as community resistance to projects that are perceived to harm them, can also be a barrier. Overcoming these obstacles requires policy reforms, managerial capacity building, and active participation from the private sector and communities to ensure sustainable and inclusive infrastructure development

The government often faces various obstacles in developing the country's limited border infrastructure. Some of the main constraints that the government may face in this context include: Budget constraints: The development of comprehensive and modern infrastructure requires large investments. Governments may face budget constraints in financing these infrastructure projects, especially if the country has limited financial resources. Challenging Geography: Boundaries are often geographically inaccessible and difficult. Mountainous areas, deserts, forests, rivers and water bodies can be obstacles to building effective infrastructure. Building roads, bridges or other transportation facilities in such areas can involve significant technical challenges(Naif et al. 2023).

The development of communication, computing, and connectivity technologies has accelerated the growth rate of digital technologies, which has changed behaviors, structures, practices, values, and beliefs in organizations.

Technological innovation is considered a major factor in driving economic growth, and has been closely intertwined with economic growth from the past to the present (Bangsawan 2023).

In addition, Indonesia itself is still experiencing a shortage of skilled labor, especially in the field of digital and information technology. This is due to the limited training and digital skills in Indonesia, namely the lack of digital skills training and certification programs needed by the digital economy industry. This is one of the challenges that can hinder the development of digital economy infrastructure so that it needs to be anticipated in the form of recruiting skilled labor both from local and foreign workers by adhering to a geocentric staffing policy (Mocc et al. 2023).

Policy Implications for Sustainable Infrastructure Development

A sustainable infrastructure development planning process is a development that must be able to meet current needs and will continue to grow into the future without having to reduce its ability to meet the needs of future generations. In the process of sustainable infrastructure development, it is necessary to optimize the benefits of both natural resources, human resources, and also science and technology by creating and connecting these three aspects so that it will cause harmony in its implementation later and achieve the target as expected since the planning stage at the beginning. Sustainable development is better known as Sustainable Development, which means development that has an orientation towards meeting human needs through the use of natural resources wisely, effectively, efficiently, and paying attention to its utilization for both current and future generations (Hidayat and Salahudin 2021).

CONCLUSIONS AND RECOMMENDATIONS

Based on the qualitative literature study on the role of infrastructure in promoting economic growth, it can be concluded that infrastructure has a significant impact on economic development in various countries, especially in developing countries. Good infrastructure, such as roads, bridges, ports, and telecommunication facilities, plays a crucial role in reducing transaction costs, improving production efficiency, and expanding market access for economic actors. In addition, investments in infrastructure can also attract foreign direct investment (FDI), which can improve technological capabilities and productivity in recipient countries.

Studies also show that the presence of adequate infrastructure can improve people's quality of life by providing better access to education, health and employment services. However, it is important to note that the benefits of infrastructure to economic growth are highly dependent on the quality of project implementation, maintenance and financial sustainability. Poorly planned or unmaintained infrastructure can lead to wasted resources and not provide maximum economic benefits.

ADVANCED RESEARCH

This research has several limitations, including challenges in data availability and quality, particularly in developing countries, which may affect the robustness of the analysis. Establishing clear causal relationships between infrastructure development and economic growth is also complex due to confounding factors like governance and global economic trends. Additionally, findings from specific case studies may not be universally applicable, and the focus on economic indicators may overlook nuanced social and environmental impacts. To address these gaps, future research could explore innovative financing mechanisms, conduct longitudinal and sector-specific studies, and integrate climate resilience and governance quality into analyses. Comparative regional studies, investigations into urban-rural dynamics, and the inclusion of gender and equity considerations can also enrich understanding. Finally, leveraging emerging technologies and enhancing community participation could provide new insights into optimizing infrastructure for sustainable economic growth.

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