

Digital Transformation of Tax Administration and Compliance: A Systematic Literature Review on E-Invoicing and Prefilled Returns

Siamand Hesami

Department of Finance Bournemouth University, UK
Cambridge Resources International (CRI)
Email: siamand.hesami@cri-world.com

Hatice Jenkins

Department of Banking and Finance,
Eastern Mediterranean University, Gazimagusa, Turkey
Email: haice.jenkins@emu.edu.tr

Glenn P. Jenkins

Department of Economics Queen's University Canada
Cambridge Resources International Inc.
Cyprus International University, North Cyprus
Email: jenkinsg@queensu.ca

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ABSTRACT

This paper systematically reviews the impact of electronic invoicing and prefilling tax returns on tax administration and compliance, adhering to the PRISMA guidelines. Our comprehensive literature search and analysis reveal that these technologies are crucial in reducing tax compliance and administration costs. The results indicate significant benefits, including reduced financial stress for firms, especially during development phases, and enhanced efficiency in tax administration processes. The study highlights how e-invoicing and prefilling systems simplify and improve the tracking of taxation, leading to increased efficiency in tax practices globally. This research contributes to understanding the transformative effects of digital technologies in taxation, demonstrating their potential in streamlining tax compliance and administrative procedures.

Keywords: taxation; e-invoicing; prefilling of returns; tax administration; efficiency; compliance; tax technology.

JEL Classification: H25, H71, O33, M48

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SIAMAND HESAMI, Department of Accounting, Finance and Economics, Bournemouth University Business School, Poole, United Kingdom

HATICE JENKINS, Department of Banking and Finance, Eastern Mediterranean University, Gazi Magosa, Turkey

GLENN P. JENKINS, Department of Economics, Queen's University, Kingston, Canada

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CCS Concepts: • **General and reference** → *Surveys and overviews; General literature* • **Applied computing** → *Computers in other domains; Computing in government*;

Additional Key Words and Phrases: Taxation, e-invoicing, prefilling of returns, tax administration, efficiency, compliance, tax technology

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1 INTRODUCTION

In the last decade, the public sector has undergone a transformative journey marked by a persistent pursuit to enhance service delivery while trimming administrative costs. This transformation has been significantly driven by the strategic integration of technology, which has played a pivotal role in refining procedures and ensuring robust accountability and transparency. This digital revolution reshapes how governments interact with citizens, particularly in public financial management and taxation [1].

Authors' addresses: S. Hesami, Bournemouth University Business School, Department of Accounting, Finance and Economics, Bournemouth BH12 5BB, Poole, England; e-mail: shesami@bournmeouth.ac.uk; H. Jenkins, Department of Banking and Finance, Eastern Mediterranean University, Famagusta 99628, Gazi Magosa, Turkey; e-mail: haice.jenkins@emu.edu.tr; G. P. Jenkins, Department of Economics, Queen's University, Ontario K7L 3N6, Kingston, Canada; e-mail: jenkins@econ.queensu.ca.

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At the heart of a state's financial well-being is its tax system, a vital source of income that must continually adapt to the ever-evolving technological and economic landscape. In recent times, marked by unprecedented crises, governments worldwide are grappling with the need for substantial resources to implement critical policies. This urgency has sparked a debate on tax reforms, swinging between increasing existing taxes or introducing new ones. However, an innovative perspective is gaining traction, focusing on harnessing the potential of **information and communication technologies (ICT)** to enhance tax collection efficiency, thereby reducing the risks of tax evasion and reporting errors [3, 4]. This approach, leveraging ICT to reduce compliance costs and streamline tax collection [5], is at the core of modern e-government initiatives aimed at augmenting service delivery and operational efficiency.

A retrospective glance at tax policy and administration over the past few decades reveals a landscape of profound change. Rising populations, shifting economic dynamics, an increase in small and medium-sized taxpayers, and escalating complexity in tax laws have collectively challenged traditional tax administration frameworks. These frameworks, once designed for simpler times, now struggle to keep pace with taxation's expanding scope and intricacy. The traditional model, where tax officers were assigned to specific taxpayers, has become impractical due to the sheer increase in the taxpayer base. This model, once effective, now leads to unsustainable staffing levels and, often, high compliance costs that could deter taxpayer compliance.

Enter the era of innovative technology, which has revolutionized organizational operations. Tasks that were once laboriously manual are now seamlessly automated [6]. The process of collecting taxpayer information has been simplified by using **electronic invoices (e-invoicing)**, and the costs associated with data storage have plummeted. This technological leap has enabled tax administrations to adeptly prefill tax forms for income tax and **value-added tax (VAT)**, a paradigm shift in how tax returns are processed. In this new era, taxpayers are presented with prefilled returns, requiring only verification and completion of any missing details [7].

This brings us to the crux of our study – the remarkable evolution ushered in by e-invoicing and prefilled tax returns within the sphere of digital taxation. Our systematic review examines literature from 2010 to 2022, shedding light on how these innovative technologies have redefined tax administration practices. The advent of e-invoicing and prefilled tax returns has not just been a technological leap; it has fundamentally transformed the dynamic between tax authorities and taxpayers. E-invoicing has streamlined processes, sustained compliance, and enhanced data accuracy. Prefilled tax returns also have simplified the taxpayer's role, cultivating an environment of trust and transparency [8]. These advancements are not just timely but essential in an era where the digital economy poses new challenges and opportunities.

By delving into the efficiency of e-invoicing and the prefilling of returns, this research aims to steer future scholarly inquiry and guide policymakers. We endeavor to unravel the advantages, challenges, and untapped potential of implementing e-invoicing and prefilled tax returns. This exploration is vital to predicting the trajectory of digital taxation's future – What developments in tax compliance can we anticipate in the coming years, and will the pace and diversity of technological change persist? Our study stands as a crucial intervention, aiming to bridge the existing scholarly gap and illuminate the path forward for digital taxation technologies against the backdrop of a rapidly evolving global economic and regulatory landscape.

1.1 Basic Concepts and Definitions

The available technology in the operating environment shapes the relationship between taxpayers and tax agencies. The issue of shrinking revenues is a major challenge for tax agencies and can be addressed using digital technologies that allow data to be collected and assessed in real-time. Accessing real-time data enables compliance risks to be addressed quickly [9], thus increasing overall compliance levels. Therefore, tax authorities and businesses broadly rely on innovations in tax technology such as e-filing, e-invoicing, real-time reporting, and e-accounting/audit [4, 10]. A striking example is the adoption of e-invoicing, which allows for the automatic transfer of billing information between firms and the tax authority. Many countries, including some European countries and some countries in Latin America and the Caribbean, have already implemented e-invoicing reporting due to its potential to strengthen tax compliance and reduce costs [11, 12].

1.2 E-invoicing

There has been significant growth in the need for e-governmental services over time, which has created an incentive to offer e-invoicing to help the government reach a broader population with limited resource wastage [13]. E-invoicing is delivered to the target party in a specified format containing the pertinent data in a structured form. This enables the e-invoice documents to be quickly and automatically imported into the organization's relevant target account for purchasing or exchanging financial transactions through a technologically enabled payable system [14]. As a technologically enabled process, e-invoicing is delivered by two main methods. First, it can be conducted via a point-to-point exchange connection between the customer and the seller, in our case, the taxpayers and the tax administration. Most e-invoices or **electronic data interchange (EDI)** invoices use this method. The other option entails a network of multiple connections between buyers and sellers. The network e-invoicing model is widely applied today in most organizations and firms due to its high scalability and efficiency for the relevant parties involved in business transactions.

1.3 Prefilling of Returns

Another potential field of development is prefilled tax returns. Prefilling is when the tax authority partially completes the tax return, and the taxpayer must review and submit it. The tax authorities can use a database to prefill tax forms and do the calculations and accounting instead of taxpayers, thus making the process more efficient. In the not-too-distant future, tax administrations could carry out real-time tax audits. The systematization and automation of processes could benefit the application, documentation, and defence of transfer pricing, especially given the complexity of transactions and the greater transparency requirements. This could significantly reduce the effort and time tax offices invest in tax audits [15].

2 RESEARCH METHODOLOGY

Systematic reviews are a kind of meta-analysis used to gather, examine, and synthesize information on a “particular practice-related topic [16]”. Systematic reviews effectively tackle fragmentation as a “means of analysing and understanding all relevant research to a given research issue, subject area, or phenomena of interest [17]”. Due to their propensity to focus on descriptive rather than theory-driven research, systematic reviews in the social sciences have received less attention [18]. Our search period covers studies from 2010—at which point there are many research-based analyses of novel taxing methods—up to July 2022. In this study, we explicitly state that this is the case. We adhered to the PRISMA's major objectives for systematic reviews [19]. Accordingly, the present study systematically reviewed the relevant literature, including organizing the review, choosing and reviewing publications, synthesizing the results, and reporting the findings [20]. The methodology employed is in phases, with the first being the development of the research questions, the second the development of inclusion and exclusion criteria, and the third a literature search from the database, the screening of papers that covered the title, and full-text screening, followed by extraction of data of interest from the included studies. The final phase is the synthesis and discussion of the results.

2.1 Research Question

The first thing that must be done to conduct a systematic review is establishing a list of research questions. This article presents a summary of the most recent research that has been conducted on e-invoicing and the prefilling of tax return information from the relevant published sources. Keeping all of this in mind, we formulated the following study questions:

- (1) *How can e-invoicing help improve taxation efficiency while reducing the costs associated with compliance and administration?*

This research question was designed to gain a comprehensive overview of mechanisms by which the application of e-invoicing in tax-related compliance will help solve the difficulties associated with manual operation

and management of taxation. A thorough examination of e-invoicing in taxes reveals the motivations influencing stakeholders' adoption and use of this technology. This will make it easier for academics and practitioners to comprehend the demands that e-invoicing is now successfully addressing in companies and tax authorities so that they can continue developing them.

(2) *How can prefilling tax forms lower related taxation expenses while ushering in a new age of transactional data visibility?*

The second question addresses how prefilling returns can provide new business management insight into tax administration and compliance. It helps to know the advantages of prefilling returns that practitioners and researchers experience when selecting where to focus future research and development efforts. A systematic review shows how digitalized taxation will usher in a new era of transactional data visibility to make compliance and administrative taxation more effective and efficient.

2.2 Conducting the Search

We created the search methodology at this step, which describes the procedures used to conduct a systematic review. This method is intended to reduce researcher bias. First, we selected the best databases that are pertinent to our research. We chose Scopus and Web of Science and used the terms “e-invoicing” and “prefilling of returns” in our searches. We looked for articles with these phrases in the title, abstract, or keywords.

In order to establish the overall validity of the systematic review on new technology in taxation, the papers included were chosen based on the following criteria: studies published from 2010 to June 2022, studies written in the English language, and studies published in academic outlets such as original articles in journals. The publications were then assessed based on the inclusion criteria to establish their applicability to our research. The terms “e-invoicing” and/or “prefilling of returns” must be used in an article. This was often shown by the titles, abstracts, and/or keywords' prominence.

In this study, the exclusion criteria were rigorously defined to enhance the specificity and relevance of the literature review. Articles that were not accessible in full, those not written in English, and those with a primary focus on the technical, engineering, or computing science aspects of e-invoicing and prefilling returns were excluded. The review also omitted non-peer-reviewed materials such as conference papers, book chapters, and duplicate publications. This approach ensured a comprehensive, academically rigorous analysis, concentrating on pertinent peer-reviewed journal articles.

As indicated in Figure 1, the literature evaluation procedure began with a database search for publications that met the criteria and then ranked and organized these for evaluation.

The initial search of the selected databases yielded 438 papers. After eliminating non-English articles and entries without full-text availability, 207 papers were removed. In the second phase, the authors went through the abstracts and titles of the remaining papers to select those deemed eligible for the research using the inclusion criteria. We removed duplicate papers and studies that were not within the scope of our research; the number of papers remaining was 179. The authors cross-checked the abstracts and titles, resulting in the selection of 44 papers. The full-text screening was performed on the remaining papers to determine their relevance. The body text of each study was analysed to ensure that the information provided by the authors would assist with the discussion and interpretation stages. This required a review of the context of all papers following the inclusion criteria. This left 29 relevant papers whose information was related to the research questions and the study topic and which were selected for the discussion and interpretation stages. The list of included articles is presented in Appendix A.

2.3 Search Formalization

The search was performed using the Scopus and Web of Science databases. We started by creating a search string to form the keywords. The keywords were then searched within the title, abstract, and link. We obtained the most relevant studies on the study topic by manually selecting the relevant studies from the database results.

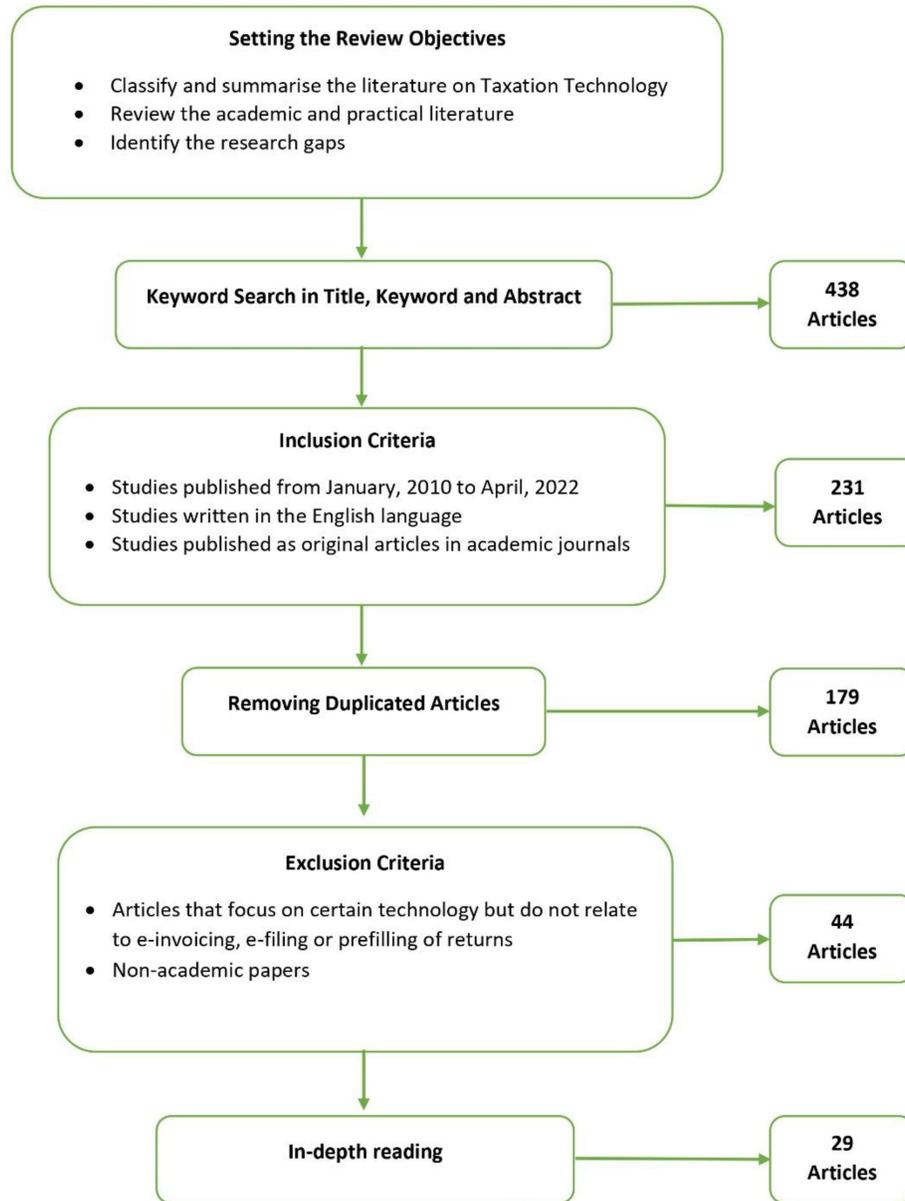


Fig. 1. Summary of the literature selection process.

The literature search was performed using the following keywords: ((“Taxation” OR {Tax} OR “Payment” OR “Administration” OR “online tax*”) AND (“prepopulating” OR “procurement” OR “e-filing” OR “prefilling” OR “prefilled” OR “e-invoic*” OR “electronic invoice”)).

We created a database of the articles, coded them, and performed the analyses using the data analysis programme NVivo12. We categorized the papers according to each research question using the authors’ coding system. The application was also used to keep track of essential details about each article, such as the author, title, publisher name, and year of publication.

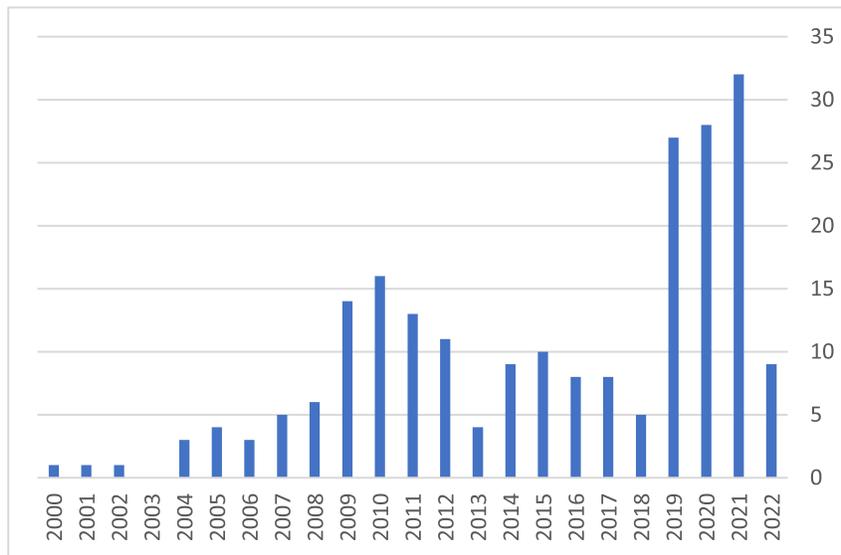


Fig. 2. Number of articles by year of publication.

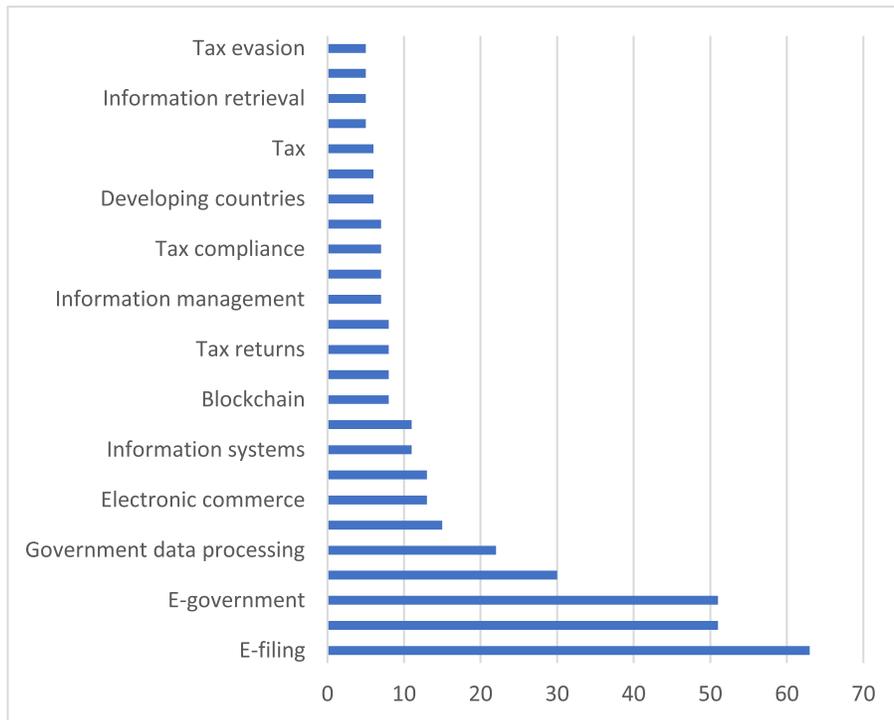


Fig. 3. Frequency of keywords found in the first phase of revision.

The widespread technological advancements in ICT and digitalized data management systems worldwide have significantly impacted governmental tax administrations in many countries. A primary feature of this modernized tax administration has been the digitalization of tax records and the widespread adoption and incorporation of technologically enabled administration systems [25]. However, there are differences in the impact of ICT adoption on taxation due to the different income levels of nations. Consequently, adopting e-invoicing and prefilling returns has had varying outcomes in different countries. Some countries have recorded large revenue increases, while others indicate a significant decrease in tax compliance costs or tax payment increases in some organizations. According to Coolidge and Yilmaz [26], low-income and developing countries—such as Latin American nations—have experienced significant benefits from such systems. Despite the disparities in income levels worldwide, automated financial management and custom systems have been employed in tax administration and compliance.

3.1 E-Invoicing and Efficiency of Taxation

The primary driver that has recently compelled the adoption of e-invoicing has been at the governmental level. Most governments can reach their citizens across territorial boundaries to comply with taxation through e-invoicing. The expansion of such e-governmental services has led firms, businesses, and public organizations to employ digitalized invoicing to help bill taxes quickly to the expected party while disseminating the relevant information via e-invoicing [6, 13, 22].

The literature has mainly focused on how e-invoicing can efficiently manage finances and reduce tax compliance and administration costs. E-invoicing has also been implemented to mitigate risks such as fraud and tax evasion and reduce the chances of tax officials concealing and stealing money (in the form of taxes) paid by taxpayers [4, 24, 27, 28]. Another aspect of e-invoicing in taxation is its empirical applications and implementation in international taxation to tackle tax evasion issues [11, 28].

The most potent weapon in the war on compliance and administrative costs is the combination of structured e-invoicing and advanced information technologies [21, 24, 29]. E-invoicing is a huge time-saver in the accounting and tax compliance processes for businesses and tax authorities and has been widely used in most European countries. This region, with high e-invoicing activity, has seen tremendous growth due to a series of laws that have promoted the adoption of e-invoicing. As such, member states have been directed, as of April 2020, to transpose the e-invoicing requirements of the EU into their national laws while adhering to the EU directive's regulatory standards. The adoption and incorporation of e-invoicing explicitly illustrate the benefits of technologically enabled invoicing in Europe's **small and medium-sized enterprises (SMEs)** [21, 29–31]. Thus, the EU reaps the post-implementation benefits, including a real-time taxation process and reduced paperwork, decreasing the amount of money and resources utilized in tax administration and compliance.

Several publications attribute the evolving adoption of e-invoicing to the current digital trend of new electronic devices. Thanks to the high numbers of smart gadget users, there is an ever-growing mandate for e-invoicing adoption [32]. The availability of such a digitalized trend in society benefits taxpayers and provides governments with an effective medium through which tax invoicing, collection, and compliance can be conducted efficiently [6, 23, 33]. This trend makes the transition to e-invoicing a critical issue [34].

The results indicate that technological advancements have facilitated the development of e-invoicing and its widespread integration over the past three decades. Using e-invoicing has significantly boosted numerous organizational tax compliance and administration operations [14, 29, 35]. In return, improved tax compliance fosters global tax transparency efforts via the effective digitalization of tax administrations.

3.1.1 E-invoicing for VAT. Studies show that adopting e-invoicing has a statistically and economically significant impact on VAT payments [12, 14]. According to Awasthi and colleagues [36], an invoice plays a crucial role in an invoice-credit VAT regime that determines the VAT due by deducting VAT paid on purchase from VAT payable on a sale. Businesses are incentivized to obtain an invoice for each purchase from their suppliers because they can then claim their input tax credits. Mindful of VAT claims by their customers, businesses also

have the incentive to report their sales to the tax authority. Invoices provide a transaction “trail” that encourages self-enforcement among businesses.

Moreover, methods relying on voluntary involvement with incentives will not work with regard to reducing VAT compliance costs. As a result, taxpayers are increasingly required to employ real-time clearance models [37]. In this situation, organizations must exchange invoices via tax authorities or transmit at least key invoice data electronically. In particular, the authentication data of the consumer at the point of sale or during the purchase process will be enriched to an even greater extent with anonymous receipts and tickets. Such documents can be sent electronically to tax authorities and processed automatically. Integrated technology in tax management can help tax administrations collect the data they need to support their efforts and help cultivate and sustain compliance. New technology can significantly help tax administrations identify and reduce the shadow economy, optimize tax compliance programmes, and encourage voluntary compliance through improved taxpayer service, self-service options, and simplified filing and reporting processes [36].

3.1.2 E-invoicing and SMEs. Studies show that e-invoicing assists SMEs in minimizing tax return errors and reducing compliance costs [12]. The strategy of lowering administrative and compliance costs can relieve financial strains and satisfy the unique needs of businesses in the development process. This is particularly important for SMEs [2, 26], as they represent the majority of business taxpayers, and thus, their compliance considerably impacts government tax revenue. However, firm productivity might suffer if a high compliance burden diverts resources from productive activities and raises input costs without producing additional output [38]. Therefore, the current technological innovation trends make SMEs’ sustainable competitiveness and growth dependent on their capability to use digital technology [39].

3.1.3 E-invoicing and Tax Fraud. Countries experiencing problems with the “informal economy” or “tax fraud” tend to immediately adopt mandatory e-invoicing to increase the tax base [27, 28]. They expect compulsory e-invoicing to discourage taxpayers from incorrectly declaring “input tax credit” or falsifying their sales, allowing the tax office to get into “transaction-level” information. However, tax authorities should not assume that e-invoicing will be adopted.

It is true that e-filing and e-invoicing enhance transaction transparency and enable tax authorities to detect tax fraud [27, 28] better. Still, it may not broaden the tax base if the informal sector becomes more entrenched and people refuse to issue paper invoices; thus, non-compliance may become prevalent without practical enforcement tools [24]. E-invoicing cannot transform an informal economy into a formal one. Hence, it may not be the remedy for VAT non-compliance that policymakers hope for.

3.2 Prefilling of Returns and Effectiveness of Taxation

Prefilling aims to simplify tax reporting and processing while simultaneously improving tax compliance. This is because prefilled tax forms can make it easier for tax authorities to collect and improve firms’ compliance with tax obligations. The tax authority can use transactional information supplied by e-invoices to prepopulate a return that the taxpayer will subsequently submit. The tax authority’s primary responsibility is administering the new prepopulated tax return. The prefilled return model and its application procedures will affect millions of taxpayers. Consequently, the tax system is further simplified, as taxpayers and tax authorities will have a more open and trusting relationship due to this reform [15].

Traditional post-filing methods frequently impose a burden on both the taxpayer and the tax authorities. With prefilling, the focus shifts to addressing taxpayer issues as early as feasible and resolving disputes before tax returns are submitted. With the prefilling of returns, the revenue body, rather than the taxpayer, creates tax returns and utilizes a wide range of real-time transactional information. In this way, taxpayers are significantly aided in fulfilling their tax return obligations, and the need to revise assessments, mainly due to taxpayers’ unintentional errors, is greatly minimized.

3.2.1 Prefilling of Tax Returns and Compliance/Administrative Cost. Prefilling is an essential tool in the rapid expansion of global value chains. The ever-evolving diffusion of technologies and the economic digitalization of systems for prefilling tax returns have provided insight into the loopholes in existing policies, regulations, and tax administration in the EU [40, 41]. For example, for some time now, the lack of effective tax administration of the VAT regime in the region has resulted in elevated compliance costs for member states. Many taxpayers perceive tax compliance costs as a significant burden for businesses or individual taxpayers. Prefilling will assist in reinforcing policy adherence and avoiding associated penalties for negligence and non-compliance with tax obligations [42]. It thus ensures that tax responsibilities are upheld through tax collection from the relevant customers, providing a detailed account for all the revenue collected from the taxes, and proper data recording.

According to Klun [43], prefilled returns in Europe, notably Slovenia, reduced compliance costs by simplifying the compliance procedure. Similarly, prefilling returns ensures compliance and administrative costs are kept low for enterprises within the EU. Given that SMEs are the bedrock upon which the EU's economic benefits are built, lowering tax compliance costs is critical to allowing businesses to enjoy unrestricted market access, and this necessitates the widespread adoption of electronic-based prefilling systems [44–47]. In their work on the US tax system, Gale and Holtzblatt [48] discuss the role of prefilling in mitigating tax evasion, administration, and the complexity of reforming taxation. Prefilling has the advantages of keeping track of the taxation process and updating compliance information by simplifying the complex administrative system.

Utilizing a technologically enabled prefilling system can play a pivotal role in reducing the costs related to taxation compliance [26, 38, 49–51]. Moreover, the importance of electronically enabled prefilling of tax returns is well illustrated in terms of reducing and sealing corruption loopholes and the corresponding errors in dealing with massive amounts of paperwork [52]. Evans and Trans-Nam explicitly discuss the application of prefilling to reduce the cost of complying with taxation for governments [53]. Contos and colleagues, OECD, and Walpole all describe features of prefilling in terms of technological advancement programmes, such as software governments need to properly manage and reduce the costs of tax administration and compliance [54–56]. Contos et al. [54] suggest that adopting electronic-based (software) prefilling systems significantly minimizes the tax burden on businesses and individual taxpayers by reducing the associated costs. The authors evaluate how prefilling can be used in tax compliance at the national and international levels. According to Kitsios and colleagues, integrating ICT tools such as prefilling boosts the efficiency of tax administration and reduces the associated costs of tax compliance and administration [57].

Benzarti estimates that prefilling tax returns in the United States could result in a 43% reduction in compliance costs with no additional collection efforts [58]. The study suggests that such an option could lead to an annual saving for taxpayers of \$5.1 billion in fees for tax software or to pay tax preparers. If this reform were implemented, the US tax system would align with most OECD countries' tax systems.

On the other hand, according to other research, prefilled tax returns have no impact—or no detrimental impact—on compliance behaviour. These studies conclude that prefilling tax returns is wise only when using trustworthy data [59, 60]. Setting default values that are too low reduces taxpayers' actual tax liabilities, negatively impacting compliance, and tax collection [60]. Therefore, prefilling returns should be done with caution since, when done well, it may boost tax compliance, but when poorly done, it can decrease it [59–61].

3.2.2 Prefilling of Tax Returns for SMEs. SMEs experience high costs and are more heavily burdened with tax compliance than large corporations due to their low rates of prefilling [62]. Therefore, governments have had to take a step and adopt the prefilling of tax returns, which is essential in minimizing the administrative burdens and compliance costs related to VAT for SMEs [63]. SMEs apply electronic prefilling at a relatively low—and insufficient—rate compared with large businesses. This explains the inequity, unfairness, and disproportionate tax burden they face compared with large corporations through formal and informal vigorous compliance enforcement [2, 64, 65]. It is imperative for organizations and businesses to effectively maximize prefilling to reap

the managerial benefits, such as low compliance costs, of complying with tax reforms. The managerial benefits gained from effective prefilling of returns are critical for SMEs with underdeveloped accounting systems [66–69].

Countries in Africa, Asia, the Middle East, and Latin America experience high tax regressivity due to the lack of an effective prefilling structure [26]. Due to this regressivity in tax compliance, SMEs in these regions incur more than 15% tax compliance turnover. Thus, the World Bank Group suggests adopting prefilling to reduce the regressivity and the high costs associated with the process [2].

In current prefilling systems worldwide, the tax authority, rather than the taxpayer, is the originator of tax returns, with many third-party information sources used [38, 68]. While increasing such third-party reporting could result in taxpayers saving significant amounts of time and substantially reducing evasion, it has the downside of potentially putting a considerable administrative load on reporting organizations and tax administrations [38, 58, 70]. Although this is unlikely to burden large firms with a well-established information system, SMEs could find it prohibitively expensive. As a result, some businesses could decrease their activity to avoid compliance costs [46].

3.2.3 Prefilling of Returns to Minimize Tax Fraud. Using digital tools such as electronic prefilling systems allows governments to minimize risks, fraud, and tax evasion, thus increasing the revenue they can collect [27, 50, 57].

Tax authorities could simultaneously implement tax information analysis as the e-invoice is issued to overcome the barriers. Tax returns could then be calculated based on transaction-level data at the point of sale with no third-party information needed, avoiding inaccurate or incorrect “input tax credit” claims. Such solutions would assist in speedy return processing for input tax claims, especially in developing economies, with many refund claims resulting in considerable savings, potentially at a low cost. In this way, the technology will perform a critical task in identifying fraud before tax returns are recorded and offer sophisticated capabilities for verifying tax returns that have been filed. Because of the tremendous increase in digital information flows, tax administration is changing as the system becomes more prominent. This is a fundamental shift, especially in reporting and collecting VAT. A genuinely electronic VAT system with computerized cross-checking capabilities could solve VAT fraud. Tax authorities with clearance servers are in an excellent position to exploit this exciting market potential.

Therefore, developing countries must understand the prefilling guidelines to simplify paying taxes [8]. Incorporating an efficient prefilling system eliminates the possibility of errors occurring and potential tax evasion problems. In addition, prefilling guidelines offer insight and approaches to resolving tax administrative hindrances, thereby providing an efficient and improved tax administration.

4 DISCUSSION

Our review demonstrates that taxpayer recruitment and return processing are the starting points for tax digitalization, as the relationship between taxpayers and tax agencies is enhanced through new technologies. According to the literature, most developing countries worldwide aim to provide a simplified tax regime to help micro and small business ventures [65]. Such a step ensures that businesses in such countries can achieve voluntary tax compliance. However, businesses in such nations, particularly small businesses, are frequently under heavy taxation, resulting from the high costs associated with filing, preparing, and paying taxes and the tax burden imposed on them [67]. Most governments in developing countries employ a taxation system based on simplified bookkeeping and turnover [63]. Such a process for managing the entire government’s taxation records and files is complex and cumbersome. SMEs suffer a high taxation burden due to the complex regime employed in tax compliance and administration, and they suffer greatly from high tax compliance and administration costs due to the low literacy levels in developing countries. Therefore, there is a need for technologically enabled e-invoicing and tax prefilling systems to help businesses and organizations avert the high risks and costs of complying with taxation. Governments and organizations worldwide must design effective reforms to significantly reduce the high costs and risks associated with tax administration and compliance [71].

4.1 E-invoicing

Tax invoice management systems and electronic tax registry regimes offer e-invoicing facilities that provide an ideal alternative to massive amounts of paperwork and the manual processing of invoices [37]. E-invoicing facilitates the management of tax administration and compliance through real-time validation, standardization, and transmission or dissemination of invoices to taxation systems [31]. As a result, by removing paperwork, e-invoicing significantly saves the operating costs otherwise incurred [13, 37]. Additionally, compared to physical and manual invoice operations, e-invoicing significantly improves resources in terms of time savings [28]. Governmental institutions integrate payable accounts with e-invoices directly with the accounts payable software and automated solutions to facilitate the touchless processing of invoices further to make the process easier [30]. Because many people, firms, and organizations are being billed, e-invoicing offers the best way for the government to build trust and ensure that tax compliance is achieved conveniently and successfully [21]. Hence, resources are used efficiently, freeing time for other tasks and adding value to strategic roles [28, 72].

Regarding tax compliance and administration, e-invoicing is an essential tool that governments can employ to help curb issues related to tax evasion [28]. First, governmental tax authorities can access and monitor all business transactions as they are undertaken in near real-time [11]. Thus, governments should make e-invoicing mandatory to generate goods and services tax portals. Complexities relating to invoice manipulation will be significantly reduced because e-invoicing enables invoice generation before a transaction is carried out [73]. As a result, opportunities to create fake invoices are reduced, and the government can reap the full benefits of a genuine input tax credit, as all the invoices are generated under the same portal system. In addition, tax compliance costs are significantly reduced [27], thus enabling the business to incur fewer tax-associated costs as the input credit can be matched with the output tax details [73]. Administration and tax compliance activities become more straightforward for governments to conduct because tracking fake tax credit details is easier, resulting in fewer resources to carry out the process.

Organizations must start employing technology to send and receive e-invoices to reap the benefits of digitalized operations [24]. This way, compliance with taxation can be effectively and efficiently conducted [33, 71] with fewer hitches and drawbacks. Lee [24] proposes proper utilization of the features of e-invoicing, which saves the government's manual labour and the amount of time invested in manually sending invoices to several clients or citizens spread across various, sometimes remote, parts of the country. Hence, e-invoicing is an excellent step to adopt towards a firm's digital transformation, providing a critical means of ensuring that a government's taxational operations are efficiently conducted to offer scalable support for future growth and development [22].

4.2 Prefilling of Returns

Technological advancements are critical in the process of e-filing and prefilling tax returns. According to evidence from the research, the high costs of tax compliance, the associated penalties and fines, and the risks of onerous impromptu inspections drive the demand for bribery to defraud the system. Hence, some businesses are deterred from progressing, hindering their growth and development in such uncondusive environments.

Prefilling returns is the ideal solution to these issues, significantly reducing tax administration costs and encouraging tax compliance [15, 26, 50, 60]. Similarly, analysts reveal that prefilling will significantly minimize tax compliance costs if effectively employed in organizational practice [27, 49]. Therefore, governments and organizational policies requiring businesses, firms, and individual taxpayers to submit paper-based tax information must be reformed [74] and turned to e-filing and prefilling tax returns. In this way, complexities and the need for heavy paperwork drafting are significantly reduced, and smaller firms can save the resources that would otherwise have been incurred and use them to cater to other production factors.

The adoption of electronic prefilling systems in taxation requires facilities to be provided by businesses, including up-front investments, time, effort, capital assets, and the necessary resources to educate and sensitize the users of such systems about their efficiency, practical implementation, and proper utilization [41, 75].

Regarding managing risks associated with tax compliance, prefilling returns plays a pivotal role in helping simplify the process [45]. Tax compliance risk management is the structured process encompassing the systematic detection, evaluation, ranking, and treatment of tax compliance and its related risks. Prefilling returns provides an effective process since it comprises numerous iterations defined by systematic steps that improve the decision-making process during taxation. Alm and colleagues [64] assert that tax compliance and administration are carried out efficiently while minimizing costs, risks, fraud, and the complexities of employing a physical paper-based system. Prefilling systems offer numerous other advantages, including faster processing and increased accuracy. Prefilling saves the time and resources needed to sift through paperwork to file a tax return. It significantly reduces the time required to process tax returns, allowing individual and business taxpayers to receive real-time refunds [26]. Moreover, arithmetical errors in calculating taxes are significantly reduced or almost eliminated due to the high accuracy of the e-filing system [76]. Thus, data entry and calculation errors are addressed in the computer's e-prefiling process.

5 CONCLUSION

This comprehensive study delves into the evolving landscape of tax administration, focusing on the prominent roles of e-invoicing and prefilling tax returns. These technologies are indicated as transformative tools in tax management, offering substantial reductions in administrative and compliance costs. The study thoroughly maps out these technologies' widespread adoption and potential benefits, as reviewed extensively in various academic and industry sources.

E-invoicing and prefilling returns, as the paper outlines, are pivotal in simplifying the process of fulfilling tax obligations online. They play a critical role in cutting down tax administration costs and enhancing the efficiency and traceability of taxation systems worldwide. This translates into a more streamlined and manageable approach to tax collection for governments and organizations; a theme consistently echoed throughout the literature.

The literature review included in this study, referencing various academic journals and industry reports, further highlights that the practical application of e-invoicing and prefilling in organizational practices can significantly reduce compliance costs related to tax. This is especially advantageous for smaller firms, which can redirect their resources towards other productive aspects of their business. These technologies offer a more efficient and less burdensome approach to tax compliance by minimizing the need for extensive paperwork and reducing complications.

An essential contribution of this study lies in its focus on the administrative and compliance implications of this emerging technology rather than its technical details. This provides valuable insights into the early stages of tax technology literature. The paper emphasizes the necessity of modernizing tax collection systems. It points out that many tax administrations depend on voluntary compliance and paper-based invoicing, which is becoming increasingly inadequate. For a tax collection system to be truly effective, it must offer transparent, controllable, secure, and real-time information. This is crucial as the taxpayer base grows and the complexity of tax collection escalates, calling for significant reforms in tax systems, administration, and collection procedures. The study advocates for a new model of tax reporting that facilitates handling all business and individual tax matters online, thereby reducing the frequency and amount of tax payments, a recommendation supported by numerous sources cited in the review.

The move towards utilizing technology in tax management signals the need to develop more efficient and cost-effective methods. This study notes that the key difference among various tax modernization models is how tax authorities acquire transactional information for conducting audits and addressing fraud and non-compliance. More advanced models are associated with broader compliance scopes. To achieve the desired outcomes, digitalizing tax systems will require a concerted effort from stakeholders, including legislative changes and the provision of necessary funds. Significantly, these efforts should enhance taxpayer value by

simplifying procedures and fully integrating them into existing electronic systems for filing, payment, and documentation, as underlined by several references in the study [72].

The findings of this literature review, drawing on a range of academic and practical sources, clearly demonstrate the effectiveness of e-invoicing and prefilling tax returns in addressing the challenges of high tax compliance costs, penalties, fines, and the risks associated with burdensome inspections, tax fraud, and evasion. The study underscores the crucial role of these technologies in revolutionizing tax administration systems, crucial for reducing costs related to tax compliance, and administration. These technologies have proven instrumental in simplifying and streamlining tax processes, enhancing efficiency and easing business financial burdens. Furthermore, e-invoicing is identified as a vital tool for governments to foster trust, and ensure effective tax compliance. It enables efficient resource utilization, freeing time for strategic roles that add value. The ability of tax authorities to access and monitor business transactions in real time marks a significant advancement in fighting tax evasion and fraud. Moreover, the automation and systematization of tax processes through pre-filled tax forms point towards a future of more efficient and transparent tax administrations, with reduced efforts and time investment in tax audits. These insights align with the gaps identified in the literature, emphasizing the need for empirical studies to explore the adoption processes of these technologies and their associated challenges, as consistently highlighted in the referenced sources.

This study's findings lead to several significant implications and strategic policy recommendations. First and foremost, governments are advised to actively encourage the uptake of electronic invoicing and the prefilling of tax returns. This can be seamlessly integrated into the current tax frameworks to enhance efficiency and minimize errors. A key focus should be placed on SMEs, providing them with targeted support through specialized training and financial assistance to facilitate their transition to digital platforms.

Furthermore, the initiation of public awareness campaigns is highly recommended. Such campaigns would play a pivotal role in improving the general understanding of these digital practices and, thus, increase their adoption rates. The importance of establishing rigorous data protection protocols cannot be overstated alongside these measures. These protocols are critical in safeguarding taxpayer information against potential breaches.

Another important recommendation is the ongoing assessment and improvement of these systems. Continuous evaluation will help identify improvement areas and ensure digital tax administration's effective functioning. Moreover, engaging in international collaborations can be highly beneficial. Such partnerships would allow for sharing experiences and best practices, aiding in the standardization of processes across borders. This collaborative approach is instrumental in leveraging global insights further to enhance tax compliance and the efficiency of tax administration, propelled by advancements in digital technology.

In conclusion, policymakers are encouraged to recognize that the cornerstone of this new trend in tax technology is the ability to provide tax authorities with real-time information on transactions. This facilitates immediate responses to any irregularities and shifts the responsibility of tax checks from businesses to tax offices, saving time and resources, a conclusion supported by the comprehensive literature review in the study.

5.1 Limitations

While comprehensive, the present review's methodological approach exhibits certain limitations that warrant consideration for future research. Firstly, the analysis predominantly employed a qualitative lens, which, while effective in drawing thematic connections, could be complemented by a quantitative meta-analysis. Such an approach would enable a more detailed exploration of the relationships between key concepts identified in the literature, facilitating a nuanced understanding of their interdependencies and collective impact.

Additionally, the scope of the literature search, focused primarily on tax-technology-related academic journals, presents another limitation. Expanding this scope to encompass a broader range of subject categories, including non-academic literature such as industry reports and case studies, would likely yield a more holistic view. This expanded approach would capture diverse perspectives and experiences, particularly those from practical implementations, thus enriching the review's comprehensiveness and applicability.

A comparative analysis across different geographical regions or countries was also not within the scope of this review. Such an analysis could provide valuable insights into the varied effects and challenges of adopting e-invoicing and prefilling tax returns in diverse jurisdictions. Understanding these variations is crucial for developing more universally applicable recommendations and strategies.

Furthermore, the review could benefit from exploring emerging trends and future tax compliance and administration technologies. The landscape of tax technology is rapidly evolving, with advancements in areas such as blockchain, artificial intelligence, and advanced data analytics promising to revolutionize traditional practices. Examining these future-oriented technologies would not only offer a glimpse into the potential future of tax administration but also guide policymakers and practitioners in preparing for upcoming challenges and opportunities.

5.2 Future Research

E-invoicing is gaining momentum, prompting governments worldwide to enact new laws facilitating the transition from traditional paper-based systems to digital, paperless methods. This shift is paralleled in the domain of tax administration, where prefilled VAT and income returns are increasingly streamlining the taxpaying process for individuals and businesses. Despite the progress, the widespread adoption of e-invoicing and prefilled returns encounters various challenges, opening expansive research opportunities in these areas.

Analysis of existing literature reveals that significant work is still needed to integrate technology into tax administration fully. A notable gap lies in evaluating administrative and compliance costs, partly due to the scarcity of empirical data. This lack of concrete evidence leads to uncertainties about implementing e-invoicing and prefilled returns across different countries. There is a pressing need for empirical studies to address these uncertainties and explore the adoption processes, challenges, and impacts of these digital solutions. Such research would provide valuable insights for governments and taxpayers, highlighting the benefits of technological integration in reducing compliance burdens and administrative costs.

The literature suggests specific areas for future inquiry. Doxey and colleagues [49] recommend that future research focus on undocumented income types, such as cash tips, which significantly impact economic decisions and compliance costs. This suggests that technological advancements in prefilling processes could reduce unreported income. Similarly, Matus et al. [77] advocate for including comprehensive e-invoicing metrics to help businesses evaluate the reduction in compliance costs. Additionally, a beneficiary analysis is crucial to determine the overall effectiveness of these innovations in critical areas such as compliance cost reduction, error minimization, and enhanced taxpayer satisfaction.

Future research avenues in digital taxation technologies are abundant and varied. Comparative studies across different nations can show how diverse tax laws, cultural settings, and technological readiness affect e-invoicing and prefilled tax returns adoption and efficacy. Longitudinal studies to assess their long-term impact on tax compliance and taxpayer behaviour are essential. The potential integration of these digital tools with emerging technologies like blockchain and artificial intelligence promises to revolutionize tax administration and compliance.

Sector-specific studies, mainly focusing on SMEs and the gig economy, could uncover unique challenges and advantages. Behavioural economics perspectives on these technologies could lead to more effective tax system designs. Further, research into their role in detecting and preventing tax evasion and fraud is vital. User experience studies are crucial to refining these systems, while legal and ethical considerations, particularly regarding data privacy and security, are increasingly important in the digitized financial landscape. Cost-benefit analyses from government and taxpayer viewpoints, training and skill development for digital system adaptation, and the influence of technological insights on tax policymaking are all critical areas for future scholarly exploration. Together, these research paths form a rich and diverse field of inquiry in digital taxation technologies.

A APPENDIX

A.1 List of Articles (Appendix A)

Author(s)	Article	Journal
Evans and Tran-Nam [15]	Managing tax system complexity: Building bridges through prefilled tax returns	<i>Australian Tax Forum</i>
Korkman, Storbacka, and Harald [78]	Practices as markets: Value co-creation in e-invoicing	<i>Australasian Marketing Journal</i>
Salmony and Harald [37]	E-invoicing in Europe: Now and the future	<i>Journal of Payments Strategy & Systems</i>
Keifer [14]	E-invoicing: The catalyst for financial supply chain efficiencies	<i>Journal of Payments Strategy & Systems</i>
Kleven, Knudsen, Kreiner, Pedersen, and Saez [70]	Unwilling or unable to cheat? Evidence from a tax audit experiment in Denmark	<i>Econometrica</i>
Hernandez-Ortega [79]	Key factors for the adoption and subsequent use of e-invoicing	<i>Academia Revista Latinoamericana de Administración</i>
Hernandez-Ortega and Jimenez-Martinez [21]	Performance of e-invoicing in Spanish firms	<i>Information Systems and e-Business Management</i>
Chen, Wu, and Miao [13]	Constructing an integrated e-invoice system: the Taiwan experience	<i>Transforming Government: People, Process and Policy</i>
Lian [71]	Critical factors for cloud based e-invoice service adoption in Taiwan: An empirical study	<i>International Journal of Information Management</i>
Cuylen, Kosch, and Breitner [33]	Development of a maturity model for electronic invoice processes	<i>Electronic Markets</i>
Poel, Marneffe, and Vanlaer [29]	Assessing the electronic invoicing potential for private sector firms in Belgium	<i>The International Journal of Digital Accounting Research</i>
Warren [80]	E-filing and compliance risk: Evidence from Australian personal income tax deductions	<i>Australian Tax Forum</i>
Chiang and Limato [81]	The use of technology in tax preparation: A closer examination of electronic filing and filing errors	<i>Journal of Corporate Accounting & Finance</i>
Fonseca and Grimshaw [59]	Do behavioral nudges in prepopulated tax forms affect compliance? Experimental evidence with real taxpayers	<i>Journal of Public Policy & Marketing</i>
de Clercq (2018)	The Uberisation of e-Filing in South Africa	<i>eJournal of Tax Research</i>
Duncan and Li [82]	Liar Liar: Experimental Evidence of the Effect of Confirmation-Reports on Dishonesty	<i>Southern Economic Journal</i>
Bai, Koong, Wu, and Bhuyan [83]	Adoption of e-filing: the US journey	<i>International Journal of Revenue Management</i>
Vieira, Pimenta, Cruz, and Souza (2019) [6]	Effects of the electronic invoice program on the increase of state collection	<i>Revista de Administração Pública</i>
Dabla-Norris, Misch, Cleary, and Khwaja (2020) [38]	The quality of tax administration and firm performance: evidence from developing countries	<i>International Tax and Public Finance</i>
Kochanova, Hasnain, and Larson [27]	Does e-Government improve Government capacity? Evidence from tax compliance costs, tax revenue, and public procurement competitiveness	<i>The World Bank Economic Review</i>
van Dijk, Goslinga, Terwel, and van Dijk [60]	How choice architecture can promote and undermine tax compliance: Testing the effects of prepopulated tax returns and accuracy confirmation	<i>Journal of Behavioral and Experimental Economics</i>

(Continued)

Continued

Author(s)	Article	Journal
Benzarti [58]	Estimating the Costs of Filing Tax Returns and the Potential Savings from Policies Aimed at Reducing These Costs	<i>Tax Policy and the Economy</i>
Doxey, Lawson, and Stinson [49]	The effects of prefiled tax returns on taxpayer compliance	<i>Journal of the American Taxation Association</i>
Fochmann, Hechtner, Kölle, and Overesch [50]	Combating overreporting of deductions in tax returns: prefilling and restricting the deductibility of expenditures	<i>Journal of Business Economics</i>
Fochmann, Müller, and Overesch [52]	Less cheating? The effects of prefiled forms on compliance behavior	<i>Journal of Economic Psychology</i>
Qi and Che Azmi [23]	Factors affecting electronic invoice adoption and tax compliance process efficiency	<i>Transforming Government: People, Process and Policy</i>
Panayiotou and Stavrou [72]	Government to business e-services—A systematic literature review	<i>Government Information Quarterly</i>
Bellon, Dabla-Norris, Khalid, and Lima [12]	Digitalization to improve tax compliance: Evidence from VAT e-Invoicing in Peru	<i>Journal of Public Economics</i>
Okunogbe and Pouliquen [28]	Technology, taxation, and corruption: evidence from the introduction of electronic tax filing	<i>American Economic Journal: Economic Policy</i>

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