The Future of Taxation in the Digital Era : Challenges and Strategies of Indonesia's Tax Policy

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Abstract: Digital transformation has fundamentally changed the structure of the global economy, creating a new paradigm in the tax system that demands a thorough adaptation. This systematic literature review research aims to explore the future of digital taxation in Indonesia through a comprehensive analysis of tax policy challenges and strategies. The research methodology adopts the PRISMA protocol with a systematic search of international and national databases, conducting a strict selection from 309 articles to filter 10 quality journals for in-depth review. The research uses a qualitative meta-synthesis approach to analyze themes, compare policy strategies, and integrate findings across studies. The results of the study reveal that Indonesia's digital economy will reach USD 82 billion in 2023, with a projected USD 146 million in 2025, supported by internet penetration of 221,563,479 users. Key findings show a significant increase in the e-filing system from 68.2% in 2016 to 83.4% in 2022, as well as a positive perception of 70% of Generation Z towards digital tax education. The research identified key challenges including the digital divide, low technology literacy, and regulatory complexity. The conclusion emphasizes the need for a holistic approach that integrates technology, education, and social participation through digital infrastructure investments, inclusive literacy programs, adaptive regulatory frameworks, and multi-stakeholder collaboration to realize a fair, efficient, and inclusive digital tax ecosystem.

Keywords: Digital Ecosystem, Digital Taxation, Generation Z, Innovative Policies, Technological Transformation.

1. Introduction

The rapid digital transformation has fundamentally changed the structure of the global economy, creating a new paradigm in taxation that demands a thorough adaptation of the conventional tax system. Indonesia, as a developing country with significant digital economy potential, faces a complex challenge that requires systematic analysis and comprehensive strategies in dealing with tax dynamics in the digital era [1]. The development of information technology, digital platforms, a platform-based economy, and the emergence of new business models such as the sharing economy, electronic commerce, and digital cross-border transactions have fundamentally changed traditional taxation mechanisms. This phenomenon creates significant regulatory gaps and challenges within the national tax framework, where tax authorities are required to develop innovative approaches to optimize state revenue while ensuring fairness and efficiency of tax collection [2]. The complexity of digital taxation not only involves the technical aspects of tax collection, but also includes strategic issues such as tax base protection, digital vetting mechanisms, increasingly dynamic identification of tax subjects and objects, and tax compliance in the digital environment. This challenge requires a multidimensional approach that combines technological, legal, economic, and public policy aspects [3].

Systematic review is essential for exploring international best practices, analyzing regulatory gaps, and formulating responsive, adaptive, and sustainable digital tax policy strategies. This research aims to provide a comprehensive mapping of the dynamics of digital taxation in Indonesia, identify key challenges, and propose a strategic framework that can be implemented by policymakers [4]. Based on this complex background context, this systematic literature review research has the main objective of exploring and analyzing in depth the future of taxation in the digital era with a focus on the challenges and strategies of Indonesian tax policies. Specifically, this study aims to:

- Identify and analyze the structural transformation of the tax system due to the development of digital technology.
- Mapping regulatory and implementation challenges in tax collection in the digital era.
- Evaluate innovative strategies and approaches that have been and can be applied to optimize the digital taxation system.
- Formulate comprehensive policy recommendations to deal with the complexity of taxation in the digital environment.

Through a comprehensive systematic literature review approach, this research is expected to make a significant contribution to the development of a conceptual and practical framework for digital taxation in Indonesia, as well as become a strategic reference for policy makers, academics, and tax practitioners.

2. Preliminaries or Related Work or Literature Review

The Context of Digital Transformation in Taxation
Definition of Tax Digital Transformation
Digital transformation in taxation is a fundamental change that includes a comprehensive redesign of the tax system through the integration of digital technologies, innovative policies, and active social participation. According to [5], digital transformation of taxation is not just the digitization of administrative processes, but presents a new paradigm in tax governance that is more responsive, transparent, and efficient. This concept involves the use of information technology to revolutionize the way tax is collected, reported, and supervised, thereby creating a more dynamic and inclusive tax ecosystem. The digital transformation process of taxation requires complex integration between advanced technologies, adaptive regulatory frameworks, and active stakeholder engagement. This not only relies on technological aspects, but also considers social, economic, and institutional dimensions. The interaction between technology, policy, and social participation is the key to the success of the digital transformation of taxation, where each component influences and supports each other.

Development of the Digital Economy
The growth of Indonesia's digital economy shows very significant dynamics. According to the report [6], Indonesia's digital economy has reached a valuation of around US$177 billion in 2022 and is projected to continue to grow. The increasing penetration of the internet, with a penetration rate of 73.7% in 2022, has created a complex digital ecosystem with great potential for the transformation of the tax system. Indonesia's digital economy growth projections show a sustainable positive trend. Research [7] estimates that the contribution of the digital economy to Indonesia's gross domestic product (GDP) will reach 25% by 2025. This poses significant implications for the tax system, which must be able to adapt to digital business models, electronic transactions, and platform-based economic characteristics.

Digital Tax Theory Framework

Contemporary Taxation Theory

The concept of taxation in the digital age brings a fundamental paradigm shift in the traditional understanding of tax subjects and objects. [8] explains that the digitalization of the economy has created new complexities in the identification of tax subjects, where geographical boundaries have become blurred and digital business models present theoretical challenges that have not been fully solved. The paradigm shift in tax collection is not only technological, but also conceptual. Traditional taxation systems based on geographical regions and physical transactions must be transformed into one that is responsive to the characteristics of the digital economy. The main challenge lies in the ability of tax authorities to identify, measure, and collect taxes from digital entities that are cross-border and complex.

Technology Adoption Model in Taxation

E-government and tax service transformation are key instruments in the modernization of the tax system. The implementation of electronic systems such as e-filing and e-billing has proven significant potential in improving tax efficiency and compliance. According to research [9], the adoption of information technology in tax administration not only speeds up the administrative process, but also improves transparency and accountability. Information technology integration covers various aspects, ranging from digital tax registration, online reporting, to electronic payment mechanisms. The system is designed to reduce administrative complexity, minimize the potential for errors, and provide a better experience for taxpayers.

Digital Generation Dynamics and Tax Literacy

Profile of Generation Z as a Digital Taxpayer

Generation Z, who are digital natives, have unique characteristics that affect their perception and interaction with the tax system. As a group that grows in a digital technology environment, they have high expectations for fast, transparent, and accessible digital services. Research [10] revealed that Generation Z tends to be more open to technology and has a high adaptability to digital innovation. Generation Z's consumption patterns and technology interactions greatly influence their approach to tax obligations. They prefer digital platforms, intuitive interfaces, and transparent mechanisms. This demands a fundamental transformation in the design of a tax system that is able to accommodate the preferences and characteristics of the digital generation.

Tax Education Strategies for the Digital Generation

Innovative approaches in tax socialization are crucial to improve tax literacy and compliance. The use of social media and digital platforms such as YouTube, TikTok, and Instagram is an effective channel to deliver tax education. Engaging, interactive, and easy-to-digest content is the key to the success of an educational strategy. Tax compliance rewards and motivation programs are designed to create a positive ecosystem. The implementation of digital incentives, public recognition, and gamification mechanisms can encourage the active participation of the digital generation in fulfilling tax obligations.

Policy and Implementation Complexity

Regulatory Challenges

The digital and infrastructure divide is a major obstacle in digital taxation transformation. Differences in access to technology between regions in Indonesia create the complexity of implementing uniform policies. Tax law enforcement in the digital realm requires a comprehensive and adaptive regulatory framework.

Mitigation and Development Strategies

Institutional innovation and an inclusive approach are key to the development of a digital tax system. Multi-stakeholder collaboration between governments, the technology sector, academia, and civil society is needed to create a responsive and sustainable tax ecosystem.

Digital Policy Architecture

Responsive regulatory frameworks, sustainable investments in technology and infrastructure, and sustainable supervisory mechanisms are the foundations of the digital transformation of taxation. A holistic and adaptive approach is needed to deal with the complex dynamics of the digital economy.

3. Proposed Method

This study adopts a systematic literature review (SLR) approach to comprehensively and systematically explore the dynamics of digital taxation in Indonesia. The systematic literature review methodology was chosen because of its ability to critically synthesize existing scientific literature, allowing researchers to identify, evaluate, and synthesize empirical evidence in a structured and objective manner. The methodological framework refers to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol, which is an international standard for conducting systematic literature reviews, thereby ensuring transparency, reproducibility, and quality of the literature research process [11]. The literature search strategy is implemented comprehensively through a multidatabase approach that includes international and national platforms. The international databases used include Web of Science, Scopus, ProQuest, SAGE Journals, and Emerald Insight, while national databases include Google Scholar, Garuda (Digital Reference Garba Portal), Jurnal-Pajak.id, and the National Higher Education Repository. The search process uses a combination of specific keywords developed through the PICO method, such as "Digital Taxation", "Digital Taxation", "Indonesian Tax Policy", "Digital Transformation", "Platform Economy", and "Digital Tax Regulation". The search restriction is focused on Indonesian and English-language journal articles published between 2020-2024, with the criteria for full-text articles that are available and have the quality of empirical research or review.

The study selection process is carried out through systematic stages with strict inclusion and exclusion criteria. The inclusion criteria include articles that focus on digital taxation in Indonesia, have a clear research methodology, be published in accredited journals, and include analysis of digital taxation policies, implementations, or challenges. Meanwhile, the exclusion criteria include duplicate articles, publications outside the 2020-2024 time frame, articles without full-text, non-academic publications, and articles with low methodological quality. The selection was carried out in three stages: initial screening based on titles and abstracts, full-text review of articles, and methodological quality assessment using JBI (Joanna Briggs Institute) criteria. Data extraction will be carried out using standard instruments developed specifically for this study. The instrument includes the identity of the publication, the characteristics of the research methodology, the context of the research, key findings, policy implications, and the strengths and limitations of the study. The extraction process involves two independent researchers to ensure accuracy and minimize bias, with a mechanism of resolving differences through discussion or involving a third researcher as a mediator. Data analysis uses a qualitative meta-synthesis approach with several comprehensive stages. First, thematic analysis is carried out through the identification of key themes, categorization of findings across studies, and conceptual mapping of digital taxation. Second, comparative analysis is carried out to compare policy strategies between studies, identify research patterns and gaps, and evaluate research trends. The final stage is narrative synthesis which includes the integration of findings from various studies, the construction of conceptual frameworks, and the formulation of policy recommendations. The validity of the analysis is strengthened through methodological triangulation and consultation with digital taxation experts, resulting in comprehensive and academically accountable insights.

4. Results and Discussion

In the systematic research "The Future of Taxes in the Digital Era: Challenges and Strategies of Indonesian Tax Policy", the literature selection process was carried out in a comprehensive and structured manner. The flowchart below illustrates the stages of journal search and screening which include initial identification, screening, and final selection. From a total of 309 journals identified from the database, through a series of strict selection stages, 10 journals that met the criteria were finally filtered for in-depth review in this study.
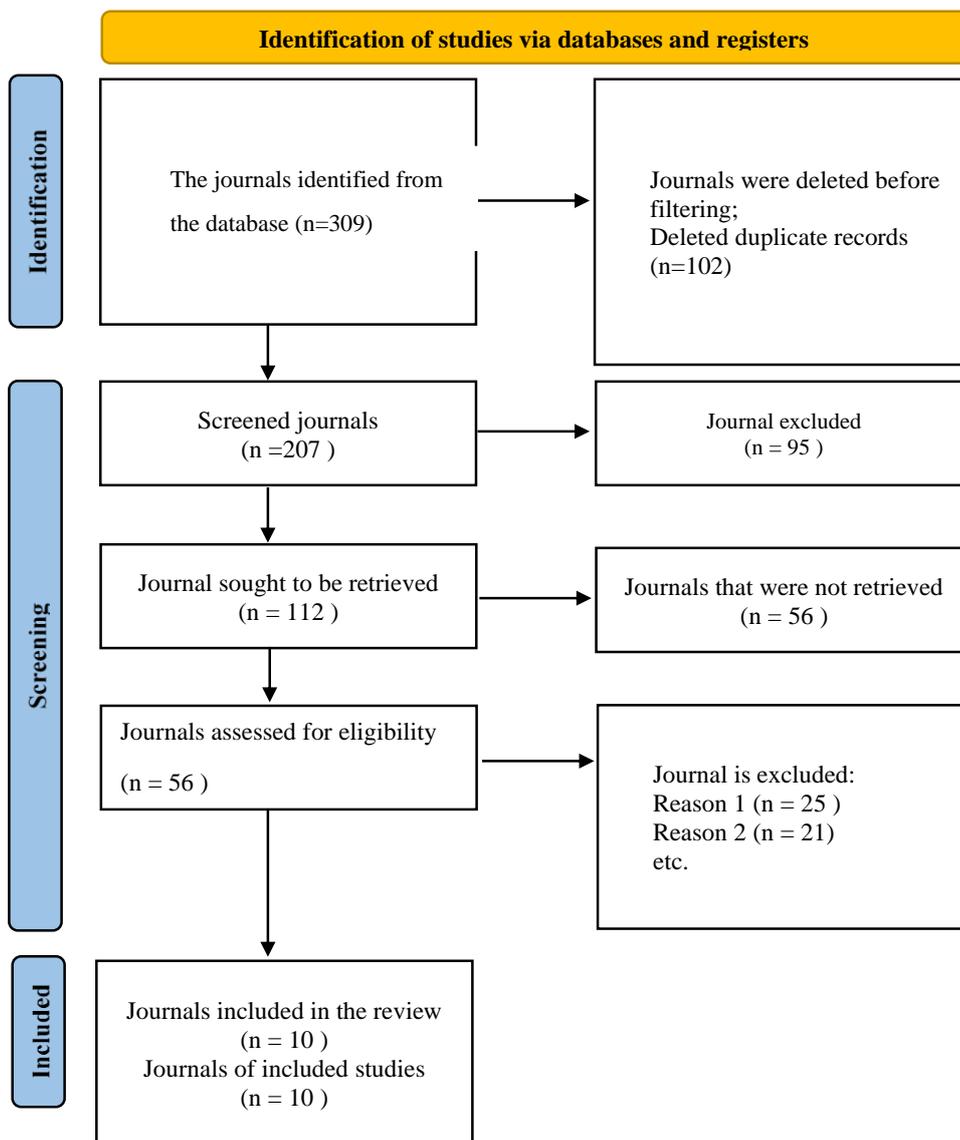

Figure 1. Flow Chart PRISMA

The following synthesis table presents a comprehensive review of 10 recent studies that discuss the dynamics of taxation in Indonesia's digital era. Each article was selected through a rigorous systematic literature review process, revealing an in-depth perspective on the digital transformation of the tax system, contemporary challenges, and innovative strategies for increasing tax awareness and compliance, especially among Generation Z. This analysis includes a variety of research methods, ranging from qualitative, mixed method, to literature studies, which collectively provide a multidimensional picture of the future of taxation in Indonesia in the context of the digital revolution.

Table 1. Extraction of Journals and Articles Related to the Future of Taxes in the Digital Era

Yes	Author & Year	Heading	Method	Result	Findings	Relevance to the Topic
1	[12]	Optimizing e-Filing as a Modern Solution to Increase Taxpayer Compliance in Indonesia	Qualitative (literature study), Miles and Huberman's analytical techniques	e-Filing contributes significantly to increasing taxpayer compliance	- Great potential for digital transformation of taxation - Barriers: low digital literacy, limited internet infrastructure	Supporting research on the digitalization of the tax system and the importance of overcoming digital barriers
2	[10]	Generation Z's Perception of Tax Education through Social Media	Mixed method (online survey and content analysis)	70% of Generation Z has a positive perception of tax education via social media	- Most effective visual and short video content - Challenges: short attention spans, complexity of information	Explaining tax education strategies for Generation Z in the digital era
3	[13]	Aligning Tax Compliance: Digital Rewards Programs	Literature study with content analysis	Proposing a digital rewards program to increase Generation Z's fiscal participation	Technology-based digital rewards innovation to increase tax compliance motivation	Describe innovative approaches to raising tax awareness
4	[14]	The Reality of Tax Awareness and Challenges Among Generation Z	Quantitative descriptive (questionnaire survey)	Identify the factors influencing Generation Z's tax compliance	- Tax awareness as development support - Challenge: difficulty in allocating tax funds	Uncovering the dynamics of tax compliance among Generation Z
5	[15]	Challenges and Strategies for Tax Law Enforcement in the Digital Era	Desk research	The need for regulatory adaptation for the digital economy	- Challenges of identification of tax subjects - Need for international cooperation - Technology and infrastructure investment	Analyzing the complexity of tax law enforcement in the digital age
6	[16]	Innovation Strategies in the Digital Era	Service program with training and education	Digitalization improves tax efficiency and awareness	- Success of digital education - Constraints: low	Demonstrating the importance of technological

					digital literacy, limited infrastructure	innovation in taxation
7	[17]	Digital Tax Analysis in Indonesia	Narrative literature review	Evaluation of digital tax contributions and challenges	- Indonesia's digital economy potential is large - Challenge: tax policy is not comprehensive	Providing a comprehensive overview of digital taxes in Indonesia
8	[18]	Transformation of the Tax System in the Digital Era	Qualitative	Analysis of technology adoption in the tax system	- Increased use of e-filing - The potential of big data and AI in taxation	Explaining the digital transformation of the tax system
9	[19]	Strategies to Increase Tax Awareness for the Young Generation	Qualitative	Analysis of tax awareness factors of Generation Z	- The importance of tax literacy - The role of technology in raising awareness	Focus on tax awareness enhancement strategies in the digital era
10	[20]	Analysis of Public Service-Based Tax Policy	Descriptive qualitative	Digital transformation in tax policy	- Digital divide challenges - Strategy: digital literacy and collaboration	Exploring tax policy in the digital age

Discussion/Discussion

The Context of Digital Transformation in Indonesia's Tax Ecosystem

The digital revolution has changed the fundamental paradigm of the tax system in Indonesia, presenting new complexities that demand innovative and adaptive approaches. Based on a series of cutting-edge research, tax transformation is no longer just an administrative process, but rather a dynamic representation of the interaction between technology, policy, and social participation. Indonesia's digital economy is showing amazing exponential growth. According to [17], Indonesia's digital economy has reached USD 82 billion by 2023, with a projected reach of USD 146 million by 2025. This phenomenon is supported by significant internet penetration, with 221,563,479 users out of a total of 278,696,200 population in 2023, creating a complex and dynamic digital landscape.

Architecture of Tax Technology Transformation

Evolution of Electronic Systems

The transformation of the tax system has gone through several critical phases. [18] recorded a significant increase in the use of e-filing from 68.2% in 2016 to 83.4% in 2022. Electronic systems such as e-filing and e-billing do not simply automate processes, but fundamentally change the interaction between taxpayers and tax authorities.

The Complexity of Tax Technology

[15] Identify complex challenges in digital tax law enforcement. Identification of tax subjects, the imposition of cross-border Value Added Tax (VAT), and the need for policy flexibility are crucial issues. Big data technology and artificial intelligence are projected to be able to overcome the digital tax gap which is estimated to reach 5-10% of potential global tax revenue.

Dynamics of Generation Z and Digital Literacy

Digital Native Generation Profile

[10] conducting a comprehensive study on Generation Z's perception of tax education through social media. The findings revealed that 70% of Generation Z has a positive perception of digital tax education, with visual content and short videos reaching an engagement rate of 75%.

Engagement Strategy

[13] proposes an innovative digital rewards program designed specifically for Generation Z. This concept leverages technological familiarity and offers point incentives to increase motivation and tax awareness. This approach reflects the need for a strategy that is responsive to the characteristics of the digital generation.

Implementation Challenges and Mitigation Strategies

The Digital Divide

[20] emphasizing the fundamental challenges of the digital divide and infrastructure unpreparedness. Digital transformation, while offering efficiencies, still faces significant disparities in access and technology literacy.

An Inclusive Approach, [16] Propose a comprehensive strategy through:
a. Digital training and workshops
b. Technology-based tax education
c. Continuous monitoring and evaluation
d. Multi-stakeholder collaboration

Institutional Innovation

[19] recommends a holistic approach that involves:
a) Increased tax literacy
b) Improvement of the quality of administrative services
c) Development of access to information technology

Adaptive Policy Framework

Responsive Regulation, [12] emphasizing the importance of strategy:
1) Digital literacy education
2) Expansion of internet infrastructure
3) Taxpayer assistance in remote areas

Digital Policy Architecture

[14] identify key factors of tax compliance Generation Z:
- Awareness of tax contributions to development
- The importance of tax knowledge
- Financial management challenges

Strategic Implications and Recommendations

Development Strategy

- Sustainable investment in digital infrastructure
- Inclusive technology literacy program
- Adaptive regulatory framework
- Technology-based approach to tax education

The Digital Ecosystem of the Future

Digital taxation transformation requires a systemic approach that considers:

- Technological complexity
- Generational dynamics
- The need for inclusivity
- Policy flexibility

New Paradigm of Digital Taxation

The transformation of digital taxation in Indonesia is a complex journey that goes beyond just digitalization. It is a socio-technological revolution that requires multi-stakeholder collaboration, continuous innovation, and a commitment to creating a fair, efficient, and inclusive digital tax ecosystem. The key to success lies in adaptability, continuous innovation, and a holistic approach that puts technology, education, and social participation within the framework of an integrated transformation.

5. Considerations

Digital transformation in Indonesia's tax ecosystem is a complex phenomenon that goes beyond just administrative digitalization, but rather a socio-technological revolution that demands a holistic and adaptive approach. Based on a systematic analysis of ten recent studies, it can be concluded that Indonesia is undergoing a fundamental change in the tax system characterized by several key characteristics. First, Indonesia's digital economy is showing exponential growth, with a projected reach of USD 146 million by 2025 and internet penetration of 221,563,479 users. Second, the evolution of taxation technology has resulted in a significant increase in the use of electronic systems such as e-filing, which increased from 68.2% in 2016 to 83.4% in 2022. This transformation presents complex challenges, especially related to digital tax subject identification, cross-border law enforcement, and the digital divide. Generation Z, as a digital native, plays a central role in this process, with 70% having a positive perception of digital tax education and showing openness to technological innovation. However, there are still significant obstacles in the form of low digital literacy, limited infrastructure, and complexity of tax information.

To realize an effective, comprehensive, and inclusive digital tax transformation, governments and stakeholders need to implement a series of integrated strategies. First, continuous investment in digital infrastructure is needed, with a focus on expanding internet access in remote areas and improving the quality of connectivity. Second, the development of inclusive technology literacy programs is a top priority, by designing tax education that is responsive to the characteristics of Generation Z, using visual approaches, short videos, and engaging interactive content. Furthermore, the government is advised to design a regulatory framework that is adaptive and flexible, able to accommodate the dynamics of the digital economy that continues to develop. This includes developing tax mechanisms that can adapt to emerging technologies such as big data and artificial intelligence, as well as building international cooperation to address cross-border taxation challenges. The implementation of innovative digital rewards programs can be an effective strategy to increase motivation and tax awareness among the younger generation. Finally, a multidimensional approach that integrates technology, education, and social participation is key to the success of digital

taxation transformation. This involves multi-stakeholder collaboration, ongoing training, periodic monitoring and evaluation, and a commitment to creating a fair, efficient, and inclusive digital tax ecosystem. With a comprehensive and sustainable strategy, Indonesia can optimize the potential of digital taxation while ensuring fairness and accessibility for all levels of society.

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