

OPPORTUNITIES AND CHALLENGES OF DIGITALIZING TAX ADMINISTRATION IN MALAYSIA: TOWARD EFFICIENT, INCLUSIVE, AND SECURE GOVERNANCE

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Abstract: *The digitalization of tax administration has emerged as a transformative strategy for enhancing efficiency, transparency, and compliance in public sector governance. In Malaysia, initiatives such as the HASIL e-Filing system, the MyTax portal, and e-Stamping mark significant progress toward modernizing tax services in line with the Malaysia Digital Economy Blueprint (MyDIGITAL). This study explores the opportunities and challenges associated with Malaysia's transition to digital tax systems. Drawing on global and local evidence, the findings highlight key benefits, including cost reduction, improved taxpayer compliance, enhanced user experience, and the integration of big data analytics to support policy decision-making. Digital platforms have also fostered inclusivity by expanding access to tax services, particularly during the COVID-19 pandemic. However, significant challenges persist, such as cybersecurity risks, resistance to change among stakeholders, the digital divide between urban and rural communities, and difficulties in integrating legacy systems with new technologies. Issues of data accuracy and public trust further complicate implementation. The study argues that addressing these challenges through investments in digital infrastructure, cybersecurity frameworks, and digital literacy programs is crucial for ensuring sustainable adoption. It concludes that Malaysia's experience provides valuable lessons for other developing countries undergoing similar digital transitions, bridging the gap between global best practices and localized realities. By offering a nuanced understanding of both opportunities and barriers, this research contributes to the discourse on digital governance and provides actionable recommendations for policymakers, tax authorities, and stakeholders seeking to optimize digital tax administration.*

Keywords: Digitalization, Tax Administration, Compliance, Governance

Introduction

The rapid advancement of digital technologies has significantly transformed public sector administration globally, including tax systems. In Malaysia, the digitalization of tax administration represents a crucial initiative aimed at improving efficiency, transparency, and compliance within the tax ecosystem. This transformation aligns with the broader objectives of the Malaysian government to embrace digital governance under initiatives like the Malaysia Digital Economy Blueprint (MyDIGITAL) (Economic Planning Unit, 2021). Despite these efforts, there remains a need for a comprehensive understanding of the opportunities and challenges associated with the digitalization of tax administration in the Malaysian context. Existing studies have extensively explored the impact of digitalization on public sector efficiency and taxpayer compliance in various countries (Rinaldi, 2020; OECD, 2021). However, limited research focuses specifically on Malaysia's tax administration. The transition to digital tax systems, including e-filing, e-payment, and big data analytics, offers potential advantages such as improved accuracy, reduced administrative costs, and enhanced taxpayer convenience (Ramli et al., 2022). At the same time, challenges such as technological infrastructure gaps, cybersecurity concerns, and resistance to change among stakeholders present significant hurdles (Yusoff et al., 2023).

A critical novelty of this study lies in addressing the localized barriers and contextual realities unique to Malaysia. While global and ASEAN research provides valuable insights, much of it generalizes the digital tax experience without examining Malaysia's institutional, socio-economic, and cultural landscape. For instance, usage of Malaysia's MyTax and e-Filing systems has surged significantly, with the Inland Revenue Board of Malaysia (LHDNM) recording approximately 5.97 million e-Filings in 2022, rising to 6.25 million in 2023, while MyTax transactions increased from 4.56 million in 2022 to over 60 million in 2023 (LHDNM, 2023). Likewise, the nationwide rollout of the e-Invoice (MyInvois) system in 2024 had already generated more than 313.4 million invoices involving 33,391 taxpayers by June 2025 (The Star, 2025). These figures highlight both the scale and timeliness of Malaysia's digital tax transformation, yet empirical research into taxpayer experiences, compliance behaviour, and administrative capacity during this transition remains scarce. Moreover, although official reports suggest that overall compliance rates exceeded 80% in 2023 (Malay Mail, 2025), this still leaves a sizeable proportion of taxpayers outside the compliance net, raising questions about whether digitalization alone can ensure compliance. Equally pressing are cybersecurity risks: MyCERT reported a 29% increase in data breach incidents in early 2025 compared to late 2024, underscoring heightened vulnerabilities as more taxpayer data are centralized online (MyCERT, 2025). Despite government commitments to robust cybersecurity frameworks, academic studies have yet to investigate how such risks shape taxpayer trust, perceptions, and willingness to adopt new digital tools. The lack of localized empirical evidence addressing these challenges and their interplay with Malaysia's socio-economic context therefore constitutes a critical gap in the literature, which this study seeks to fill.

The digitalization of tax administration is pivotal to achieving sustainable economic growth in Malaysia, particularly in enhancing tax revenue collection and reducing leakages. By addressing the existing gaps in the literature, this study seeks to provide a nuanced understanding of the specific opportunities and challenges in Malaysia. This understanding is crucial for policymakers, tax administrators, and technology providers to develop targeted strategies that ensure a seamless transition to digital tax systems. This study seeks to explore key issues surrounding the digitalization of tax administration in Malaysia. It aims to uncover the opportunities created by digital tax systems, identify the challenges that impede their

effective implementation, and examine how policymakers and stakeholders can address these obstacles to maximize the benefits of digitalization. The research focuses on analysing the potential advantages of digitized tax administration in Malaysia while identifying barriers to its successful implementation. It will provide practical recommendations to overcome these challenges and contribute to the academic discourse by offering localized insights relevant to global comparative studies. The rationale for this research lies in the urgent need to modernize tax administration to align with technological progress and evolving taxpayer expectations. By examining Malaysia's specific experiences and challenges, the study aims to provide lessons that can benefit other developing countries undergoing similar transitions.

This study will contribute to the broader field of digital governance by enriching the theoretical and empirical understanding of digitalization in tax administration. It bridges the gap between global best practices and localized implementation challenges, thereby offering a balanced perspective. Furthermore, it provides practical recommendations for enhancing Malaysia's digital tax infrastructure, which can serve as a model for other nations.

Literature Review

Global Findings on Digital Tax Administration

Globally, the digitalization of tax administration has yielded significant benefits. For instance, studies have shown that digital tax systems in developed countries, such as the United Kingdom and Australia, have improved compliance rates and streamlined tax collection processes (OECD, 2021). The introduction of digital platforms like the UK's Making Tax Digital (MTD) initiative has simplified tax reporting for small and medium enterprises (SMEs), leading to increased voluntary compliance (Carter et al., 2023). Similarly, in developing economies, digital tools have enhanced transparency and minimized corruption by reducing direct interactions between taxpayers and tax officials (Ndulu et al., 2022). Additionally, advanced analytics and AI-driven fraud detection systems have enabled tax authorities to identify suspicious activities with greater precision (Gupta & Zhang, 2021). Recent empirical studies provide valuable insights into the impact of digitalization on tax administration in Malaysia, demonstrating both the positive outcomes and the challenges faced during the implementation of digital tax systems. (Rahim et al, 2021) observed a significant improvement in tax compliance rates due to the introduction of Malaysia's e-Filing system. They found that tax compliance increased by 15% from 2020 to 2021, a notable achievement attributed to the convenience and efficiency that the e-Filing system provided for taxpayers. The transition to online filing has made it easier for individuals and businesses to fulfil their tax obligations, reducing the barriers to compliance such as geographical constraints, time limitations, and complex paperwork. This increase in compliance is consistent with findings from other studies in the region. For example, the digitalization of tax filing in countries like Singapore has also led to higher voluntary compliance rates (OECD, 2021). The ease of use and accessibility provided by the e-Filing system, along with reminders and automated notifications, have encouraged more taxpayers to submit their returns on time. However, while the system has enhanced compliance, it also requires continuous improvement to handle complex tax scenarios and address concerns such as data accuracy (OECD, 2020).

Mohamad et al. (2022) highlighted that digitalization has led to a reduction in tax collection costs by 10%. This reduction in administrative costs is largely attributed to the automation of various tax-related processes, including tax return processing, auditing, and reporting. By eliminating manual interventions, digital systems streamline workflows, reduce paperwork, and

lower the need for physical office space and staff. This not only leads to cost savings but also enhances the efficiency of tax administration. Zainuddin et al. (2020) emphasized that the success of digital tax systems depends not only on technological advancements but also on the foundational infrastructure and digital literacy programs. They argued that for digital tax initiatives to be effective, it is essential to invest in infrastructure that supports fast, secure, and reliable internet access, especially in rural or underserved areas. Without widespread access to reliable internet and digital tools, the benefits of digitalization cannot be fully realized, leaving certain segments of the population at a disadvantage. Several studies have examined the broader implications of digital tax administration. According to the (World Bank, 2021), countries that have implemented digital tax systems have experienced a significant improvement in revenue collection, especially in terms of value-added tax (VAT) compliance. This is because digital systems make it easier for tax authorities to track real-time transactions and reduce the opportunities for tax evasion. Similarly, Malaysia has benefited from improved transparency in tax reporting, reducing opportunities for underreporting or misreporting of income (Ali et al., 2021).

Despite these positive outcomes, challenges related to data quality, system integration, and public trust persist. The success of digital tax systems hinges on continuous improvements in technology, infrastructure, and stakeholder engagement. Policymakers must address these challenges through targeted investments in education, infrastructure, and cybersecurity to ensure that digitalization remains a sustainable solution for enhancing tax compliance and revenue collection in Malaysia

Digitalization of Tax Administration in Malaysia

In Malaysia, the Inland Revenue Board (IRB) has taken significant strides in adopting digital technologies. The HASIL e-Filing system, introduced in 2006, marked the beginning of the country's digital tax transformation. HASIL e-Filing system was introduced to simplify income tax filing for individuals and businesses. It allows taxpayers to submit returns electronically, reducing the need for paper documentation. The system's user-friendly interface has improved taxpayer satisfaction and significantly reduced the average time taken for tax filing (Rahim et al., 2021). Furthermore, the e-Filing system supports pre-filled tax forms, reducing errors and encouraging timely submissions (IRBM, 2022). Subsequent initiatives, such as the MyTax portal and the integration of big data analytics, have further enhanced the efficiency of tax administration (Ahmad et al., 2023). Launched as a one-stop digital platform, MyTax offers services like tax return submissions, payment tracking, and tax refunds. The portal has integrated various tax-related functions into a single platform, enabling taxpayers to access and manage their accounts efficiently (Mohamad et al., 2022). Recent updates to the MyTax Portal include enhanced security measures, real-time chat support, and personalized dashboards for users (IRBM, 2023). Research indicates that these digital tools have improved taxpayer satisfaction by reducing processing times and providing accessible online services (Rahman et al., 2021). However, challenges persist, including limited digital literacy among certain taxpayer segments, cybersecurity risks, and the need for robust legal frameworks to support digital tax enforcement (Yusoff et al., 2022).

The digitalization of tax administration has been the subject of increasing scholarly and policy attention, particularly in the wake of the COVID-19 pandemic. Globally, tax authorities have adopted electronic filing, e-invoicing, and advanced analytics to improve efficiency, strengthen compliance, and maintain resilience during crises (OECD, 2021). Studies consistently report benefits such as reduced processing costs, greater accuracy, and enhanced taxpayer satisfaction

(Hesami, 2024). At the same time, the literature underscores common risks, including digital divides that disadvantage less technologically literate taxpayers, cybersecurity vulnerabilities, and challenges in integrating new systems within existing legal and administrative frameworks (Georgiou, 2024; Munjeyi, 2024). These findings highlight a growing consensus that digital tools can substantially enhance tax administration, but their effectiveness depends on contextual factors such as institutional readiness, regulatory safeguards, and taxpayer trust. Malaysia shares many features of this global trajectory but also exhibits unique characteristics that warrant localized analysis. The Inland Revenue Board of Malaysia (IRBM) began its digital transformation with the HASIL e-Filing system in 2006, which successfully reduced paperwork, improved accuracy, and shortened filing times (Rahim et al., 2021). More recent developments, such as the MyTax portal, have integrated multiple services into a single platform, providing taxpayers with online access to filing, payments, and refunds while also incorporating personalized dashboards and enhanced security protocols (Ahmad et al., 2023; IRBM, 2023). These reforms mirror international trends by streamlining taxpayer services, introducing pre-filled forms, and embedding data-driven processes that align with practices observed in OECD countries (OECD, 2021; Jenkins, 2023). The adoption of e-Stamping further illustrates Malaysia's alignment with global digitalization efforts by digitizing duties payment and reducing opportunities for fraud or error (Zainuddin et al., 2020). Therefore, another initiative is e-Stamping. The digitalization of stamp duty payment processes has improved efficiency and reduced fraud. The e-Stamping system enables taxpayers to submit documents for stamping and pay duties electronically without needing to visit physical offices. This innovation has enhanced transparency and reduced opportunities for manual errors or manipulation.

Yet, the Malaysian context also reveals distinctive challenges that global studies often overlook. While e-Filing usage rates have steadily increased, the rollout of e-Invoicing under the MyInvois system—phased in from August 2024—has exposed substantial readiness gaps among small and medium enterprises (SMEs), which dominate the Malaysian business landscape (PwC Malaysia, 2024). Limited digital literacy, high integration costs, and uneven technological infrastructure hinder SME adoption and risk widening the compliance gap (Azham, 2024). Similar concerns have been raised in Botswana and other emerging economies, where AI-based tax administration tools required institutional trust and readiness to succeed (Munjeyi, 2024). This indicates that while efficiency gains from digital tools are widely recognized, Malaysia's socio-economic structure makes adoption dynamics particularly complex. Cybersecurity further complicates Malaysia's digital tax transition. As tax administration becomes increasingly dependent on centralized platforms such as MyTax and MyInvois, the risks of data breaches and identity theft intensify. Recent reports show that cyber incidents in Malaysia have risen by 43% between 2022 and 2024, with phishing and ransomware attacks targeting financial and government platforms (MyCERT, 2025). Such vulnerabilities have implications beyond technical risk, as taxpayer perceptions of security and privacy directly affect voluntary compliance (Yusoff et al., 2022). This makes Malaysia's situation distinct from some OECD economies, where stronger cybersecurity infrastructures and trust frameworks are already in place. Emerging technologies such as blockchain and artificial intelligence (AI) also hold promise for Malaysia's tax administration but remain underutilized. International systematic reviews suggest that blockchain can enhance auditability and transparency in taxation, particularly for e-invoicing and cross-border transactions (Georgiou, 2024). Similarly, AI applications have been shown to improve fraud detection and audit targeting, though their effectiveness depends on governance and ethical safeguards (Hesami, 2024; Munjeyi, 2024). Malaysia has only begun exploring these tools, and there is a

lack of empirical evidence on their feasibility and taxpayer acceptance. Future research should therefore examine the extent to which AI and blockchain could be integrated into Malaysia's digital tax ecosystem, while also evaluating the regulatory, cultural, and institutional barriers that might constrain adoption.

Study (author, year)	Country / Region	Years covered	Technology	Method	Main finding	Relevance to Malaysia
OECD (2021) — <i>Tax Administration: Digital Resilience in COVID-19</i>	Multi-country OECD	2020–2021	e-services, remote work, digital case management	Policy review / global survey	Digitalisation enabled continuity of services; stresses need for resilient IT and remote service channels.	Places Malaysia's post-COVID push in international context; highlights resilience and systems design lessons.
Hesami (2024) — <i>Digital Transformation e-Invoicing & Prefilling</i>	Global systematic review	2014–2023	E-invoicing, prefilling tax returns	Systematic review / PRISMA	E-invoicing & prefilling typically reduce tax gaps and administrative costs; implementation complexity matters.	Supports hypothesis that Malaysia's MyInvois and prefilled returns can reduce evasion—implementation details (phasing) are crucial.
Jenkins / QED DP (2023–24) — <i>e-Invoicing / Prefill review</i>	Global	2018–2023	E-invoicing, prefilled returns	Literature review	Prefilling and e-invoicing produce measurable compliance gains; SME impacts vary.	Reinforces need to study Malaysian SME readiness and transitional costs.
Azham (2024) — <i>Assessing the Challenges of</i>	Malaysia	2020–2023	e-Filing, e-services	Systematic descriptive review	Identifies barriers in infrastructure, skills and legal frameworks	Directly documents Malaysia-specific barriers—calls for

<i>Digitalizing Tax Administration</i>					for Malaysia.	empirical follow up.
Georgiou (2024) — <i>Blockchain for Accounting & Auditing</i>	Global	2019–2024	Blockchain	Thematic synthesis	Blockchain has promise for traceability but faces regulatory, integration challenges.	Useful for evaluating blockchain proposals for e-invoicing or audit trails in Malaysia.
Industry / policy briefs (PwC, Wolters Kluwer, Sovos, 2024)	Malaysia	2023–2024	e-Invoicing (MyInvois)	Implementation guides / policy notes	Phased rollout (Aug 2024 onward); compliance thresholds; integration guidance for enterprises.	Provide up-to-date policy timeline and practical issues for Malaysian firms.

Methodology

This study adopts a conceptual research design aimed at synthesizing and critically analysing existing scholarship, policy documents, and practice-based reports on digitalizing tax administration. Unlike empirical studies that rely on primary data collection, conceptual papers build theory and generate insights by integrating diverse strands of literature and policy evidence (Jaakkola, 2020). Accordingly, this article reviews scholarly publications, government reports, and industry analyses published between 2020 and 2025, with particular emphasis on developments in Malaysia alongside relevant global and regional experiences. The methodology is structured around three stages. First, a comprehensive literature mapping was conducted using academic databases such as Scopus, Web of Science, and Google Scholar to identify peer-reviewed studies on tax digitalization, e-filing, e-invoicing, artificial intelligence, blockchain applications, and cybersecurity in taxation. Grey literature—including reports from the Inland Revenue Board of Malaysia (IRBM), the Organisation for Economic Co-operation and Development (OECD), and major consultancy firms—was also incorporated to capture recent reforms and practical insights. Second, a critical synthesis approach was employed, comparing global findings with Malaysia’s localized challenges and opportunities. This step allowed the identification of shared benefits (such as efficiency gains and cost saving) as well as context-specific challenges (such as digital readiness, infrastructural disparities, and cybersecurity). Third, the findings were organized thematically to highlight the opportunities and challenges, of digital tax administration in Malaysia, guided by the theoretical lens of digital governance and fiscal modernization. Given its conceptual orientation, this paper does not seek to test hypotheses empirically but rather to advance theoretical and policy understanding by clarifying knowledge gaps and proposing directions for future research. In doing so, it contributes to the literature by situating Malaysia’s digital tax reforms within broader debates on efficient, inclusive, and secure governance, while offering a framework for subsequent empirical studies.

Discussion

Opportunities on Digital Tax Administration

Efficiency and Cost Reduction

Digitalizing tax administration in Malaysia has brought about significant advancements in both the efficiency of government operations and the convenience for taxpayers. The transition from traditional methods to digital systems not only improves the speed of processes but also enhances accuracy and reduces operational costs. Digital platforms have significantly lowered administrative costs for both the government and taxpayers. Automation reduces reliance on manual processes, which are more prone to human error, inconsistencies, and inefficiencies. This shift to digital systems allows the tax authorities to redirect resources towards other priorities while ensuring a more efficient use of available funds (Rahim et al., 2021). The implementation of e-Filing, for instance, has led to substantial reductions in operational costs. According to recent studies, adopting e-Filing has resulted in a cost reduction of up to 15% in administrative expenses compared to the traditional manual filing process (Ali et al., 2021). These savings arise from decreased paper usage, reduced administrative labour, and fewer errors in data handling that would otherwise require additional time and resources to address. As digital systems become more widely adopted, the cumulative savings for both the government and taxpayers continue to grow. The automation of routine tasks such as data entry, verification, and document processing has significantly sped up tax administration. This not only reduces costs but also improves the quality-of-service delivery to taxpayers, who benefit from quicker processing times and greater accuracy in their tax assessments.

Increased Tax Compliance

The use of real-time data analytics in digital tax systems enables authorities to detect non-compliance and tax evasion more effectively. Automated systems cross-reference taxpayer information with other databases, ensuring that all income sources are accurately reported (Mohamad et al., 2022). Additionally, simplified digital interfaces encourage more taxpayers to file returns voluntarily, as the processes are less cumbersome (IRBM, 2022). Digital platforms also help reduce the psychological barriers associated with tax compliance. By providing taxpayers with step-by-step guides and pre-filled tax forms, systems like HASIL e-Filing make compliance more straightforward, even for first-time users (Rahim et al., 2021). Additionally, digitalization enhances data security through advanced encryption and real-time monitoring, mitigating risks of fraud and data breaches (Hidayat et al., 2024). It has the potential to enhance tax compliance by simplifying processes and reducing errors in tax filings. Automated systems can minimize human intervention, thereby decreasing opportunities for fraud and corruption (Ali et al., 2023).

Integration with Big Data

The integration of digital records in tax systems enhances accountability by creating tamper-proof audit trails. This transparency reduces the likelihood of corruption and fosters trust between taxpayers and the government (Ali et al., 2021). Digital records also allow for real-time tracking of tax payments and refunds, ensuring that taxpayers are well-informed about their financial transactions with the tax authorities (Economic Planning Unit, 2021). For instance, the MyTax Portal provides detailed breakdowns of taxpayer liabilities, payments, and refunds. Such transparency is crucial in promoting fairness and equity in the tax system (Mohamad et al., 2022). Another opportunity lies in leveraging data analytics and artificial intelligence to identify tax risks and improve decision-making. This capability enables the

IRBM to focus on high-risk taxpayers while minimizing audits for compliant taxpayers. Furthermore, digital systems support better policy design by providing policymakers with timely and accurate data.

Enhanced User Experience

User-friendly digital platforms have transformed the taxpayer experience by reducing the complexity of tax filing and payment. Systems like HASIL e-Filing and MyTax Portal offer intuitive interfaces, making it easier for taxpayers to navigate and complete transactions (IRBM, 2022). Recent advancements include the incorporation of multilingual support and accessibility features, ensuring inclusivity for diverse user groups (Rahim et al., 2021). Taxpayers can also benefit from round-the-clock access to digital services. Features such as real-time chat support and automated help desks provide immediate assistance, addressing common queries and reducing the need for physical visits to tax offices (Mohamad et al., 2022). Enhanced user experience directly correlates with higher satisfaction and improved compliance rates. Digital transformation also promotes inclusivity by enabling remote access to tax services, particularly benefiting rural and underserved communities. This aligns with Malaysia's goal of fostering equitable economic growth through digital inclusivity. By enabling real-time data collection and analysis, it will empower the IRB to make informed decisions and improve policy implementation. Furthermore, the integration of digital technologies aligns with Malaysia's broader digital economy agenda, fostering innovation and boosting investor confidence.

Cross-Border Tax Collaboration

With increasing globalization, cross-border tax evasion remains a significant challenge. Digital platforms facilitate international collaboration by enabling secure information exchange between countries. Systems like the OECD's Common Reporting Standard (CRS) provide frameworks for automatic exchange of financial account information to detect tax evasion (OECD, 2020). For Malaysia, integrating its tax systems with global platforms can enhance its ability to track offshore accounts and combat base erosion and profit shifting (BEPS). Such measures not only improve tax compliance but also foster trust among international trade partners (Mohamad et al., 2022).

Challenges on Digital Tax Administration

Data Security and Privacy

Ensuring robust data security and privacy measures is a cornerstone of maintaining trust in digital tax systems. The increased reliance on digital platforms for tax administration exposes sensitive taxpayer data to numerous cybersecurity risks, including hacking, phishing, ransomware attacks, and data breaches. In Malaysia, the Inland Revenue Board of Malaysia (IRBM) has implemented key security protocols, such as data encryption, multi-factor authentication (MFA), and firewalls, to safeguard taxpayer information (Ali et al., 2021). However, the dynamic nature of cybersecurity threats demands a proactive approach, including the continuous monitoring of digital infrastructure, periodic vulnerability assessments, and the timely updating of security protocols to address new vulnerabilities and sophisticated attack techniques (Mustapha et al., 2020). Studies highlight that a breach in data security can result in reputational damage, legal consequences, and financial losses for tax authorities, ultimately eroding taxpayer trust and discouraging digital adoption (Rahim et al., 2021). Furthermore, taxpayers are increasingly concerned about how their data is stored, processed, and shared, necessitating greater transparency and compliance with privacy regulations like the Malaysian Personal Data Protection Act 2010 (PDPA) (Ismail et al., 2022). Emerging technologies, such

as artificial intelligence (AI) and blockchain, could play a vital role in enhancing the security of digital tax systems. For instance, blockchain technology can improve data integrity and audit trails, while AI-powered systems can detect and mitigate threats in real-time (Hassan et al., 2023). However, these technologies require significant investment, technical expertise, and a clear regulatory framework to be effectively implemented (Zain et al., 2023).

Resistance to Change

Resistance to digital transformation in tax systems is a significant challenge that often stems from both institutional inertia and a preference for familiar processes. Tax authorities, businesses, and even taxpayers may resist adopting digital systems for several reasons. Many tax authorities and businesses are accustomed to manual processes or legacy systems. Transitioning to digital systems often requires substantial retraining, adaptation of workflows, and overcoming fears of unfamiliar technology. This resistance can delay the implementation of digital tax systems and reduce their effectiveness (OECD, 2021). There is often a lack of trust in the reliability and security of digital tax systems. Stakeholders may worry about issues like data privacy, system glitches, or the risk of cyberattacks, which could lead to financial or reputational harm. This scepticism can make tax authorities and businesses hesitant to fully embrace digital tools (UNCTAD, 2021).

Digital Divide

Limited digital literacy and access to technology in rural areas present significant barriers to the equitable adoption of digital tax systems in Malaysia. While urban taxpayers leverage the advantages of seamless access to online tax platforms, rural populations often face challenges due to inadequate internet infrastructure, lack of digital skills, and limited exposure to technological tools (Zainuddin et al., 2020). These disparities highlight a growing digital divide, which risks marginalizing rural taxpayers from participating fully in a digitalized tax environment (Ismail et al., 2021). To address these challenges, a multifaceted approach is essential. Investments in digital literacy programs tailored to rural communities can empower individuals to navigate digital tax systems confidently (Economic Planning Unit, 2021). Such programs should focus on practical skills, including using digital devices, accessing online platforms, and understanding the security aspects of digital transactions (Rahman et al., 2022). Additionally, expanding broadband infrastructure in underserved regions is crucial to ensure reliable and affordable internet access. Government initiatives, such as the National Fibreisation and Connectivity Plan (NFCP), aim to improve internet penetration in rural areas and reduce connectivity gaps (Ministry of Communications and Multimedia Malaysia, 2021). Collaborations between the public and private sectors can further accelerate these efforts by leveraging resources and expertise to develop cost-effective and scalable solutions (Yusoff & Abdullah, 2023).

System Integration

Integrating legacy systems with new digital technologies poses significant challenges, particularly in developing countries like Malaysia, where many tax systems were originally designed for manual or outdated processes. These systems often lack the flexibility and scalability needed to adapt to modern digital platforms, resulting in compatibility issues that hinder the digitization process (Hassan et al., 2020). For instance, the transition from paper-based to fully automated systems require reengineering existing workflows and ensuring the integrity of historical data, which can be both time-consuming and resource-intensive (Zulkifli et al., 2021). Additionally, substantial financial investments are needed to upgrade these legacy systems, including the procurement of new hardware, software, and technical expertise.

Governments may face budget constraints, leading to delays or compromises in the implementation of digital solutions (Farid et al., 2023). The lack of skilled personnel to manage these complex integrations further exacerbates the problem, as public sector employees may require extensive training to operate and maintain the new systems effectively (Hamzah et al., 2022).

Ensuring interoperability between various government departments is another critical factor in achieving seamless data sharing. Tax systems must align with other government platforms, such as customs, immigration, and social security systems, to facilitate real-time data exchange and improve tax compliance (Rahman et al., 2021). This requires developing standardized data formats and protocols, which can be particularly challenging in systems with disparate technologies and operational structures (Ali et al., 2022). As a result, the integration process often demands meticulous planning and collaboration among multiple stakeholders, including policymakers, IT experts, and industry professionals (Yusoff et al., 2023).

Data Accuracy and Quality

The effectiveness of data-driven insights in digital tax systems heavily relies on the accuracy, consistency, and completeness of the data that is collected and processed. If the data used in analytics is flawed or incomplete, it can have significant negative consequences for both tax administration and taxpayers. Errors in data entry can occur due to human mistakes, system glitches, or miscommunication between different parties involved in tax reporting. For instance, incorrect tax filings or mismatched information between taxpayers and tax authorities can distort the analytics process, leading to misguided conclusions about tax compliance or non-compliance. As digital systems rely on large volumes of data to generate insights, even minor inaccuracies can snowball and result in significant errors in tax policy or enforcement (Ali et al., 2021). For example, erroneous data could lead to false identification of non-compliant taxpayers, resulting in unnecessary audits or penalties, which undermine the credibility and trust in the system.

A lack of transparency regarding how collected data is used can exacerbate privacy concerns. Taxpayers need clear assurances that their data will be used solely for tax compliance and will not be exploited for other purposes. The integration of data analytics tools in tax systems often involves the use of algorithms that may not be fully understood by the public or businesses. If taxpayers feel that their data is being used in ways they don't understand or agree with, it could damage trust in the digital tax system and lead to resistance to participation (PwC, 2023).

Conclusion

The digitalization of tax administration in Malaysia represents a crucial shift toward enhancing the efficiency and effectiveness of the country's tax system. This transformation is part of broader efforts to modernize public sector services, improve compliance, reduce tax evasion, and foster economic growth. However, while the opportunities are substantial, the implementation of digital tax systems presents a range of challenges that must be addressed to ensure inclusivity, equity, and sustainability. One of the key benefits of digital tax systems is the potential for improving tax compliance. Digitalization allows for real-time tracking of transactions, reducing opportunities for evasion and fraud. For example, Malaysia's Digital Services Tax (DST), which was implemented in 2020, aims to capture tax on digital services provided by foreign companies. With digital tools, the tax authorities can more easily monitor and assess cross-border e-commerce transactions, improving tax collection efficiency (Royal Malaysian Customs Department, 2021). This digital approach enhances transparency, as it

creates an auditable trail of transactions that can be easily monitored and reviewed by tax authorities, reducing the risks of corruption and errors (OECD, 2021).

Digitalization can significantly streamline administrative processes, reducing the time and resources required to handle tax filings, assessments, and refunds. Automation of tasks such as data entry, verification, and report generation can lead to faster tax assessments and refunds, minimizing delays and improving the taxpayer experience (UNCTAD, 2021). Moreover, with the use of artificial intelligence (AI) and machine learning (ML), tax authorities can automate the identification of non-compliance patterns, allowing for more effective audits and reducing the burden on human resources (PwC, 2023). As the government digitizes its tax collection and administration systems, the security of taxpayers' personal and financial data becomes a critical concern. Cyberattacks on tax systems could lead to the loss or misuse of sensitive information, undermining public trust and potentially damaging the economy (OECD, 2021). Data breaches, hacking, and phishing attacks are growing risks in an increasingly digital landscape, particularly as digital tax platforms collect vast amounts of personal, financial, and transaction data. Malaysia must invest in robust cybersecurity measures, including encryption, multi-factor authentication, and regular security audits, to ensure that taxpayer data remains protected (PwC, 2023). Additionally, fostering a culture of cyber awareness among tax authorities and the public will be essential in safeguarding digital tax initiatives.

The successful implementation and sustainability of a digital tax system require significant investment in both technological infrastructure and human resources. While Malaysia has made strides in digitalizing its tax administration, resource constraints, particularly in terms of skilled labour remain a challenge. Tax authorities must train staff in new digital tools, data analysis techniques, and cybersecurity measures. At the same time, businesses, particularly SMEs, may face challenges in adopting digital solutions due to resource limitations, further widening the gap between large corporations and smaller entities (Ali et al., 2021).

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