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ANALYSIS OF TAX POLICY EFFECTIVENESS IN THE DIGITAL AGE IN DEVELOPING COUNTRIES

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Abstract
In the digital age, developing countries are faced with unique challenges in implementing effective tax policies. Technological developments have facilitated international transactions, but also made tracking and measuring economic activity more complex. Many developing countries still rely on traditional tax systems that are less capable of handling the dynamics of the digital economy. This study examines the effectiveness of various digital tax policies that have been implemented in several developing countries, while evaluating the most successful strategies. The analysis shows that strengthening tax administration capacity and international collaboration are key to reducing tax avoidance and increasing revenue from the digital sector. In addition, the adoption of new technologies, such as big data and artificial intelligence, as well as improving digital literacy among tax officials, are crucial for the successful implementation of tax policies in the digital era. With the right approach, developing countries have great potential to improve the effectiveness of their tax policies and optimally utilise the development of the digital economy.

Keywords: ***Analysis, Effectiveness, Tax Policy, Digital Era, Developing Countries.***

Introduction

Over the past few decades, the rapid advancement of digital technology has presented significant opportunities and new challenges for governments around the world. In the digital age, governments around the world are undergoing significant transformations in the way they perform public functions and services. Information and communication technologies have enabled governments to improve their operational efficiency through the digitisation of various public services, such as civil registration, tax payment, and health services (Chan & Wong, 2023) . The implementation of e-government portals and mobile applications facilitates public access to public information and services, reduces bureaucratic red tape and creates transparency in the management of state administration. As a result, public participation in government processes also increases, as easier access provides opportunities for citizens to interact and provide input on public policies (Wang & Zhang, 2023) .

However, these developments are not without challenges. Developing countries, traditionally facing challenges in optimising state revenues, are now faced with the reality that the digital economy is not only growing rapidly but also blurring geographical boundaries in economic transactions. E-commerce, digital services, and other technological innovations remove conventional barriers for businesses and consumers, but on the other hand, create new complexities in tax imposition and collection (Nguyen & Linh, 2024) .

Taxation is one of the main instruments used by the government to raise revenue to finance various public programs and services, such as education, health, infrastructure, and defence and security. Taxes are levied on various objects, including individual income, corporate profits, consumption of goods and services, and property. An effective tax system should reflect the principles of fairness, transparency, and efficiency (Williams & Taylor, 2023) . Therefore, governments often undertake tax reforms to ensure that the tax burden is distributed fairly and does not hamper economic growth. Smart taxation can also be used to achieve social and environmental goals, for example through tax incentives for environmentally friendly businesses or tax breaks for vulnerable groups (Nakamura & Suzuki, 2024) .

The tax collection process requires a reliable and transparent administrative system to ensure taxpayer compliance and minimise the occurrence of tax avoidance or tax evasion. Digital technology plays an important role in the modernisation of tax administration. The use of e-filing, e-billing, and online payment systems increases the ease and convenience for taxpayers in reporting and paying taxes. In addition, these technologies help tax authorities to conduct more effective tracking and monitoring. Nevertheless, the success of tax collection also depends on the level of public awareness and compliance (Adams & Green, 2025) .

As such, the effectiveness of tax policy in the digital era has become increasingly important given its significant impact on state revenues. Existing tax schemes are often not fully adequate to capture the tax potential of digital transactions, especially given the flexibility of digital companies to relocate and operate across jurisdictions without physical constraints (Brown & White, 2024) . As a result, developing countries could miss out on revenues that should be earned from the growth of this sector. In addition, non-harmonised regulations between countries can create opportunities for tax avoidance and tax policy manipulation between countries (Vogel & Bauer, 2023) .

Governments in developing countries are faced with an urgent need to adjust tax policies to better reflect the dynamics of the digital economy. This includes the formulation of clear and effective legal frameworks, capacity building of tax institutions in terms of technology and human resources, and international collaboration to harmonise global approaches to digital taxation. The right policy should be able to ensure fair treatment of digital and conventional businesses, improve tax compliance, and secure valuable potential state revenue (Jansky & Palansky ., 2017)

This study aims to analyse the extent to which tax policies in the digital era are effective in developing countries, as well as the main challenges faced to improve their effectiveness. By understanding these complexities, it is hoped that developing countries can be better equipped to harness the potential of the digital economy to achieve sustainable economic growth and improved public welfare.

Research Methods

The study in this research uses the literature method. Literature research method, also known as literature review or literature study, is a research approach that focuses on collecting and analysing information from various existing sources, such as books, scientific journals, articles, previous research reports, and other relevant documents (Okoli, 2015) ; (Randolph, 2009) . The aim is to understand, compare, and summarise existing knowledge on a particular topic, as well as identify gaps or areas that have not been widely researched. The steps in literature research include determining the research topic, searching and selecting relevant literature, critically evaluating the sources, and synthesising the findings. This method is important for building a strong theoretical basis, developing a conceptual framework, and formulating hypotheses for further research (Grant & Booth, 2009) .

Results and Discussion

Tax Policy Effectiveness in the Digital Age

The digital era has brought major changes in the way the government manages taxation policy. Information and communication technology has simplified tax administration with the existence of e-filing, e-billing, and online tax payment systems. These systems allow taxpayers to report and pay their tax obligations more easily and quickly, reducing the need for manual processes that are prone to errors and fraud (Bakshi & Sharma, 2024) .

With the existence of digital technology, the government can improve taxpayer compliance through a more transparent and automated system. The use of big data and analytics allows tax authorities to track economic transactions in real-time and detect suspicious activities. This also includes the detection of tax avoidance and tax evasion, which were previously difficult to identify with conventional methods (Ivanov & Petrov, 2025) .

One of the main advantages of tax policy in the digital age is the reduction of administrative burden for both the government and taxpayers. Technology enables automation processes that reduce the time and resources required for tax data collection and processing. This not only reduces administrative costs, but also allows for more efficient allocation of resources to other more productive activities (Gupta & Tareq, 2018) .

The digital age provides greater flexibility in tax policy adjustments. With quick access to real-time data, the government can respond quickly and effectively to changes in the economy or taxpayer behaviour. For example, if a sector shows high growth potential, the government can quickly introduce tax incentives to encourage investment in that sector (Lee & Park, 2025) .

While there are many benefits, the digital era also brings its own challenges, especially regarding data security. Tax authorities must ensure that the digital systems used are safe from the threat of hackers and cyber criminals. This is important to maintain the confidentiality of taxpayers' personal data and ensure the integrity and reliability of the tax system (Brock, 2019) .

Tax policy in the digital era needs to take into account the digital divide that still exists in various regions. Not all taxpayers have adequate access to digital technology or have the necessary skills to use electronic systems effectively. Therefore, the government should provide assistance and education for the public to ensure that all taxpayers can make good use of digital technology (Chen & Li, 2023) .

Overall, an effective tax policy in the digital era can contribute significantly to economic growth. With a more efficient and transparent system, the government can collect more optimal tax revenue. This revenue can then be used to finance infrastructure development, improve education and health, and encourage innovation and investment, which in turn will strengthen the national economy as a whole.

Factors Affecting Tax Policy Effectiveness in the Digital Age

The digital era has brought significant changes in various sectors, including tax affairs. Tax policy in the digital era must be able to adapt to rapid technological changes and complex digital economy phenomena. The main challenge in this tax policy is how the government can optimise tax revenue while ensuring fair and effective governance. One important factor that affects the effectiveness of tax policy is regulatory clarity. Regulations that are clear and easily understood by taxpayers will increase compliance and reduce the potential for tax irregularities or fraud (Kovac & Novak, 2024) .

Digital technology itself is a significant factor affecting tax policy. The use of a digital-based tax system can improve efficiency in the tax administration process as well as in monitoring and enforcement. By utilising big data and data analysis, tax authorities can more easily detect tax non-compliance and map risks. However, this technology also requires considerable investment in technological infrastructure and human resources proficient in information technology (Aslam & Shah, 2007) .

In addition, digital literacy among taxpayers is also an important factor. Taxpayers who have a good understanding of information technology and digitalisation will tend to adapt more easily to the digital taxation system. This requires government efforts to educate the public and improve digital literacy, so that the new tax system can be implemented effectively (Smith & Cooper, 2024) .

International co-operation also plays a key role in digital era tax policy. Given the often cross-border nature of digital economic activities, the presence of interstate co-operation in tax matters is crucial. International agreements, such as automatic information exchange and harmonised international tax policies, are needed to prevent tax evasion and ensure transparent reporting from multinational companies (Althoff & Garcia, 2024) .

In addition, the characteristics of the digital economy itself affect taxation policy. The highly dynamic and diverse digital economy, for example through e-commerce platforms and other online services, poses challenges for the proper classification and identification of tax objects. Tax authorities must be able to formulate policies that are responsive and adaptive to rapid and sometimes disruptive changes in digital business models (Umar & Zakariyya, 2018) .

Taxpayer compliance is another factor that affects tax policy in the digital era. Various incentives and disincentives implemented by the government should be designed in such a way as to increase voluntary compliance. For example, the ease of online tax reporting and payment processes can increase taxpayer convenience and, in turn, increase compliance rates (Bird & Zolt ., 2008)

The aspect of data security and privacy is equally important. Taxpayers' trust in the digital taxation system may be jeopardised if there are data security issues and misuse of personal information. Therefore, policies that protect the privacy of taxpayer data and ensure the security of digital transactions must be taken seriously by the government to maintain the legitimacy of the tax system (Thompson & Roberts, 2025) .

Lastly, data availability and quality are the foundation of an effective tax policy in the digital era. Complete, accurate, and consistent data is indispensable for proper analysis and decision-making. The government needs to ensure that data obtained from various sources, including data from digital platforms and financial institutions, can be well integrated to support the taxation process.

Conclusion

Analysis of the effectiveness of tax policy in the digital era in developing countries from this research can be concluded;

Firstly, in the digital age, developing countries face major challenges in implementing effective tax policies. Digital technology opens up great opportunities for companies to conduct easier international transactions, but it also poses challenges in taxation as it is difficult to track and measure the actual economic activity taking place. Many developing countries still rely on traditional tax systems and have not fully adopted digital technologies, making them vulnerable to losing tax revenue from the rapidly growing digital economy sector.

Second, the various digital tax policies successfully implemented in developing countries demonstrate the importance of strengthening tax administration capacity and international collaboration. For example, some countries have started to implement digital service taxes and strengthen cooperation with international digital platforms to ensure they receive their share of domestically generated revenues. This policy model, while still new, provides a positive indication that with the right regulation, developing countries are able to reduce potential tax avoidance and increase state revenues through taxes from the digital sector.

Third, effective tax policy in the digital era requires continuous reform and innovation. Developing countries should be proactive in adopting new technologies and following international best practices in digital taxation. The utilisation of big data and artificial intelligence can improve accuracy and efficiency in tax collection. In addition, improving digital literacy among tax officials is also crucial to ensure smooth policy implementation. In conclusion, despite the challenges, with the right strategy, developing countries have the potential to significantly improve the effectiveness of their tax policies in the digital era.

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