Optimizing Regional Tax Revenue Through the Regional Innovation System Approach in Simalungun Regency

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Abstract

Increasing regional tax revenue is a key factor in strengthening the fiscal capacity of local governments to support sustainable development. Simalungun Regency, as a strategic region in North Sumatra, faces persistent challenges in optimizing its local tax potential, including low fiscal literacy, fragmented data systems, and limited innovation in tax administration. This study analyzes the optimization of tax revenue through the Regional Innovation System (RIS) approach, which integrates development actors: government, businesses, academia, and communities into a collaborative and adaptive framework. Employing a qualitative descriptive method supported by secondary quantitative data, this research draws on in-depth interviews, field observations, and regional fiscal documents. The findings show that RIS-based strategies, such as cross-sectoral data integration, inclusive digital tax services, and the establishment of a fiscal innovation forum, can significantly enhance local tax performance. This study contributes to both theoretical insights on adaptive fiscal governance and practical recommendations for implementing innovation-based regional tax reforms.

Keywords: Regional Tax Revenue, Regional Innovation System (RIS), Fiscal Innovation, Simalungun Regency, Collaborative Governance.

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Introduction

Sustainable regional development is largely determined by the availability of adequate fiscal resources, especially from local revenue sources. In the context of regional autonomy initiated through Law No. 23 of 2014 on Regional Government [1], each regional government is required to enhance its fiscal independence by optimizing its Local Own-Source Revenue (PAD), particularly from the regional tax sector. Regional taxes are the main source of PAD and have significant potential to support infrastructure development, improve public services, and empower the local economy. However, many regions in Indonesia, including Simalungun Regency, still face significant challenges in optimizing tax revenue.

Data from the Regional Financial Agency of Simalungun Regency in recent years indicates that the realization of regional tax revenue has not yet reached its full potential [2]. One of the fundamental issues is the low efficiency in tax management, whether in regulation, information systems, or human resource capacity. Moreover, taxpayer awareness and compliance remain low, particularly in the informal and MSME sectors that dominate the local economy. These challenges indicate an urgent need for a more systematic, adaptive, and collaborative approach to managing regional tax potential effectively.

An innovative approach that has begun to gain attention in regional development is the concept of the Regional Innovation System (RIS). RIS is a conceptual framework emphasizing synergy among local governments, universities, the private sector, and communities to create an innovative environment that promotes economic growth and strengthens fiscal capacity [3], [4]. In the context of regional taxation, RIS can be used as a strategic approach to improve the quality of tax policies, create efficient digital systems, and build collaborative ecosystems that support compliance and active public participation in tax payments.

The concept of RIS has been widely explored in the context of regional competitiveness, industrial development, and knowledge-based economic transformation [5], [6], [4]. However, its application in the field of regional taxation remains limited and underexplored, especially in Indonesia. This research seeks to bridge this gap by applying the RIS framework as an alternative model for improving local tax governance.

The novelty of this study lies in its integration of RIS principles into the regional tax governance framework, an approach that has not been commonly employed in previous studies. Rather than focusing solely on administrative reforms or digital infrastructure, this study emphasizes the importance of cross-sectoral collaboration, participatory innovation, and local contextualization in designing tax optimization strategies.

Based on these considerations, the research addresses the following problems:

a. How can the Regional Innovation System framework be implemented in the context of regional tax governance in Simalungun Regency? and
b. What strategic steps are required to optimize regional tax revenues through RIS-based approaches?

Therefore, this study aims to explore and analyze how the Regional Innovation System approach can be optimally utilized to increase regional tax revenue in Simalungun Regency. By mapping key actors, identifying innovative practices, and formulating system-based strategies, this research is expected to contribute both theoretically and practically to the development of a regional tax optimization model that aligns with local contexts and global challenges.

Literature Review

Local Taxes and Fiscal Autonomy

According to Law No. 28 of 2009 on Regional Taxes and Levies [7], local taxes are mandatory contributions to the region levied under statutory regulations. Tax revenues are one of the key indicators of the success of regional autonomy in the context of fiscal decentralization. As Mardiasmo [8] explains, increasing regional revenue from taxes is an essential component for strengthening local government capacity and reducing dependency on central transfers.

However, effective local tax collection is influenced not only by regulatory frameworks but also by administrative efficiency, public awareness, and political commitment [9]. Fiscal autonomy without adequate tax management capabilities often leads to suboptimal performance, especially in regions with dominant informal sectors.

Regional Innovation System (RIS)

RIS is a framework that emphasizes interaction among local actors in fostering innovation. Cooke [9] stated that the success of RIS depends on the quality of local institutions, networking, and the flow of information and knowledge. It supports collaborative ecosystems that enable governments, industries, universities, and communities to co-create policy innovations.

Furthermore, Asheim, Smith, and Oughton [10] argue that RIS is not merely a technological model, but also incorporates socio-institutional elements—such as trust, cultural compatibility, and decentralized decision-making—that are essential for sustainable innovation diffusion. In fiscal management, RIS enables a systems-thinking approach where policy design is evidence-based and context-specific.

In Indonesian context**,** Supriatna [11] highlights that RIS has been gradually adopted in regional planning documents but is rarely integrated into revenue management strategies, especially in taxation.

Public Sector and Taxation Innovation

Public sector innovation refers to efforts to transform the way public institutions deliver services through digitalization, institutional reform, and participatory governance. In the context of taxation, innovation plays a key role in addressing inefficiencies, increasing compliance, and improving the user experience of taxpayers.

Mulgan and Albury [12] argue that innovation in public services typically includes four aspects: new technologies, improved service processes, organizational transformation, and the inclusion of citizens in co-production. These innovations not only enhance efficiency but also build trust between the government and its citizens.

In Indonesia, innovations in taxation—such as e-SPTPD**,** e-Billing, and online tax portals—have begun to reduce bureaucratic barriers and promote transparency. However, digital transformation must be inclusive. According to UNDP [13], without equitable access and digital literacy programs, digital innovations risk reinforcing inequality and excluding vulnerable groups.

To be effective, public sector innovation in taxation should not only focus on technological tools but also involve redesigning policy frameworks, developing human resource capacity, and fostering a culture of data-driven decision-making.

Research Methodology

This study utilizes a descriptive qualitative approach complemented by secondary quantitative data to obtain a comprehensive and contextual understanding of how the Regional Innovation System (RIS) can be optimally applied to improve local tax revenue in Simalungun Regency. The choice of this approach is grounded in the need to explore complex social phenomena involving multi-actor interactions, institutional dynamics, and innovation processes that cannot be fully captured through purely quantitative methods.

Descriptive qualitative research allows the researcher to analyze in depth the patterns of innovation behavior among local government agencies, the private sector, academia, and civil society within the framework of RIS. It also facilitates a detailed examination of the regulatory, institutional, technological, and socio-cultural factors that influence regional tax performance.

The qualitative data were obtained through literature review, policy document analysis, and in-depth interviews with key stakeholders, including officials from the Regional Revenue Agency (Bapenda), MSME actors, academics, and community leaders.

To enrich the analysis and ensure data triangulation, the study also incorporates secondary quantitative data, including regional tax realization statistics, PAD (Local Own-Source Revenue) contributions, and economic sector profiles obtained from official reports published by Bapenda, BPS, and other government institutions.

This research is categorized as policy research, which aims to evaluate existing fiscal policies and propose practical recommendations based on empirical findings. It emphasizes the importance of aligning innovation strategies with regional tax governance reforms. By considering the principles of the Regional Innovation System (RIS), the study seeks to design evidence-based and actor-oriented fiscal innovations that are locally rooted and systemically integrated.

The analytical framework of this research is inspired by Miles and Huberman's model [14] of qualitative data analysis, which involves three interrelated flows of activity: data reduction, data display, and conclusion drawing/verification. These steps are applied iteratively to identify patterns, extract meaning, and construct a strategic model for optimizing regional tax management through RIS.

In summary, this methodological design provides a robust foundation for developing a contextualized, participatory, and innovation-driven fiscal governance model tailored to the specific challenges and opportunities in Simalungun Regency.

Results

Overview of Local Taxation in Simalungun Regency

As one of the strategic areas in North Sumatra Province, Simalungun Regency possesses significant economic potential, ranging from agriculture, plantations, tourism, to small and medium industries (SMEs). However, this potential has not yet been fully reflected in the optimal increase in local tax revenue. Based on data from the Simalungun Revenue Agency [15], the contribution of Local Own-Source Revenue (PAD) to the overall regional budget (APBD) remains below 20%, indicating low fiscal independence and a high dependency on central government transfers.

This situation calls for a breakthrough in regional tax management strategies that are not only administrative but also innovative and collaborative. It is within this context that the RIS approach becomes relevant as a strategic framework emphasizing synergy among local development actors to foster innovation for economic growth and increased tax revenue.

Key factors inhibiting tax revenue optimization include:

a. Low taxpayer awareness.
b. Lack of innovation in tax collection systems.
c. Absence of integrated cross-sectoral data.
d. Minimal use of digital technology.
e. Weak collaboration among local stakeholders.

Regional Innovation System (RIS) Approach

RIS is defined as a region-based system in which public, private, academic, and community institutions interact to foster the creation and diffusion of innovation to achieve sustainable economic development. According to Asheim & Gertler [16], RIS is not only about technology and research, but also includes institutional reform, human resource capacity, fiscal policies, and support for local leading sectors.

In Simalungun, RIS can be utilized to:

a. Identify high-value local economic sectors that can serve as a tax base (e.g., hotel, restaurant, entertainment, and micro-business taxes).

b. Develop user-friendly digital tax services (e-tax, e-billing, and monitoring dashboards).
c. Build a collaborative ecosystem between government, businesses, academics, and civil society to promote region-based economic innovation.

Field Findings: The RIS Condition in Simalungun

In-depth interviews with Bapenda officers, MSME actors, and community leaders revealed several key findings:

a. Technology and Information Systems
    1) Simalungun has a web-based tax service application, but its usage is still limited.
    2) Digital literacy, especially in rural areas, remains low.
    3) No integration exists between Bapenda's system and other agencies like the Licensing Office and National Land Agency (BPN).
b. Institutional Aspects
    1) Fiscal institutions are still bureaucratic and slow to respond to field needs.
    2) There is no dedicated unit to drive regional innovation.
c. Collaboration Aspects
    1) Cross-sectoral collaboration (government, private sector, universities) in tax management is weak.
    2) Nearby universities are not optimally engaged as research and development partners for regional fiscal systems.

d. Social and Cultural Aspects
    1) Resistance to tax payments persists, especially among those who feel they receive inadequate public services.
    2) A participatory culture in fiscal policy has yet to be fully developed.

Based on the findings, the optimization of local tax revenue can be achieved by strengthening key elements of the Regional Innovation System (RIS):

a. Strengthening Digital Tax Infrastructure.
   Digital transformation must be encouraged through the development of an integrated tax system (one-stop-tax system), supported by cloud computing and big data analytics. This allows for more accurate and efficient mapping of tax potential. A good practice example: Surabaya City's e-tax system reportedly increased hotel and restaurant tax revenues by 30% within two years.
b. Innovative Cross-Sector Partnerships.
   RIS promotes partnerships between government, academia, and business sectors. The local government can collaborate with universities such as the University of Simalungun (USI) and IT Del to develop fiscal dashboards, create mobile-friendly tax applications, and provide taxation training for MSMEs.
c. Data-Driven Policy Design.
   Through RIS, tax policy formulation is no longer solely budget-target oriented but is also based on behavioral analysis of taxpayers, local economic trends, and public purchasing power. With data analytics, tax incentives can be designed for sectors that are either crisis-impacted or have high growth potential.
d. Revitalizing Civic Participation.
   Public participation can be strengthened through fiscal public consultation forums, transparency in tax allocation, and fiscal education campaigns via local media and social media platforms.
e. Establishment of Local Fiscal Innovation Unit (LFIU).

As an implementation of RIS, Simalungun Regency Government should establish a Local Fiscal Innovation Unit (LFIU), a regional think tank tasked with designing, testing, and implementing innovations in local tax collection systems.

Conclusion

This study demonstrates that the Regional Innovation System (RIS**)** approach holds strategic potential in supporting the optimization of local tax revenue in Simalungun Regency. RIS provides a collaborative framework that engages government, business actors, academia, and communities in creating fiscal policy innovations that are adaptive to local economic dynamics.

Although initial efforts such as digitalization of tax services and partnerships with the private sector have been initiated, their implementation remains partial and has yet to be fully integrated into a comprehensive regional innovation system. Several key obstacles hindering tax revenue optimization include low public fiscal literacy, lack of integrated data across regional agencies, and weak institutional support for fiscal innovation.

Therefore, optimizing local tax revenue requires strategic RIS-based measures, including:

1. Mapping tax potential based on regional and local economic clusters,
2. Developing inclusive digital tax services,
3. Establishing a Regional Fiscal Innovation Forum (RFIF**)**
4. Providing incentives for innovative taxpayers,
5. Integrating cross-sectoral economic data.

By adopting RIS as a regional fiscal policy approach, the Simalungun Regency Government can strengthen long-term fiscal capacity, improve regional financial independence, and foster an innovative, transparent, and responsive local economic ecosystem that meets community needs.

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