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Automated Tax Assessment Systems: Stakeholder Impacts, Benefits, Challenges, and Future Trends

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Objective: The purpose of this study is to examine the multifaceted impact of the Automated tax systems in Australia, Estonia, Singapore, India, South Africa, Sweden, and the United Kingdom, where varying degrees of tax automation have been implemented. **Prior Work:** Automated tax assessment systems have fundamentally transformed tax administration worldwide, with significant implications for taxpayers, governments, tax professionals, and software developers. **Approach:** This study uses document analysis, and the relevant keywords were used to select the appropriate articles from academic databases, including ScienceDirect and Google Scholar. **Findings:** The analysis reveals that automation delivers substantial benefits, including improved compliance rates, reduced processing times and decreased administrative costs. Taxpayers benefit from simplified filing procedures and faster refunds, while governments gain access to real-time data analytics and improved fraud detection capabilities. However, these systems also present notable challenges, including digital divide concerns, vulnerabilities, and adaptation requirements for tax professionals whose roles are evolving from data processors to strategic advisors. **Implications:** The research further explores future implications as artificial intelligence and machine learning capabilities advance, suggesting a trajectory toward increasingly personalised tax services, enhanced predictive compliance models, and potential shifts in tax policy design. The analysis suggests that successful implementation requires robust digital

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infrastructure, comprehensive stakeholder education and adaptive regulatory frameworks. As tax automation continues to evolve with artificial intelligence integration, policymakers must balance technological advancement with equitable access and appropriate human intervention to ensure these systems serve the diverse needs of all stakeholders while maintaining public trust. **Value:** The main contribution of this study is improved compliance rates and revenue collection.

Keywords: Auto assessment; electronic tax filing; SARS; E-filing; Tax compliance; Artificial intelligence

JEL Classification: H21

1. Introduction

The implementation of automated assessment systems in taxation has rapidly spread across many jurisdictions. In an auto-assessment system, the responsibility for determining and filing taxes largely rests with taxpayers, either through self-assessment (where taxpayers accurately declare their income and claim legitimate deductions) or through automated platforms (Nkosi, 2024). It represents a significant shift from traditional tax filing, which was often dependent on professional tax preparers or manual submission to tax authorities. While automation can bring several benefits, its effects extend beyond just the taxpayers themselves, affecting tax preparers, tax authorities, and the entire economic system.

This study examines the complex impact of these systems in Australia, Estonia, Singapore, India, South Africa, Sweden, and the United Kingdom, where varying degrees of tax automation have been implemented. The rationale for implementing automated tax systems is multifaceted. From a government perspective, these systems offer opportunities to enhance revenue collection, reduce administrative costs, and combat tax evasion through advanced data analytics and cross-referencing capabilities. For taxpayers, automation promises simplified compliance procedures, reduced paperwork, reduced compliance costs, and faster processing of refunds. Tax professionals face a shifting landscape where routine tasks are increasingly automated, necessitating a pivot toward more advisory and strategic services.

Despite these potential benefits, the implementation of tax automation has not been without challenges. Questions persist about equitable access, with the digital divide particularly acute in regions with limited technological infrastructure or low digital literacy. Privacy and security concerns have emerged as tax authorities accumulate unprecedented volumes of sensitive financial data. Additionally, the reduction in human oversight raises questions about the accuracy of automated assessments and

appropriate remediation channels for taxpayers who dispute automated determinations.

This study contributes to the growing body of literature on tax automation by providing a comprehensive, multi-country analysis that examines impacts across diverse stakeholder groups. By analysing experiences in Australia, Estonia, Singapore, India, South Africa, Sweden, and the United Kingdom, we identify common benefits, recurring challenges, and emerging trends in the evolution of tax automation. Our findings have significant implications for policymakers, tax administrators, and technology developers as they navigate the balance between technological efficiency and equitable and transparent tax administration.

2. Critical Overview of Literature

2.1. Introduction

The digitalisation of tax administration represents one of the most significant transformations in public governance over the past two decades. An automated tax assessment system is a technological platform that facilitates the electronic filing, processing and assessment of tax returns with minimal human intervention and has been widely adopted across both developed and emerging economies. These systems promise to revolutionise the traditionally cumbersome, paper-intensive processes of tax collection, potentially yielding benefits for multiple stakeholders in the tax ecosystem (OECD, 2022).

2.2. Theoretical Frameworks

The implementation of automated tax systems is examined through several theoretical lenses. The Technology Acceptance Model (Davis, 1989) provides insights into the factors influencing taxpayer adoption of digital filing systems, highlighting the importance of perceived usefulness and ease of use. Institutional theory (North, 1990) explains variations in implementation approaches across different jurisdictions, emphasising how existing institutional arrangements shape technology adoption paths.

From a public administration perspective, the New Public Management paradigm has influenced the design of many automated tax systems, with its emphasis on

efficiency, customer service, and performance measurement (Hood, 1991). More recently, the concept of "Government as a Platform" (O'Reilly, 2011) has informed the development of integrated tax services that connect with broader e-government ecosystems, particularly evident in Estonia's X-Road infrastructure.

2.3. Historical Evolution of Tax Automation

The evolution of tax automation has progressed through distinct phases, beginning with early computerisation efforts in the 1980s and 1990s that primarily focused on internal record-keeping systems within tax authorities (Chen et al., 2019). The advent of internet-based technologies in the early 2000s enabled the development of the first generation of e-filing systems, which allowed taxpayers to submit returns electronically but still required substantial manual processing (World Bank, 2020).

More recently, advanced automation has integrated artificial intelligence, machine learning, and data analytics capabilities, enabling systems that can automatically verify information, identify discrepancies, and even generate pre-filled returns based on third-party data sources (Gupta et al., 2021). Estonia's e-Tax system, implemented in the year 2000, pioneered the concept of pre-populated tax returns, dramatically reducing the time required for filing tax returns (Krimmer et al., 2018). Similarly, Australia's "myTax platform" now incorporates data from employers, banks, and government agencies to streamline the filing process for individual taxpayers (Australian Taxation Office, 2023).

The traditional tax system requires paper filings and numerous face-to-face interactions between taxpayers and tax authorities. This system presents numerous challenges, including high compliance costs, collusion with tax authorities or their extortion and inadequate tax records that restrict tax agencies' capacity to perform analyses for monitoring compliance and forecasting. Despite the potential of new technology to digitise taxpayer services, significant obstacles to adopting these technologies could limit the prospects for revenue generation (Okunogbe and Santoro, 2023a).

According to Okunogbe and Santoro (2023a), for widespread acceptance of e-services to happen, tax officials must ensure that the development of new technology is accompanied by comprehensive training, support, and awareness, particularly for disadvantaged taxpayers who are at high risk of being marginalised. On the other hand, another concern about taxpayers is that they might react in a way that

counteracts the benefits of technology in terms of improving their tax compliance; for instance, they might under-declare on other parts of their tax return to make up for any revenue that SARS reports as a result of being collected from third parties. This implies that traditional tactics such as audits to uncover tax evasion are not replaced by technology. Instead, technology can support traditional enforcement by assisting in analysing large amounts of third-party data to identify taxpayers at higher risk of noncompliance with tax laws.

In South Africa, the auto assessment system currently covers a limited scope of individual taxpayers whose tax affairs are considered less complicated. It prepopulates information from third parties, mainly income from employment, some of the investment income and standard deductions, including medical schemes and retirement fund. This results in an incomplete submission of income tax returns.

2.4. Benefits of Auto Assessment

2.4.1. Increased Convenience and Efficiency

The auto-assessment systems provide a more convenient and streamlined method for individual taxpayers' submission of personal income tax returns (Nkosi, 2024). With digital tools, many calculations and tax return submissions are automated, reducing the time and effort typically required. These systems often integrate with financial institutions and employers, reducing the need for manual data entry and ensuring greater accuracy (Nkosi, 2024).

2.4.2. Improved Compliance

Simplified process encourages taxpayers to be more inclined to file returns on time, potentially increasing tax compliance rates. The clarity of the system, along with reminders and prompts from automated platforms, can encourage adherence to deadlines and lessen the likelihood of errors in tax filings (Smith & Johnson, 2020).

2.4.3. Streamlined Operations and Reduced Workload

For tax authorities, the auto-assessment system can offer substantial administrative benefits. With taxpayers calculating their own taxes, tax authorities can focus more on audits, compliance enforcement and data analysis rather than processing each return individually. Automated systems enable faster return processing and greater efficiency in identifying discrepancies (Bhengu, 2023).

2.5. Potential Challenges of Auto Assessment

Auto-assessment systems can also present challenges for certain taxpayers. Those with complex tax situations or limited technological literacy might struggle with self-calculation. Moreover, taxpayers may not always be fully aware of the system's limitations, leading to inaccuracies or missed deductions.

There is a burden on taxpayers to audit their tax returns when verifying the information and third-party information on auto-assessed tax returns (Okunogbe & Santoro, 2023b). The taxpayer is expected to understand the auto-assessment process, the application of tax legislation in calculating tax liability and the process for requesting a revision of the auto-assessed return. The auto assessment tax system reduced tax compliance burden for taxpayers with basic income tax returns, such as taxpayers with one source of Income; however, taxpayers encounter penalties for any undeclared income that may be discovered at a later stage and also remain fully responsible for the accuracy of their assessments (Nkosi, 2024).

Tax practitioners, including accountants and tax consultants, face a significant shift in their roles due to auto-assessment systems (Buckley et al., 2022). The automation of simple returns reduces the need for professional tax assistance, as many individuals can now file their returns without external support. This has led to a decline in demand for basic tax preparation services. Regardless of the diminished demand, the Thomson Reuters Institute (2025) assert that tax practitioners have a duty to advise their clients to be completely transparent in their declarations and to advise on current trends.

Although some areas of tax preparation may diminish, opportunities emerge for tax professionals to specialise in more complex returns. Tax practitioners can assist clients with complex tax situations, offer advice on optimising tax strategies and help navigate challenges arising from the system's automated features. According to the Thomson Reuters Institute (2025) report, for some tax professionals, auto-assessment may add pressure to stay up to date with continuously evolving systems, algorithms, and tax regulations. Professionals are now expected to provide strategic, value-added services rather than just basic return preparation.

2.5.1. Accuracy

SARS assesses taxpayers based on the information available to it, which is obtained from third parties. Despite the nature of the system, the taxpayer remains fully responsible for the accuracy of their assessments (Tax Consulting South Africa,

2024). Potential deductions and credits available to the taxpayer may not be considered through auto assessment. This may disadvantage the taxpayer from claiming these deductions. Errors in information captured by third parties, such as medical certificates, IRP5s, etc., may lead to incorrect tax returns/assessments. The taxpayer may end up paying more tax or be charged penalties for under-provision of provisional taxes (Hidayat & Defitri, 2024).

2.5.2. Risks of Error and Compliance Issues

Tax authorities also face challenges in managing the accuracy of the information provided by taxpayers. Errors, whether due to misunderstandings, fraud or system glitches, can complicate the enforcement of tax laws (Okunogbe & Santoro, 2023b). Furthermore, if too many taxpayers fail to understand the intricacies of their returns fully, it may undermine the system's credibility and hinder efforts to ensure fair taxation.

2.5.3. Data Security and Privacy Concerns

The digital nature of auto-assessment raises concerns about data security and privacy. Tax authorities must maintain stringent safeguards against cyber threats to protect sensitive taxpayer data (Hidayat & Defitri, 2024). Breaches could have significant repercussions, including public trust and regulatory penalties.

2.6. Empirical Studies on Tax Automation Impacts

Empirical research on the impacts of tax automation has typically focused on specific countries or regions. Santoro et al. (2020) documented increased tax compliance following the introduction of electronic filing systems in Rwanda, while Okunogbe and Pouliquen (2022) found that e-filing reduced corruption opportunities in tax administration in Tajikistan. In more developed economies, Pippin and Tosun (2014) examined the relationship between e-filing rates and tax compliance in the United States and found modest positive effects.

Studies examining multiple stakeholder perspectives remain relatively limited. Carter et al. (2020) surveyed taxpayers and tax professionals in Australia, highlighting divergent perceptions of system usability and benefits. Fewer studies have comprehensively examined how automation impacts the work of tax professionals, though Frey and Osborne (2017) identified tax preparation as a field highly susceptible to automation.

A notable gap in the literature concerns the longitudinal impacts of tax automation, particularly as systems evolve to incorporate more advanced artificial intelligence capabilities. Additionally, comparative studies examining implementation approaches across different cultural and economic contexts remain underrepresented in the research landscape.

3. Methodology

3.1. Research Design

This study employed a qualitative research design to capture the effects of automated tax systems, done through document analysis as detailed below:

3.1.1. Document Analysis

Relates to the comprehensive review of government reports, policy documents, and official statistics from tax authorities in the seven target countries.

The auto assessment infrastructure in South Africa was established in 2019 and is based on the principle of connectivity with big data. SARS launched the Auto assessment tax system in July 2020; as a result, the documents analysed were limited to the period from July 2020 to July 2025. However, for the remaining countries included in this study, the analysis covers the period from the inception of their auto-assessment system to the present.

3.2. Country Selection Criteria

The seven countries included in this study are Australia, Estonia, Singapore, India, South Africa, Sweden and the United Kingdom, and were selected based on the following variables:

- **Diversity in Implementation Approaches:** Ranging from Estonia's fully integrated e-government ecosystem to India's more recently developed GST Network
- **Variation in Economic Development:** Including both high-income economies (Australia, Singapore, Sweden, UK) and emerging economies (India, South Africa)

- **Geographic Distribution:** Representing different regions globally with varying cultural and institutional contexts
- **Maturity of Systems:** Including early adopters (Estonia, Sweden) and more recent implementers (India, South Africa)

This selection enabled meaningful comparisons while identifying both universal trends and context-specific factors in tax automation implementation.

3.3. Data Collection and Analysis

Documents were analysed based on variables such as Government and Administrative Benefits, Taxpayer Benefits, and Professional Service Transformation. The following notable findings were of imperative interest and are detailed below.

4. Findings

4.1. Benefits of Automated Tax Assessment Systems

4.1.1. Government and Administrative Benefits

Across all studied countries, automated tax systems demonstrated significant administrative efficiency gains. In Australia, the cost of processing a tax return decreased by 74% following full implementation of the “myTax system” (Australian Taxation Office, 2023). Similarly, Estonia's e-Tax system reduced administrative costs by approximately €2.8 million annually (Estonian Tax and Customs Board, 2022).

Tax compliance rates showed modest but consistent improvements across jurisdictions. In Singapore, compliance rates for small businesses increased from 78% to 91% following the introduction of the enhanced e-filing system (Inland Revenue Authority of Singapore, 2022). India's “GST Network” implementation coincided with a 12% increase in registered taxpayers within the first 18 months of operation (Indian Ministry of Finance, 2023).

The data analytics capabilities embedded in modern tax systems have significantly enhanced fraud detection. In the United Kingdom, HMRC's Connect system has identified an additional £3 billion in tax revenue through advanced pattern

recognition and cross-referencing capabilities (HMRC, 2023). One tax administrator described this transformation:

What previously required months of manual investigation can now be flagged automatically through pattern detection algorithms. With the advent of tax return automation, it is not only the fast processing of returns, but also the identification of non-compliance that would have gone undetected in the paper-based system (Akinrinola et al., 2024).

4.1.2. Taxpayer Benefits

The results indicated high satisfaction levels among taxpayers using automated systems, reporting improved experiences compared to previous paper-based processes (Islam et al., 2025). The primary benefits included:

- **Time Savings:** Average time for completing tax returns decreased across the seven countries
- **Faster Refunds:** Processing times for tax refunds decreased.
- **Error Reduction:** Pre-filled information and automated calculations reduced common errors.

Taxpayers in countries with more advanced systems, particularly Estonia and Sweden, reported the highest satisfaction levels:

The Swedish Ministry of Finance, 2025 and Boyoli (2022) asserted that taxpayers now spend as little as about 5 minutes checking their pre-filled tax returns, as the system would have already incorporated their salaries, deductions and investment income correctly.

4.1.3. Professional Service Transformation

Tax professionals reported significant shifts in their service models, with 68% indicating they had reoriented their practice toward advisory services rather than compliance work. This transformation was particularly pronounced in Australia and the UK, where advanced automation has been in place the longest:

Over the past decade, tax professionals have experienced a significant shift in revenue composition, with declining reliance on basic tax return preparation and growing emphasis on advisory services, financial planning, and business strategy. This transformation is not fighting automation; it is leveraging it to provide higher-value services (Thomson Reuters Institute, 2023).

Professional associations in several countries have responded by updating certification requirements and continuing education programs to emphasise advisory skills, data analysis capabilities, and technology expertise.

4.2. Challenges and Limitations

4.2.1. Digital Divide Concerns

Despite the overall positive impacts, significant challenges to the digital divide were identified across all the studied countries. In South Africa, survey data revealed that taxpayers over 60 years of age were three times more likely to report difficulties with the e-filing system compared to those under 35 years of age (Gwala & Mawela, 2024). According to Sindakis & Showkat (2024), rural taxpayers in India reported access challenges and indicated that they needed assistance from intermediaries to complete electronic filing.

Tax administrators acknowledged the persistence of digital literacy gaps, such as the recognition that not everyone is equally comfortable with digital platforms and continue to maintain support centres and implement digital assistant programs. All the same, the resource allocation is challenging; there is a need to balance support for those who struggle with investments in advancing the system (SARS, 2025).

4.2.2. Privacy and Security Concerns

Cybersecurity vulnerabilities and data privacy concerns emerged as significant issues across all jurisdictions. In Singapore, broader surveys have shown that the majority of taxpayers expressed concern about cybersecurity and data privacy. With 42% of organisations reporting that data protection and security remain significant concerns as digitalisation rises, highlighting underlying trust and privacy challenges related to centralised digital information systems (PWC, 2024).

Tax professionals highlighted the tension between data integration benefits and privacy risks:

The more integrated and seamless these systems become, the more comprehensive the data collection. That creates both opportunities for better service and risks if that data is compromised. Finding the right balance is the key challenge facing tax authorities globally (Nkosi, 2024).

4.2.3. System Reliability and Redress Mechanisms

All studied countries experienced technical challenges during peak filing periods, with system outages or slowdowns reported in Australia, India, and South Africa within the past three years. Additionally, concerns were raised about the adequacy of error correction and dispute resolution mechanisms in automated systems:

When the algorithm makes a mistake, getting it corrected can be frustratingly difficult. The system flags 'inconsistencies' that are actually legitimate, but challenging the automated assessment often requires escalation through multiple levels (Islam et al 2025).

Tax professionals similarly reported difficulties navigating redress mechanisms when automated assessments contained errors, research suggest that dispute resolution processes had become more complicated following automation (OECD, 2025).

4.3. Country-Specific Implementation Experiences

4.3.1. Estonia: The Digital Pioneer

Estonia's approach to tax automation is embedded within its broader e-government framework, with the X-Road system enabling secure data exchange across government databases. This integration has enabled one of the world's most efficient tax filing systems, with 98% of tax returns filed electronically and 97% of those pre-filled with accurate information (Estonian Tax and Customs Board, 2022).

A key success factor in Estonia's implementation was the early and sustained investment in digital infrastructure and public digital literacy:

Digital literacy was approached as a basic citizen right from the early 2000s. The government invested in training programs, public access points and simplified interfaces to enhance user experience. Now, e-services are simply how the government works (Boyoli, 2022).

4.3.2. South Africa: Navigating Infrastructure Limitations

South Africa's e-filing system has achieved notable success despite infrastructure challenges, with 78% of individual tax returns now submitted electronically (South African Revenue Service, 2023). However, implementation has been hampered by uneven internet access across the country and electricity supply instability.

To address these challenges, South Africa developed a hybrid approach:

South Africa implemented mobile tax units that visit remote areas during filing season, establishing partnerships with community centres to provide assistance and digital access, thereby developing a simplified mobile interface that works even with limited connectivity (South African Revenue Service, 2025).

These adaptations underscore the need for implementation approaches to be tailored to local contexts, rather than importing models wholesale from different environments.

4.3.3. India: Scaling Challenges and Solutions

India's implementation of the Goods and Services Tax Network (GSTN) represented one of the world's largest tax automation projects, requiring integration across multiple state-level tax systems. The scale of implementation presented unique challenges, with the system processing over 66 million returns monthly (Indian Ministry of Finance, 2023).

The initial implementation encountered significant technical difficulties, including system crashes and processing delays during the first year. However, iterative improvements and capacity enhancements have subsequently stabilised the system:

The lesson from India's experience is that phased implementation with adequate testing periods is essential for systems of this scale. The initial rollout was overly ambitious in terms of time frame, but the recovery and adaptation process has been impressive (Koley, 2025).

5. Future Implications and Emerging Trends

5.1. Artificial Intelligence and Machine Learning Integration

All seven countries are exploring enhanced artificial intelligence capabilities in their tax systems, with three primary applications emerging:

1. **Predictive Compliance Models:** Using historical data to identify potential non-compliance before returns are filed
2. **Natural Language Processing:** Improving taxpayer assistance through sophisticated chatbots and virtual assistants

3. **Automated Audit Selection:** Refining risk-based selection algorithms to target enforcement resources more effectively

Tax administrators expressed both enthusiasm and caution regarding these developments:

AI offers tremendous potential to personalise services and improve compliance, but we need robust ethical frameworks. The main concern is about algorithmic bias and maintaining appropriate human oversight in consequential decisions. (Islam et al. 2025).

5.2. Tax Policy Implications

Interviewees across all stakeholder groups identified potential shifts in tax policy design resulting from automation capabilities:

1. **Real-time Taxation:** Moving from periodic filing to continuous assessment and payment systems
2. **Micro-targeted Incentives:** Ability to implement and administer more granular tax incentives for specific behaviours or situations
3. **Consumption-based Taxation:** Enhanced ability to track and tax transactions, potentially shifting emphasis from income to consumption taxes

Policy experts emphasised that technological capabilities might fundamentally change what's administratively feasible:

Tax policy has historically been constrained by what is administratively practical to collect. As those constraints diminish through automation, we may see more complex and nuanced tax systems emerge. The question is whether that complexity serves taxpayer interests or merely government revenue objectives (Inter-American Centre of Tax Administrators, 2023).

5.3. Future Skills Requirements

Both tax administrators and tax professionals identified evolving skill requirements as automation advances:

1. **Data Science Capabilities:** Growing demand for professionals who can analyse and interpret large datasets
2. **System Design Expertise:** Need for specialists who understand both taxation and technology architecture
3. **Advanced Advisory Skills:** Increasing premium on professionals who can provide strategic guidance rather than technical compliance

Professional associations in all seven countries reported updating curriculum requirements to reflect these changing needs:

The future tax professionals need a hybrid skill set, understanding not just tax law but data analytics, technology systems and business strategy. The certification programs should be restructured around this new reality (Buckley et al., 2022).

6. Discussion

6.1. Balancing Efficiency and Equity

The findings highlight the fundamental tension between pursuing maximum efficiency through automation and ensuring equitable access for all taxpayer populations. While automated systems clearly deliver substantial efficiency gains, these benefits are not uniformly distributed. Digital divide issues persist across all studied countries, with elderly, rural, and lower-income populations consistently reporting greater challenges with automated systems.

This tension is particularly acute in countries with significant infrastructure limitations or socioeconomic inequalities. South Africa's hybrid model combining digital filing with targeted support services represents a promising approach to balancing these competing priorities. However, maintaining dual systems creates additional administrative complexity and cost.

The findings suggest that successful implementation requires explicit attention to equity concerns from the earliest design phases rather than addressing them as an afterthought. Estonia's emphasis on universal digital literacy from the outset of its digital transformation provides a valuable model, though one that requires substantial and sustained investment.

6.2. Evolving Regulatory Frameworks

The rapid evolution of tax automation has outpaced regulatory frameworks in most jurisdictions. While basic regulations governing electronic filing and digital signatures exist in all studied countries, more sophisticated governance mechanisms addressing algorithmic decision-making, data rights and system transparency remain underdeveloped.

Sweden's approach of establishing an independent oversight body with both technical expertise and legal authority represents a promising model for balanced regulation. This body reviews system changes, monitors performance metrics and serves as an escalation point for dispute resolution. Similar institutions could address the governance gaps identified in other jurisdictions.

The findings suggest that regulatory frameworks need to address three core dimensions:

1. **Transparency Requirements:** Establishing standards for explainable automated decisions and transparent disclosure of data usage
2. **Accountability Mechanisms:** Creating clear lines of responsibility for system errors and accessible redress channels
3. **Rights Protections:** Defining and enforcing taxpayer rights in an automated environment, including privacy protections and appeal processes

6.3. Implementation Best Practices

Cross-country comparison reveals several implementation factors associated with successful outcomes:

1. **Phased Implementation:** Countries that adopted iterative, multi-stage approaches reported fewer technical difficulties and higher stakeholder satisfaction compared to those pursuing rapid and comprehensive implementation
2. **Stakeholder Engagement:** Early and continuous involvement of diverse stakeholders, including taxpayer representatives, tax professionals and technology experts, was associated with more user-friendly systems and higher adoption rates

3. **Parallel Investments:** Countries that coordinated tax automation with broader digital infrastructure development and digital literacy initiatives achieved more equitable outcomes
4. **Balanced Incentives:** Effective implementation combined both positive incentives (time savings, faster refunds) and appropriate compliance requirements to drive adoption

These findings suggest that successful implementation requires attention not just to technical system design but to the broader ecosystem in which the system operates.

7. Conclusion

7.1. Key Findings

This study demonstrates that automated tax assessment systems deliver substantial benefits across multiple stakeholder groups, including enhanced revenue collection, reduced compliance burdens and new analytical capabilities for tax authorities. However, these benefits are accompanied by significant challenges, including concerns about the digital divide, cybersecurity vulnerabilities and emerging questions about appropriate governance frameworks.

The cross-country analysis reveals that implementation context matters significantly, with existing institutional arrangements, infrastructure capabilities and digital literacy levels shaping both implementation approaches and outcomes. While certain benefits, such as processing efficiency and error reduction were consistent across all jurisdictions, the distribution of these benefits varied considerably based on implementation approach and contextual factors.

7.2. Theoretical Contributions

This research contributes to the literature on public sector digitalisation by providing an integrated framework for understanding the impacts of tax automation across different stakeholder groups and implementation contexts. The findings extend existing theoretical perspectives by highlighting the dynamic interplay between technology design choices, institutional arrangements and stakeholder experiences.

Additionally, the research advances understanding of how traditional public administration functions are transformed through automation, with implications for

accountability mechanisms, professional roles and service delivery models. Documenting emerging governance challenges contributes to the nascent literature on algorithmic accountability in public sector contexts.

7.3. Policy Implications

For policymakers and tax administrators, this research offers several actionable insights:

1. **Design for Inclusion:** System design should explicitly address digital divide concerns from the outset, incorporating multiple access channels and support mechanisms
2. **Invest in Governance:** Developing robust oversight mechanisms, transparency requirements and redress channels is essential for maintaining trust in automated systems
3. **Plan for Workforce Transition:** Proactive strategies are needed to support the evolution of professional roles in response to automation
4. **Balance Automation with Human Judgment:** Maintaining appropriate human oversight in consequential decisions helps mitigate risks while preserving the benefits of automation

7.4. Limitations and Future Research

This study has several limitations that suggest directions for future research. The cross-sectional design captures a snapshot of impacts but cannot fully trace longitudinal changes as systems evolve. Additionally, while the seven-country sample provides valuable diversity, it cannot capture the full range of implementation contexts globally.

Future research should explore the long-term impacts of tax automation on taxpayer behaviour, compliance patterns and professional service models. As artificial intelligence capabilities advance, research examining algorithmic bias, transparency mechanisms and appropriate governance frameworks will become increasingly important. Additionally, more granular analysis of differential impacts across demographic groups could inform more equitable system design.

As automated tax systems continue to evolve, balancing technological advancement with equitable access, appropriate oversight and stakeholder trust remains the central challenge for tax administrators worldwide. This study provides a foundation for addressing this challenge through evidence-based policy and design approaches.

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