

Analysis Of The Core Tax Digitalization Innovation System For The World Of Taxation For The Compliance Of Taxpayers Of North Sumatra Province

Dina Maisyura¹, Laylan Syafina², Nurwani³

^{1,2,3} Fakultas Ekonomi Dan Bisnis Islam, Universitas Islam Negeri Sumatera Utara, Indonesia.

Abstract:

Tax as one of the sources of state revenue which of course has great potential in financing national development. However, the problems of the people in North Sumatra arise due to the lack of efficiency in the taxpayer administration system because most people lack access to tax information. Therefore, this study aims to analyze the application of the Core Tax digitalization innovation system in the world of taxation for taxpayer compliance in North Sumatra Province. The study uses a descriptive qualitative approach with data collection techniques through documentation studies, secondary data analysis from DJP reports, and in-depth interviews with key informants, including tax instructors and operational employees of the tax office. Based on the results of the research that has been conducted, it can be concluded that the application of the Core Tax Administration System (CTAS) as a form of digital innovation in tax administration has had a positive impact on increasing efficiency, transparency, and ease of tax services in North Sumatra Province.

Keywords: *CTAS, Digitalization Innovation, Taxation,*

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✉ Corresponding author:

Email Address: dinamaisyura04@gmail.com

INTRODUCTION

The presence of digital tax innovations needs to be highlighted and needed in the management of government revenue. Taxes have been a very important source of government revenue and are now the main source of government revenue (Andre et al., 2023). Taxes are used to fund national development activities and government operations. Tax revenue is the largest source of domestic revenue as stated in the State Annual Revenue and Expenditure Budget (APBN). During the Industrial Revolution, the number of Internet users grew rapidly. The reason for the implementation of tax reform is the desire to increase tax revenue. Increase taxpayer awareness and tax responsibility. One of the initiatives carried out by the Department General of Taxes as part of tax reform is the fulfillment of tax obligations through a digital or online system.

Innovation in tax administration is one way to improve the welfare of the community in all fields, especially tax revenue. The existence of this innovation needs to be highlighted because it is needed in the management of government revenue. Taxes are a very important source of state revenue, and even the main source of state revenue used to finance national development and government administration.

In the digital age, big data can be used to analyze taxpayer behavior in more depth, allowing the DGT not only to set economically optimal tax rates, but also to make it possible to drive sustainable economic growth. Applying this tax theory to the context of digitalization opens up new opportunities to develop a tax system that is more adapted to current economic and technological trends (Rosyid, 2024).

Identifying the challenges of tax reform in the digital age requires considering several important and interrelated aspects. Tax authorities face a major challenge in identifying and tracking taxable entities in increasingly complex e-commerce transactions, especially with the advent of marketplace platforms and the sharing economy giving rise to hybrid business models. This complexity is further exacerbated by the difficulty of collecting VAT on cross-border transactions. Around 65% of countries are still struggling to implement effective mechanisms to collect VAT on cross-border digital transactions. This situation is further complicated by the phenomenon of base erosion and profit shifting (BEPS), which allows multinational digital companies to exploit loopholes in the tax system between jurisdictions. In addition, rapid changes in the digital economy require a flexible taxation system. However, 73% of tax authorities say they find it difficult to adapt regulations to the pace of technological innovation and new business models. Facing these challenges requires a comprehensive approach that combines technological innovation, international policy harmonization, and institutional capacity building to create an effective tax system in the digital era (Rizal et al., 2024).

Because taxes make a large contribution to state revenue, taxes play an important role in the development of the Indonesian state. In managing state revenue, the government must also be wise (Arifianti & Imsar, 2024). One way to show love for the homeland is to participate in the development of the country, namely by paying taxes as taxpayers who have a sense of nationalism. Taxes play an important role in the development of the country because it is the largest source of income or revenue for the state and is used to finance the progress and expenditure of the State (Rahmadiyah & Syarvina, 2022).

As one of the sources of state revenue, taxes have great potential to finance the progress of the nation (F. A. Lubis, 2023). The large population makes Indonesia have a very high tax potential, but awareness of its tax obligations is still low. Taxpayer awareness to pay taxes on time will have an effect on increasing low taxpayer compliance (Yolanda et al., 2023). In Indonesia, the law regulates taxpayers to meet their obligations to pay and report taxes. The government must also carry out socialization and innovation that will increase public awareness and taxpayers' compliance with their obligations. Governments should also improve accurate data bases and law enforcement governing regulations on tax compliance (Apriani & Lubis, 2023). If the taxpayer is aware to report his tax obligations both periodically and annually in a regular, accurate, and timely manner in accordance with the applicable laws and regulations, the taxpayer is said to be tax compliant. (Tambun & Ananda, 2022).

There is also from the North Sumatra tax regarding its latest innovation, namely the core tax. Where core tax is an integrated system that combines various tax services, such as DGT Online, e-Nofa, e-Billing, and information exchange services. With this integration, the service will be accessed through a single portal, namely the Taxpayer

Portal, to simplify the tax administration process. Core tax is designed to provide convenience and comfort for Taxpayers in carrying out their rights and obligations. This system provides more efficient, transparent, and accountable services.

Mr. Arridel Mindra as the Head of the Regional Office of the Directorate General of Taxes of North Sumatra I (Regional Office of DGT North Sumatra I) stated that the problems of the people in North Sumatra arise due to the lack of efficiency in the taxpayer administration system because most of the people lack access to the latest tax information from the North Sumatra DGT Regional Office. Based on data from the North Sumatra DGT Regional Office in 2023, of the total 369,136 Annual Income Tax Returns (SPT) received, as many as 355,911 tax returns (80.18%) were submitted via e-Filing, while the rest still used manual methods or did not report. In addition, of the 1,854,293 Domestic Individual Taxpayers, only 1,332,313 (71.7%) have their data validated in the Population Identification Number (NIK) matching system into Taxpayer Identification Number (NPWP). This data reflects a gap between system readiness and user readiness to run a digital-based tax administration system.

This phenomenon shows that not all societies automatically accept and adapt to technological innovations. In a theoretical context, this is in contrast to the view of *Modernization Theory* developed by Rostow (1960) and *Technological Determinism* developed by McLuhan (1964), which assumes that technological progress will directly drive social change and increase bureaucratic efficiency. Similarly, *the Rational Choice Theory* (Becker, 1976), which assumes that individuals will choose the most efficient method—such as e-Filing—is not fully applicable, because some taxpayers still choose the manual method, which is likely influenced by the limitations of digital literacy, access to technology, and the lack of education in the digital tax system.

In addition, various internal reports and evaluations from the Directorate General of Taxes also confirm that there are still many taxpayers who have difficulty accessing and utilizing digital tax technology to the fullest, which contributes to the low efficiency of the administrative system. However, some people also complained of difficulties due to a lack of understanding and skills in using this new system. Some complaints are indeed more due to a lack of understanding of the use of the new system, not just about the weaknesses of the system itself. By combining all major business processes such as taxpayer registration, tax return reporting, tax payment, to auditing and funding, the implementation of Coretax is expected to modernize the existing tax administration system.

People can have a personal account with CoreTax through the TP Portal. With facial biometric scanning technology and digital signatures, people can access more secure and confidential data. One unified portal stores all tax data, from tax return reporting to payment information. We definitely need careful and measurable planning, especially when it comes to the development of information technology (IT) infrastructure. It is hoped that in the long term, the implementation of Coretax will help achieve state revenue targets, increase public trust in the tax system, and serve as a basis for the transformation of public digital services in the field of taxation.

Based on a study of several previous journals, it is known that most of the research on the digitalization of the tax system still focuses on aspects of the implementation of e-filing and e-billing and its effect on taxpayer compliance. Research such as those conducted by (Widyaningsih & Siringoringo, 2021) and (Supriatiningsih & Jamil, 2021) shows that the ease of use of e-filing, tax awareness, and understanding of technology have a positive influence on individual taxpayer compliance. Another study by (Nia Melyda Ayuni, Henny Indrawati, 2024) also revealed similar results, namely that the perception of usefulness, interest, and understanding of the e-filing system was able to increase tax compliance. Meanwhile, studies by (Manullang et al., 2020) and (Fariq Ananda Diratama et al., 2022) added that understanding of the internet and tax knowledge are also important factors that strengthen the effects of digitalization on taxpayer compliance. However, from the entire literature, there are several research gaps. First, previous research was mostly conducted in areas such as Bekasi, Jakarta, Pekanbaru, Magelang, Bali, and Padang, so there is still very little research that specifically highlights the conditions in North Sumatra Province. Second, the majority of research is only limited to the e-filing and e-billing system, not much has been thoroughly discussed about the implementation of the Core Tax System which is currently being developed by the Directorate General of Taxes. Third, there are still few studies that consider regional socio-economic variables as part of the analysis of taxpayer compliance. Finally, there have not been many studies that evaluate the effectiveness of tax education and socialization programs in helping people's adaptation to the digitalization of the tax system.

This research has a number of novelties that distinguish it from previous studies. First, the main focus of this research is on North Sumatra Province, which is still rarely touched by academic research in the context of tax digitalization, even though its social and infrastructure characteristics have unique challenges. Second, this study specifically raises the core tax system or Core Tax System which is the latest innovation from the Directorate General of Taxes, in contrast to the majority of previous studies that only discuss the e-filing and e-billing system. Third, this study integrates analysis of local social and economic factors as variables that also affect taxpayer compliance, so that it can provide a more contextual understanding. Finally, this study also evaluates the effectiveness of the digital tax education and socialization programs that have been implemented, so that they can be input in designing policies and strategies that are more targeted in the future. This novelty is expected to make a scientific and practical contribution in supporting the success of digital-based tax reform in Indonesia, especially in areas with compliance levels that still need to be improved.

This study aims to analyze the application of the Core Tax digitalization innovation system in the world of taxation for taxpayer compliance in North Sumatra Province.

Literature Review

Taxation

Taxation is a system used by the government to collect funds from individuals, business entities, or other entities to finance state expenditures (Mutiara Zain

Dalimunthe, 2023). Taxes can be in the form of income tax (PPH), value-added tax (VAT), and other types of taxes required by law. According to (N. H. Lubis et al., 2023) Taxes are mandatory contributions from taxpayers paid to the state by individuals or laws. These contributions are legally binding and are used to achieve the prosperity of the people and the country's goals. Taxes have a very important role in the country's economy, among others to finance infrastructure, public services, and various other state activities. In Indonesia, taxation is regulated by the Directorate General of Taxes (DGT) and follows the applicable Tax Law.

Digitization of the Tax System

Taxation is a system used by the government to collect funds from individuals, business entities, or other entities to finance state expenditures (Mutiar Zain Dalimunthe, 2023). Taxes can be in the form of income tax (PPH), value-added tax (VAT), and other types of taxes required by law. According to (N. H. Lubis et al., 2023) Taxes are mandatory contributions from taxpayers paid to the state by individuals or laws. These contributions are legally binding and are used to achieve the prosperity of the people and the country's goals. Taxes have a very important role in the country's economy, among others to finance infrastructure, public services, and various other state activities. In Indonesia, taxation is regulated by the Directorate General of Taxes (DGT) and follows the applicable Tax Law form of tax administration reform efforts to improve the effectiveness, transparency, and compliance of taxpayers. Innovations such as the Core Tax Administration System (CTAS) developed by the Directorate General of Taxes (DGT) are an integrated system that covers the entire tax administration process, from registration, reporting, to payment. Digitization of Taxation According to (Atifa Nur et al., 2023) said that digitalization in the field of taxation, especially related to tax administration, has made various changes such as the shift from the traditional tax system to electronic and digital. And according to (Atifa Nur et al., 2023), taxpayer compliance is a state in which taxpayers perform all their tax obligations and exercise their tax rights. Taxpayers who pay taxes correctly and on time are also considered taxable. Taxpayer compliance consists of formal compliance and physical compliance.

E-Filing

E-Filing is an electronic Return Letter (SPT) reporting system developed by the Directorate General of Taxes (DGT) as part of digital innovations in the Indonesian tax system. This system allows taxpayers to submit their tax returns online without the need to come to the tax office (Pradnyana & Prena, 2019). According to (Rusli, 2019) said that the electronic tax reporting system is a way of submitting Notification Letters (SPT) electronically or online (online) through the website of the Directorate General of Taxes (DGT Online) or through other channels determined by the government through laws or government regulations.

E-Billing

E-Billing is an electronic tax payment system that allows taxpayers to generate and obtain a billing code (billing ID) used for tax payments through banking channels or other official payment platforms. E-Billing is able to provide convenience in the

payment process, improve the accuracy of payment data, and accelerate the implementation of tax obligations. This system also indirectly increases compliance due to its easy and transparent process (Lamdora & Eko Suyono, 2023). According to (Daeng & Mahmudi, 2022) said that the Directorate General of Taxes introduced e-invoicing on July 1, 2016, and is one of the ways of paying taxes electronically that uses a fifteen-digit invoice code issued through the tax invoicing system. Taxpayers must create an invoice code before e-invoicing through customer service or bank officers, contact the tax hotline 1500200, use KPP or KP2KP invoicing services, use online banking, or use a Tax Application Service Provider (PAP).

Core Tax Administration System (CTAS)

The Core Tax Administration System (CTAS) is an information technology system developed by the Directorate General of Taxes (DGT) to reform and modernize tax administration. The purpose of the CTAS system is to integrate and automate the entire tax-related business process, from registration, reporting, and payment to supervision and enforcement. According to (Alfirdaus & Anas, 2024) said that the core tax is that which can be accessed by all employees of the Regional Tax Office under the auspices of the Regional Revenue Agency. This portal offers services or data collection for regional tax collection service units that can be accessed online. Coretax started in 2021 and is valid until September 2022. The goal is to improve the efficiency, effectiveness, transparency, and affordability of tax services.

Taxpayer Compliance

Taxpayer compliance is a regulation that is given with the aim of making taxpayers aware of the importance of taxes in a country. Taxpayer compliance refers to the extent to which taxpayers can properly and correctly carry out their tax obligations in accordance with laws and regulations (Ristanti et al., 2022). By paying and reporting taxes periodically and annually to the taxpayer concerned, both for individuals and their own capital as business capital, in accordance with applicable tax provisions, taxpayer compliance is a way to demonstrate compliance and discipline awareness of their tax obligations (Hutabarat & Nasution, 2022). Taxpayer compliance is a big issue for both developed and developing countries (Salim & Irham, 2023). If taxpayers comply with tax regulations, never delinquent taxes, and pay and report taxes on time, they are considered compliant (Ariffin & Sitabuana, 2022).

RESEARCH METHODS

In this study, a qualitative descriptive approach was used, with the aim of in-depth analysis of the implementation of the Core Tax digitization system in tax administration and its impact on taxpayer compliance in North Sumatra Province. Data collection was obtained through documentation studies, secondary data analysis from the DGT Regional Office performance report, the latest scientific journals relevant to research topics and in-depth interviews with a number of key sources. Interviews were conducted with tax extension workers, MSME business actors, and operational parties at the tax office. Among the speakers, interviews with tax extension officers at the North Sumatra DGT Regional Office I and operational staff at KPP

Medan Polonia provided a comprehensive overview of the implementation of CTAS. In addition, the researcher also conducted direct interviews with tax extension workers to get field perspectives related to digital socialization obstacles and strategies, so that the data collected can reflect the reality and conditions that occur in the field. The data analysis in this study uses an interactive model from Miles and Huberman, which consists of three stages, namely data reduction, data presentation, and conclusion drawing and verification. Data reduction is carried out to summarize and select important data from the results of interviews, documentation, and observations. Data presentation compiles data in the form of narratives and tables that describe compliance patterns and implementation of digital systems. Furthermore, drawing conclusions and verifying draws key findings to answer the research focus and links them to relevant theories.

RESULTS AND DISCUSSION

Analysis of Core Tax Innovation in Digital Transformation of Taxation in the implementation of the Core Tax Administration System (CTAS) in North Sumatra Province has had a significant impact in improving the tax administration system. Based on data from the North Sumatra DGT Regional Office I, a total of 369,136 Annual Notification Letters (SPT) were reported in 2023. However, this figure does not fully reflect the optimal level of compliance, as most reporting is still done as a form of formality, rather than from deep tax awareness.

Based on the results of an interview with Mrs. Fitri Anggraini, tax counseling at the North Sumatra DGT Regional Office, she explained that "systemally, CTAS does greatly facilitate our work in processing and verifying data, but from the community's side, not everyone can keep up with this development quickly, especially those who have small businesses or live in villages, there are still many who are not used to using digital tax services. This is where our role in education and mentoring becomes very important". This question shows that there is a digital literacy gap that is an obstacle even though the system has been built sophisticatedly.

In line with that, Mr. Andri Saputra, an MSME actor from Deli Serrdang district, conveyed his experience, "at first I was hesitant, because I didn't know how to fill in the report on the cellphone. But after being asked by the tax officer and helped several times, now I feel that it is easier than having to go to the tax office." This shows that with the right educational and mentoring approach, small business people can adjust to the digital system, and even feel benefited in terms of time and cost efficiency, this is similar to what was conveyed by Mrs. Rini Marpaung, the owner of a grocery store, who said that "we in the village often do not know that there is a new policy, because there is no direct socialization. But after being collected and explained about e-Billing and Core Tax, we understood and now routinely report.

These findings can be further analyzed through the *Technology Acceptance Model (TAM)* developed by Davis (1989). In this theory, it is explained that a person's acceptance of technology is greatly influenced by *Perceived Usefulness* and *Perceived Ease Of Use*. Mr. Andri's case shows that as the perception of the ease of use and benefits of the system increases, the level of acceptance of CTAS also increases, which

ultimately has a positive impact on tax compliance. In the context of this study, many taxpayers were initially hesitant or confused about using the core tax system, but after experiencing the convenience and benefits such as the ease of reporting tax returns through gadgets and payment transparency through e-Billing, they began to accept and even rely on the system in their tax obligations. This is reinforced by the statements of several respondents in interviews who admitted that they now feel easier and independent in reporting taxes after participating in socialization.

Therefore, in a study (Junquera-Varela & Lucas-Mas, 2022) in the World Bank report, it is also stated that digital transformation such as the implementation of Core Tax not only improves tax administration services, but also improves fiscal accountability and real-time risk management. Manual processes that are prone to human error and corruption can be minimized thanks to system automation.

The role of technological innovation in the tax system plays a crucial role in the transformation of the tax system, increasing efficiency, accuracy, and transparency. Some of the innovative aspects that are being implemented in the tax system include the implementation of Big Data and data analytics, the application of artificial intelligence, e-filing and e-billing systems, and the automation of the tax process. Big Data refers to the use of large and diverse volumes of data to analyze patterns and trends that can aid in decision-making. In the context of taxation, Indonesia's Directorate General of Taxes (DGT) has developed Big Data infrastructure to manage tax information more effectively.

By using data analytics, the DGT can benchmark the potential tax revenue with the taxes actually paid by taxpayers. This helps in identifying tax gaps and detecting potential fraud. For example, the Compliance Risk Management (CRM) application developed by the DGT utilizes Big Data to monitor taxpayer compliance and conduct risk evaluations more accurately.

In an interview conducted by the researcher, Mrs. Fitri Anggraini, a tax extension officer at the North Sumatra DGT Regional Office I, explained directly the important role of technological innovation in supporting tax tasks in the field, "Core Tax technology plays a big role in increasing our capacity as tax officers. This system helps map high-risk taxpayers and provides us with guidance in determining educational or supervisory approaches. This saves a lot of time and resources". He also added that "Not only accelerating the administrative process, this technology also forms a new work culture within the DGT, namely a culture based on data and analysis. In terms of services, taxpayers can now feel convenience, because the system responds faster to their transactions and requests."

The role of Core Tax technology is also felt in increasing public trust in the tax system. With a transparent process and minimal human error, taxpayers feel more comfortable and confident that their tax obligations are managed fairly and efficiently. Overall, Core Tax technology innovation does not only serve as an administrative tool, but also as a catalyst for cultural change, approach, and effectiveness in Indonesia's tax system.

Digitalization innovations in Tax Law Compliance have brought significant changes in the application of tax law, both in terms of regulation and supervision. The increased use of information technology in taxation allows tax authorities to automate business processes and improve administrative efficiency. With the adoption of technology, the tax reporting and payment process can be done electronically, speeding up the process and reducing the potential for human error.

In the era of the Industrial Revolution 4.0, the application of innovation in tax administration is the key to creating sustainable state revenue. CTAS exists not only as a technological system, but as an instrument of behavior change, which transforms the culture of compliance from a previously formality-based to a consciousness-based. Based on an interview with Mr. Zulham Siregar, operational staff at the Tax Service Office (KPP) of Medan Polonia, he stated that "in the past we received long queues just to deposit taxes, now through e-Billing everything is faster. Even the staff can focus more on education and more strategic service." This shows that the presence of Core Tax has shifted the focus of bureaucracy from administrative services to consultative services. Therefore, efforts to implement this innovation in optimizing tax revenue not only increase efficiency, but also expand participation and form a healthy and sustainable tax ecosystem.

In the context of the implementation of digitalization in the application of tax law, there are several aspects that require special attention. First, changes in regulations and law enforcement in the digital era are the main focus in responding to the dynamics of taxation that is increasingly digitalized. Rapid changes in technology require adaptation of tax regulations to ensure compliance and fairness in tax imposition. Second, another important aspect is tax supervision and transparency in digital systems (Rahma et al., 2023).

The evaluation of the dgt's strategy on core tax in optimizing the tax awareness of the people of North Sumatra includes online and offline socialization, digital training for MSME actors, and optimization of the use of third-party data for tax report validation. This is shown through the increased use of the DGT's official digital channels, as well as the formation of digital tax volunteer communities on several campuses in Medan, which also assist MSME actors in understanding CTAS.

The implementation of the Core Tax Administration System (CTAS) is not only aimed at improving the efficiency of tax administration, but is also strategically geared towards expanding the public's tax knowledge. With an integrated digital-based system, the public can now access tax information more easily, quickly, and transparently. The DGT of the North Sumatra Regional Office through Core Tax seeks to educate taxpayers through digital platforms such as *online tax portals*, *tax e-learning*, and technology-based *self-assessment* features. The evaluation of this strategy shows that the adoption of technology helps increase the awareness of the people of North Sumatra about tax rights and obligations, especially for the younger generation and the digital-based MSME sector.

In an interview conducted by the researcher with Mrs. Fitri Anggraini, tax extension officer of the North Sumatra DGT Regional Office, she explained that "CTAS opens up great opportunities for taxpayers to be more independent in understanding

and carrying out their tax obligations. However, there are still many taxpayers who are not used to the digital approach, especially in out-of-town areas. Therefore, the role of counseling remains crucial, both directly and through user-friendly digital media." He also added that assistance to MSMEs continues to be intensified through synergy with tax volunteers and educational institutions to bridge the digital literacy gap among small business actors.

From the results of the interview with Mrs. Fitri Anggraini, it can also be concluded that although the Core Tax strategy has improved access to information and increased tax awareness, other supporting strategies such as digital literacy campaigns, face-to-face training, and community-based communication approaches are needed to expand its impact. Thus, Core Tax is not only an administrative tool, but also an effective means to build a tax-conscious culture in society at large.

The implementation of Core Tax is able to increase tax literacy because information that was previously spread is now centralized and more user-friendly, making it easier for taxpayers to understand tax provisions and procedures. However, major challenges still exist, especially related to digital literacy that is not even in the entire North Sumatra region. Many people, especially in remote areas and vulnerable groups, still have difficulty accessing or understanding the Core Tax digital platform. (Korat & Munandar, 2025) notes that without intensive mentoring and education, the adoption of this technology risks creating a tax knowledge gap between digital-savvy taxpayers and underserved groups.

An interdisciplinary perspective on the relationship between the Core Tax Administration System (CTAS) and e-Billing in tax administration can be seen from various interrelated perspectives, including technology, economics, social, and law. In terms of technology, CTAS functions as a system that integrates various tax functions such as registration, reporting, payment, and supervision in one efficient and structured digital platform. Meanwhile, e-Billing allows taxpayers to create and submit proof of tax payments electronically, which is directly connected to the CTAS system. The collaboration between the two systems aims to improve the efficiency of tax management, simplify the administrative process, and ensure transparency in tax transactions.

From an economic perspective, the implementation of the CTAS and e-Billing systems is expected to improve efficiency and reduce operational costs, which in turn will optimize state tax revenue. This more structured system allows the Directorate General of Taxes (DGT) to monitor and analyze tax transaction data more quickly and accurately, providing the basis for more effective tax policies. In addition, from a social perspective, these two systems can change the behavior of taxpayers. The use of technology makes it easier for taxpayers to carry out their obligations, which can encourage the creation of a better culture of tax compliance, although this requires comprehensive education to increase digital literacy among the public.

In the legal aspect, the implementation of CTAS and e-Billing strengthens legal certainty in tax administration. Both systems allow every tax transaction to be

recorded electronically and can be easily monitored by the authorities, which reduces the potential for tax manipulation or evasion. Overall, the implementation of these two systems reflects the synergy between technology, economy, social, and law, which has a positive impact on tax administration efficiency and increased taxpayer compliance.

In the interview conducted, Mr. Zulham Siregar gave a practical view on the implementation of CTAS and e-Billing in the field. He said that "*Since the CTAS system was fully implemented at KPP Medan Polonia, the tax administration process has become much more integrated. We can monitor the status of taxpayers from registration to payment without having to open several separate systems. This certainly makes our work easier and reduces the risk of human error.*" Overall, CTAS and e-Billing support each other in creating a more efficient, transparent, and fair tax system, with a positive impact on tax management and taxpayer compliance in the digital era.

The application of tax administration innovations in optimizing tax revenue in the era of the industrial revolution is a down and damaged server and threats from outside, namely hackers are very dangerous and the public's minimal knowledge of tax digitization information that needs to be socialized periodically and the increasingly developing era makes innovation carried out continuously (Supri et al., 2023)

In this era of industrial revolution where everything is online and digital, there is a need for server maintenance because the server can be down because it is used simultaneously and also attacks from hackers which need to be considered because it can damage the application system and can also cause theft of taxpayer data so that people are worried about their data that will be stolen by hackers and also with the server down people feel upset or disappointed in using This application of tax administration innovation. Many people do not understand technology and do not understand how to use tax administration innovations because of features that are difficult to understand, resulting in people being reluctant to use tax administration innovations due to lack of knowledge and lack of information on how to use them, especially people born in the 70-80s because it is very much needed for direct socialization.(Zega et al., 2024)

This is also in line with the results of an interview with Mr. Zulham Siregar who said that "If the server is having problems, the service is automatically hampered. Many taxpayers came and were disappointed because they had tried online but the system was not responsive. We recognize that this system needs continuous improvement and must be supported by stable servers and strong cybersecurity.". The statement shows that the challenges in implementing tax administration innovations do not only come from the technological and system side, but also from social and educational aspects. The success of digitizing tax administration is largely determined by a combination of reliable infrastructure, strong data protection, and intensive and continuous public education. Therefore, a collaborative approach between tax authorities, business actors, and the public is indispensable to encourage the success of comprehensive and inclusive tax administration innovation.

Efforts to implement core tax administration innovations in optimizing tax revenue can increase taxpayer compliance in the era of the industrial revolution in the

implementation of the Core Tax Administration System (CTAS) by the Directorate General of Taxes (DGT) in North Sumatra is part of tax administration reform efforts aimed at increasing efficiency, transparency, and taxpayer compliance. CTAS replaces the previous tax administration system with a more modern and integrated information technology-based system. This system allows tax administration processes, such as registration, reporting, payment, and supervision, to be carried out digitally and automatically.

In North Sumatra, the implementation of CTAS has been carried out through various educational and socialization activities to taxpayers. For example, the North Sumatra DGT Regional Office I has organized education on CTAS for taxpayers to prepare for the implementation of this system. This activity aims to provide taxpayers with an understanding of the Coretax information system application which will be immediately implemented by the DGT. In addition, the North Sumatra DGT I also formed a "Core Tax Helpdesk" to assist taxpayers in using CTAS, including overcoming technical obstacles. This service is a form of DGT's commitment to provide the best service to taxpayers and ensure that the transition of data to CTAS runs smoothly.

From the results of an interview with Mrs. Fitri Anggraini, tax counseling at the North Sumatra DGT Regional Office I, she said that "We have carried out several CTAS socialization activities, both through webinars and directly in the field. The response is quite positive, although there are still challenges, especially from taxpayers who are not used to digitalization. Therefore, the existence of the Helpdesk is very important to accompany them."

Mr. Andri Saputra as an MSME actor also said that "At first I was confused because all processes now have to be online. But when there was training at the tax office, I began to understand a little bit. The important thing is that there is someone to help and the system should not be interrupted often. If it's smooth, it's actually more practical for small businesses like me."

The implementation of CTAS is expected to improve the efficiency of tax management, improve the analysis of risk-based taxpayer compliance data, create transparency of taxpayer accounts, and encourage prudent and accountable DGT financial statements. This system will be the cornerstone of tax administration reform that draws on international best practices. With these steps, the implementation of tax administration innovations through CTAS in North Sumatra is expected to increase taxpayer compliance and optimize tax revenue in the digital era.

Conclusion

Based on the results of the research and interviews conducted, it can be concluded that the implementation of the Core Tax Administration System (CTAS) as a form of digital innovation in tax administration has had a positive impact on improving the efficiency, transparency, and ease of tax services in North Sumatra

Province. This digitalization has played a central role in streamlining the processes of tax reporting, payment, and supervision in real-time, utilizing integrated data. It has encouraged the creation of a more accountable tax system and strengthened community tax Law compliance. The digitization of tax administration through this system has made it easier for taxpayers to fulfill their obligations, such as filing tax returns, paying taxes, and monitoring their administrative status online. This system can reduce the potential for human error, expedite bureaucratic processes, and enhance transparency in the interaction between taxpayers and tax authorities. In addition, Core Tax allows for better data integration between agencies, thus supporting the automatic and systematic process of monitoring and data collection. This ultimately provides a positive boost to increasing formal compliance (complying with reporting regulations) and material compliance (paying taxes in the amount due). The implementation of this system also reflects the government's commitment to presenting more efficient, adaptive, and reliable technology-based tax reform in the digital era.

While this study has provided valuable insights, it is important to acknowledge its limitations. The focus on North Sumatra Province and the qualitative data approach may not fully represent national conditions and other quantitative variables. Therefore, it is crucial for future research to expand the scope of the study area and use a mixed methods approach that combines quantitative and qualitative analysis. This will allow for a more comprehensive understanding of the impact of digital tax systems. In addition, future studies may further explore the inhibiting factors in the adoption of digital tax systems as well as the perceptions of small and medium-sized businesses that may have technical barriers or limited access to technology. This call for further research is an invitation for the audience to engage in the ongoing development of tax administration systems.

Reffrence

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