

## **The Role of Digital Taxation Reforms in the Shadow Economy, Auditing, and Financial Reporting: Ataşehir Case in Türkiye<sup>1\*</sup>**

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Received: 30.09.2025, Accepted: 31.03.2026  
DOI Number: 10.5281/zenodo.20546854

### **Abstract**

This study explores how digital taxation reforms influence the shadow economy, auditing processes, and financial reporting practices at the local government level in Türkiye. It focuses on the factors shaping tax performance in public administration. The research adopts a qualitative approach based on in-depth interviews with 15 professionals from the Financial Services Directorate of the Ataşehir Municipality in Istanbul. The findings suggest that digital tax systems bring practical benefits, especially in terms of saving time and improving access to data. These changes appear to support auditing and financial reporting processes and may also help reduce informal economic activities by encouraging taxpayer compliance. At the same time, the results show that such benefits do not emerge automatically. Their effectiveness depends on factors such as taxpayer awareness, digital literacy, the availability of qualified staff, and the clarity of institutional and legal arrangements. While the findings are drawn from the Ataşehir Municipality, they also offer broader insights into public sector digitalization, particularly regarding the role of e-taxation in reducing the shadow economy and strengthening fiscal accountability.

**Keywords:** Digitalization in Public Sector, Digital Tax Administration, E-taxation, E-government, Shadow Economy

**JEL Code:** H26, H83, E62

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\*This study is derived from the the deliverables of the project titled "A Research to Evaluate the Impact of E-Taxation Applications on the Tax Revenues of Municipalities," conducted in Istanbul's Ataşehir Municipality.

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## 1. Introduction

As the digital economy rapidly develops, governments are also integrating into the digitalization process. In this context, governments play a significant role in facilitating digital adoption by individuals and society by intervening on both the supply side (by investing in infrastructure) and the demand side (by increasing internet accessibility) (Amaglobeli et al., 2023, 1,4). Governments are adopting a technology-based government approach aimed at modernizing the public sector to improve and enhance the functioning of the state using technology (WB, 2024a; Amaglobeli et al., 2023). In this regard, governments are transitioning to electronic applications in the field of public finance, enabling the use of e-taxation applications in the collection of tax revenues.

In recent years, many countries and international organizations have been attempting to integrate their policies into the rapidly evolving digital world. In this context, the Organization for Economic Cooperation and Development (OECD) has developed the OECD Digital Governance Policy Framework (DGPF), a comprehensive policy tool aimed at increasing the digital maturity of public sectors. The main objective of the DGPF is to guide governments in their strategic transformation processes by enabling them to effectively design, implement, and evaluate their digital transformation strategies (OECD, 2020).

Similarly, the United Nations has developed the United Nations E-Government Development Index (EGDI) as a different metric to provide global, regional, and national perspectives on e-government development. The EGDI measures countries' digital governance capacity, revealing the extent of the digital divide and enabling comparative analysis across regions (UN, 2024). Furthermore, the World Bank has developed the “Global Digital Public Infrastructure (DPI) Program” as an initiative to support countries in establishing digital public infrastructure. This program aims to develop digital payments, digital identity, and reliable data systems. Organizations such as the G20 and the United Nations Development Programme have contributed to and supported this program, which is run by the World Bank Group (WB, 2024b, WB, 2025).

Taken together, all these initiatives worldwide highlight that digital governance has become a central policy priority at the global level, underscoring the importance and timeliness of research examining its implementation and impact. Within this broader transformation agenda, one of the most visible reflections of governments' digitalization efforts is the implementation of e-government applications (Whitson & Davis, 2001).

Among the various areas affected by this change, public finance holds a particularly critical position. E-regulations in the field of public finance constitute a crucial step in increasing and improving the level of services provided to taxpayers. In this area, governments have transitioned to electronic systems, particularly through the adoption of e-taxation systems designed to increase tax

revenue collection. Therefore, e-regulations in public finance represent a significant step towards improving the quality and efficiency of services offered to taxpayers. However, technological adoption alone may not always be sufficient. Fromenefit from all the advantages of digitalization along with technological adoption, comprehensive legal and institutional reforms created within the framework of "good governance" and national digital strategies of countries are necessary (Amaglobeli et al., 2023, p. 1-4). In this context, the use of new technologies has made taxation simpler and less burdensome for taxpayers. This process encompasses a digital transformation involving the devices and software used by taxpayers, and the redesign of the taxation process and its stages (Adefunke & Mayowa, 2024, p. 222; OECD, 2025a). Digitalization is a crucial factor for revenue administrations, and taxation is a key aspect of this process (Juswanto and Simms, 2017, p. 5; Junquera-Varela et al., 2022, p. 50). In the evolving digital environment, numerous studies are being conducted to ensure fair taxation of the economy and the most effective use of government tax capacity. The "Base Erosion and Profit Shifting" (BEPS) plan, published in 2013 at the request of G20 countries, is one such example (OECD, 2025b). Governments aim to navigate this process without suffering a loss in tax revenue, their most important source of income. However, this digital transformation process also increases the risk of taxpayers resorting to informal activities such as tax avoidance and/or tax evasion.

This research examines three main research questions using data obtained through qualitative research methods. The research questions (RQs) are as follows:

- RQ1: How does the implementation of e-taxation in municipalities affect tax auditing?
- RQ2: How does the implementation of e-taxation in municipalities impact the shadow economy?
- RQ3: How does e-taxation in municipalities influence the improvement of financial reporting (quality)?

Despite the growing literature on digitalization in public administration and, in this context, digital government and e-taxation, existing studies largely rely on quantitative methods such as nationwide panel data or survey-based analyses. Furthermore, current studies largely focus on national-level applications. In this context, limited attention is paid to the institutional dynamics and practitioner perspectives shaping the implementation of digital tax reforms at the local government level. Moreover, it can be stated that the interconnected effects of e-taxation on tax audits, the informal economy, and financial reporting are rarely examined simultaneously within a single analytical framework.

This study aims to address this gap by presenting in-depth qualitative evidence from a local government example in Türkiye. To achieve this, the case of Atasehir Municipality in Turkey is examined to provide a contextually sensitive understanding of how digital taxation reforms operate in practice. Thus, this study contributes to the literature by (i) detailing the e-taxation analysis at the municipal

level, (ii) integrating the dimensions of the informal economy, tax audit, and financial reporting within a unified framework, and (iii) highlighting the conditional nature of digital reform outcomes depending on factors such as digital literacy, taxpayer awareness, and institutional capacity.

To address the research questions, the study employs a qualitative research design to analyze the effects of e-taxation systems implemented in local governments on tax auditing, the shadow economy, and financial reporting. In-depth face-to-face interviews were conducted with personnel from the Financial Services Directorate of Ataşehir Municipality. The remainder of the paper is organized as follows: the next section outlines the theoretical framework; the subsequent section reviews the relevant literature; the third section details the methodology; and the final section presents and discusses the empirical findings.

## **2. Theoretical Framework**

Radical changes occurring on the global stage have also led to a transformation in the management of tax systems. This shift stems from the emergence of new technologies and the resulting new approaches to the role of taxation in modern societies. Therefore, tax systems that enable the establishment of efficient, fair, and productive taxation structures at both national and local levels must be developed. The most crucial key to tax reform is effective tax administration. In this context, modernization of the tax system should be achieved through mechanisms such as e-services, the taxation of the digital economy, and electronic tax declarations (Junquera-Varela et al., 2022, pp. 6–8).

If a world with perfect competition existed, we would live in an ideal world with perfect information, and individuals in society would not engage in tax evasion and/or tax avoidance. In such a world, governments would know how much individuals earn, save, and consume. However, in real life, information is asymmetric, and there is a lack of complete information. Information about the results of economic activities and the characteristics of taxpayers is not perfect. Governments cannot verify all economic activities of individuals or households and their results. For example, taxpayers may misrepresent their income, consumption, wealth, or inheritance to avoid or even evade taxes. The state of incomplete information, due to information constraints, is a decisive factor in the tax capacity of governments (Jacobs, 2017, p. 25).

Tax compliance—defined as the timely and accurate fulfillment of taxpayers' legal obligations—reflects the extent to which individuals adhere to tax laws (Simon & Clinton, 2004, p. 29). To maximize tax capacity, ensuring high levels of compliance is essential. To reduce information problems related to the verification of economic outcomes, governments employ costly measures such as tax audits and impose penalties for non-compliance. Through these mechanisms, governments aim to increase tax compliance (Allingham & Sandmo, 1972, p. 338; Jacobs, 2017, p. 25).

There are numerous factors that influence taxpayers' tendencies to engage in tax evasion and/or avoidance. Becker (1968), from the perspective of the economics of crime, argued that the number of offenses committed by an individual depends on various variables, including the probability of conviction, the severity of the penalty if convicted, income from legal and illegal activities, the frequency of arrest, and the individual's willingness to engage in illegal acts. In addition to these, in recent years, factors such as perceptions of fairness, social norms and attitudes, trust in and power of authorities have come to the forefront in explaining why taxpayers may turn to informal activities such as tax evasion (Batrancea et al., 2019; Feld & Frey, 2002; Wenzel, 2005; Razpour & Kheyroddin, 2016; Alm & Torgler, 2011; Van Dijke & Verboon, 2010).

Many central and local tax administrations around the world are experiencing losses in tax revenue due to taxpayers' participation in informal economic activities. Schneider et al. (2010) found that, during the period from 1999 to 2007, the size of the shadow economy across 162 countries—including developing nations, Eastern Europe, Central Asia, and high-income OECD countries—averaged 17.1% of GDP on a weighted basis and 33.0% on an unweighted basis. Elgin et al. (2021), in their study, measured the size of the shadow economy. According to their findings, the countries with the highest levels of informality are Zimbabwe, Georgia, Nigeria, and Guatemala, while those with the lowest levels include Switzerland, China, Luxembourg, Vietnam, and Singapore. In literature, the shadow economy exists in every country, although it varies in size depending on the level of development of the countries. The shadow economy encompasses activities that have market value and, if registered, would contribute to tax revenue and GDP (IMF, 2025).

In this context, digital payments can significantly reduce the size of the informal economy, and electronic payment technologies are seen as a policy tool in combating the informal economy (Schneider, 2018). Cash transactions between individual consumers and businesses are a potential risk area in terms of tax revenues. In cash transactions, consumers have the option of not reporting or underreporting these transactions (Sung et. al., 2017). Therefore, shadow economy activities are paid for in cash to avoid tracking cash flows (Awasthi & Engelschalk, 2018).

Both governments and international organizations are developing policies based on the premise that the use of electronic payment methods has, or will have, a positive impact on tax compliance. Saptono et al. (2023) concluded that the quality of service and reduction of tax compliance costs in the e-tax system significantly increased voluntary compliance in taxation. Carrillo, Castro, and Scartascini (2022), in their study on VAT e-invoicing in Peru, showed that digital tools can increase tax compliance by improving record-keeping and reducing compliance costs, especially in small firms and sectors with low compliance levels.

Similarly, Kotsogiannis et al. (2025) examined how e-invoicing increased openness and transparency and facilitated tax audits by analyzing the example of

VAT implementation. Ndayiragije and Twesige (2023) examined the role of digital technologies in revenue generation in Rwanda. In this process, they emphasized the importance of cashless payments, e-commerce, and a strong ICT infrastructure. These findings highlight the potential of digitalization as a strategic lever for income policy.

In 2016, India implemented a major policy reform through its banknote demonetization campaign (Das et al., 2022). The widespread adoption of electronic payments introduces a third-party record of transactions, creating a verifiable audit trail. This traceability can deter tax evasion, particularly when effective audit mechanisms are in place (Brockmeyer & Somarriba, 2022, p. 2).

Schneider (2013, 2018) and Awasthi & Engelschalk (2018) found a strong negative relationship between the use of electronic/formal payment methods and the size of the shadow economy. As a result, many governments have introduced incentive-based policies to encourage digital transactions. Countries offering VAT rebates include Argentina, Colombia, Japan, South Korea, and Uruguay. Income tax rebates are available in Colombia, Greece, Mexico, and South Korea. Point-of-sale (POS) subsidies are used in Argentina, Japan, Malaysia, Uruguay, and Mexico. Additionally, lotteries as incentive mechanisms are implemented in Greece, India, Mexico, the Netherlands, and South Korea (Brockmeyer & Somarriba, 2022, pp. 2, 32).

The theoretical perspectives discussed above can be evaluated by integrating them around a common institutional logic: digital taxation reforms function as mechanisms that reduce information asymmetries, strengthen audit capacity, and reshape taxpayer behavior. From a crime economy perspective, digital tools increase the probability of crime detection, thus having the potential to alter the cost-benefit balance of tax non-compliance. From a tax compliance perspective, improvements in transparency, openness, service quality, and procedural efficiency can encourage voluntary compliance. Meanwhile, the informal economy literature emphasizes the central role of traceability, implementation reliability, and formal payment systems in reducing informality. When all these elements are considered in an integrated manner, it can be concluded that digital taxation reforms should be viewed not only as technological innovations but also as structural tools affecting audit capacity, compliance behavior, and the quality of financial reporting. This integrated theoretical perspective provides an analytical basis for examining the implementation of e-taxation at the local level in this study.

### **3. Literature Review**

In recent years, a growing body of literature has emerged focusing on the evaluation of countries' e-government implementations. Since the early 2000s, the rapid global expansion of e-government practices has generated a substantial body of literature on their economic effects. Studies have examined their implications for revenue collection (Sanga, 2015), tax compliance (Kessy, 2019; Ouyang et al.

2023), tax evasion (Uyar et al., 2021; Nimer et al., 2022), tax auditing (Kotsogiannis et al., 2024; Memiş et al., 2019; Brockmeyer et al. 2024; Guo et al. 2024), and public debt (Cheng et al., 2024), while more recent research has increasingly focused on the shadow economy (Chacaltana et al., 2018; Elbahnasawy, 2021; Goel & Saunoris, 2016; Chacaltana et al., 2024, Hendriyetty et al., 2023; Gaspareniene and Remeikiene, 2016; Uyar et al., 2021; Veiga & Rohman, 2017; Zait & Horodnic, 2022).

Tenidou et al. (2015) surveyed with 80 tax consultants in the Evros and Kavala regions of Greece to examine the relationship between e-government implementation, tax evasion, and the shadow economy. The study suggests that e-government has the potential to serve as a tool for reducing both tax avoidance and evasion, as well as the shadow economy.

Goel & Saunoris (2016) investigated the relative effectiveness of physical and virtual government decentralization on the shadow economy and corruption. Their findings indicate that while virtual decentralization reduces both corruption and the shadow economy, physical decentralization contributes only to the reduction of the shadow economy.

Rohman & Veiga (2017) conducted a panel data analysis covering 128 countries from 2003 to 2013 to evaluate the impact of e-government implementation on the shadow economy. The findings indicate that e-government practices significantly reduce the size of the shadow economy. In another study published in the same year, Veiga & Rohman (2017) examined the relationship between the E-Government Development Index (EGDI) and the shadow economy using a larger sample of 147 countries over the same period (2003–2013). The results showed that improvements in the EGDI significantly decreased the size of the shadow economy. However, the extent of this effect varied across income and geographic groups. The impact of EGDI on the shadow economy was found to be statistically more significant in high-income countries.

Chacaltana, Leung, and Lee (2018) also explored the relationship between the shadow economy and e-government, finding a negative correlation between the informal sector share and e-government development index scores. Their analysis revealed that countries with higher e-government scores tend to have lower levels of informality.

Schneider (2018), in a study of 60 economies between 2007 and 2017, estimate that a sustained 10% annual increase in digital payments over five years could contribute up to USD 1.5 trillion to global GDP between 2017 and 2021. As digital payments become more widespread, it is emphasized that public authorities, financial institutions, payment service providers, mobile network operators, and various other stakeholders have a role to play in reducing the size of the informal economy. Moreover, it is noted that more than 65% of government policies aimed at combating the informal economy are focused on promoting digital payments rather than relying on punitive enforcement measures.

In the Turkish context, Allahverdi et al. (2017) examined the impact of the transition to the electronic taxation system by comparing the pre-electronic taxation period (1993–2004) and the post-electronic taxation period (2005–2016). Their empirical findings indicate that the adoption of the electronic tax system led to an increase in tax revenues while simultaneously reducing tax collection costs.

Ván et al. (2022) examine the impact of digitalization on the shadow economy and highlight the significant role of company size. Their study shows that digital tools affect tax compliance differently for small and large firms.

Elbahnasawy (2021), in his study investigating the relationship between e-government and the shadow economy, concluded that e-government serves as a powerful instrument for limiting the shadow economy. According to the analysis, a 0.1-point increase in the e-government index (equivalent to a 10% rise) was associated with a reduction of approximately 1.4% to 2% in the size of the shadow economy. Furthermore, a bidirectional causal relationship was observed between e-government and the shadow economy, and it was concluded that the effect of e-government on reducing the shadow economy is stronger in the long term than in the short term.

Remeikienė et al. (2021), examined the short- and long-term effects of information and communication technologies (ICT) on the shadow economy using panel data analysis for 11 post-transition EU member states between 1996 and 2015. The study found a negative relationship between ICT and the size of the informal economy in both the short and long term.

Kelikume (2021) and Ndoya et al. (2022) examined the relationship between mobile penetration, internet usage, and the size of the informal economy in African countries through econometric analyses. Both studies found that mobile penetration and internet usage have a significant positive relationship with the informal sector.

Williams (2021), in his study on e-formalization in Europe, also analyzed the impact of e-formalization on the shadow economy in EU member states. The findings indicated that countries with lower levels of digital technology adoption tend to have larger shadow economies. Furthermore, the greater the provision of digital public services, the smaller the size of the shadow economy.

Zokirovich et al. (2021) conducted a panel data analysis covering the period from 2010 to 2015 for 57 developed, developing, and underdeveloped countries to examine the impact of electronic payment systems on the shadow economy. Their findings indicate that transactions made using bank and credit cards have a negative effect on the size of the shadow economy.

Boitan & Ștefoni (2022), analyzed EU member states during the period 2013–2020. Their analysis concluded that greater adoption and use of digital

technologies, along with improvements in the quality of ICT technologies, contribute to a reduction in the size of the informal economy.

Brockmeyer & Somarriba (2022) investigated the effect of digitalization through electronic payment technologies on tax compliance in Uruguay. They found no evidence that digitalization, achieved through Uruguay's financial inclusion reform, has promoted tax compliance.

Varotsis (2022), conducted an online survey with 320 Greek taxpayers to examine the relationship between e-payment behavior and the shadow economy. The study's findings demonstrated an inverse relationship between e-payment behavior and the shadow economy. It was concluded that in scenarios where e-transactions are institutionalized and taxes are collected using artificial intelligence software, tax revenues increase significantly. In this context, the adoption of e-payments was found to be associated with a decrease in the shadow economy and an increase in GDP.

Survey-based evidence from Türkiye also supports these findings. Demir & Eđmir (2019), based on questionnaire data collected from 195 accounting professionals in Afyonkarahisar and Konya, report that electronic taxation positively affects voluntary tax compliance and improves efficiency in the taxation process.

Similarly, Bostan & Kızılkaya (2023), based on a survey conducted with 200 income taxpayers in the Central Anatolia region, examine taxpayers' perceptions of electronic tax practices and their potential impact on tax revenues. Their findings indicate that electronic tax applications are perceived as functionally developed in terms of usability and effectiveness and are considered beneficial by taxpayers. The study further suggests that these applications may contribute to increasing tax revenues.

Williams (2023) explored e-government tools that can facilitate the transition from the informal to the formal economy. The study provides a detailed evaluation of a set of e-tools that governments can use to ease the formalization of the informal economy.

Memiş et al. (2019) evaluate the impact of electronic tax applications on tax auditing. The study is based on survey data collected from 3,819 participants residing in the provinces of Adana, Mersin, and Osmaniye in Türkiye, including sworn-in certified public accountants, certified public accountants, tax inspectors, and assistant tax inspectors. The findings indicate that electronic tax applications generally have a positive effect on tax auditing.

Kebede et al. (2025) have highlighted the potential of electronic tax systems to increase taxpayer compliance and simplify processes. However, they note that technical infrastructure deficiencies and digital literacy problems create difficulties in this process. In their study, Doan, Nguyen, and Nguyen (2025) examined the

impact of e-government on the shadow economy. An empirical analysis was conducted on a sample of 148 countries from 2003 to 2020. The analysis results showed that e-government has a significant negative impact on the relative size of the shadow economy. It was noted that this negative impact of e-government on the informal economy varies depending on the size of the government, the size of the service sector, and the level of economic uncertainty in the country. This effect was observed to be less pronounced in countries with larger government, service sectors, and economic uncertainty. Similarly, Han et al. (2025) showed that digital tax enforcement improves corporate transparency, limits shadow banking, and strengthens compliance.

Overall, the literature suggests that e-government and digital taxation reforms can improve revenue collection (Sanga, 2015), strengthen auditing capacity (Kotsogiannis et al., 2025; Han et al., 2025), and reduce shadow economy activities (Schneider, 2018; Carrillo et al., 2022; Rohman & Veiga, 2017; Elbahnasawy, 2021). However, the findings are not homogeneous across contexts. While Rohman & Veiga (2017) and Veiga & Rohman (2017) report a significant negative relationship between e-government implementation and the size of the shadow economy, Brockmeyer & Somarriba (2022) find no statistically significant effect of digitalization on tax compliance in Uruguay. Doan et al. (2025) further demonstrate that the impact of digitalization on the shadow economy varies depending on government size, the share of the service sector, and levels of economic uncertainty. Ván et al. (2022) show that firm size conditions the effect of digital tools on compliance, whereas Carrillo et al. (2022) find that digital instruments have particularly positive effects on tax compliance among small firms and sectors with historically low compliance levels in Peru. Kebede et al. (2025) emphasize that infrastructure gaps and limited digital literacy may constrain the effectiveness of digital tax reforms. In contrast, Kelikume (2021) and Ndoya et al. (2022) report a positive association between mobile penetration, internet usage, and the size of the informal sector in African countries.

Taken together, these mixed findings indicate that the effects of digital taxation reforms are context-dependent and shaped by factors such as institutional capacity, economic structure, sectoral characteristics, and technological readiness.

Despite the expanding literature on digital taxation reforms, limited research has examined their implementation at the local government level within emerging economies. While existing studies predominantly focus on macro-level outcomes or cross-country analyses, micro-level institutional evaluations remain scarce. This study seeks to contribute to this gap by providing evidence from a specific local governance context.

#### **4. Methodology**

Qualitative research is an advantageous research method because it allows for the analysis of different perspectives on a subject and enables the researcher to be part of the knowledge production process. In qualitative research, the question of "why" is investigated instead of "how many". In-depth interviews are also among the methods researchers use to collect data in qualitative data research (Milena, Dainora & Alin, 2008: 1279). In this study, the qualitative research method was adopted, and the in-depth interview technique was used. In-depth interviews were conducted as semi-structured interviews due to the advantages they provide for both the researcher and the participants.

The aim of the study was to gain a deeper understanding of how e-taxation practices are perceived by public personnel in local governments. The sample of the research consists of personnel working in the municipal financial services unit who have knowledge and experience regarding e-taxation processes (See: Table 1). In this context, 15 participants with managerial/administrative positions in Atasehir Municipality were selected according to the maximum diversity sampling method, one of the purposive sampling methods. In this context, the opinions of personnel in different positions in the financial services directorate were examined in order to analyze the diversity of perspectives on e-taxation. Therefore, the participants include officials from different departments such as the head of execution, head of the collections department, head of the accruals department, and head of the attendance department.

**Table 1.** Characteristics of the sample

Characteristic		Frequency	Percentage
Gender	Women	9	60%
	Men	6	40%
Age	18-35	4	26.6%
	36-50	10	66.6%
	51-65	1	6.6%
Education level	High school	1	6.6%
	Bachelor's	14	93.3%
	Master's	0	0%
Professional Experience	0-4	1	6.6%
	5-10	5	33.3%
	11-20	7	46.6%
	21-40	2	13.3%

**Source:** Authors' calculations

The semi-structured interview form used as a data collection tool was prepared by reviewing the relevant literature. Accordingly, the interview questions consisted of open-ended statements aimed at analyzing the effects of e-tax applications on the determined main themes. The interviews were conducted face-to-face in 2024, lasted an average of 30 minutes, and permission was obtained from the participants to record their audio. The collected data were analyzed using

thematic analysis. In this context, codes were grouped according to content and similarities and divided into main themes. The study consists of three main themes: Tax auditing, combating the informal economy, and financial reporting. Ethical rules were followed in the research, voluntary participation was prioritized, and participants were informed about the process and details regarding information sharing.

## **5. Findings**

In this study, the effects of e-taxation practices at the municipal level were evaluated using a qualitative research approach and presented under three thematic categories:

1. Tax Auditing,
2. The Shadow Economy,
3. Financial Reporting.

### **The Impact of E-Taxation on Tax Auditing**

Tax audits can be considered a costly tool used by the state to verify or monitor its actual income, i.e., the actual income of taxpayers. Tax enforcement technology can be considered an effective tool for the state to verify the actual income of taxpayers (Jacobs, 2017, 27-28). According to the findings of the study, the vast majority of participants mentioned the positive effects of e-taxation applications on tax audits. Accordingly, audit processes become faster, more transparent, and more comparable with systems such as e-declarations and e-taxation. For example, G1 and G2 emphasized that the digital processing of data in the system contributes to the analyzability of payment amounts between different periods, thus facilitating audits.

*“E-taxation has an impact on tax audits. It makes it possible to compare the declarations made, and when there are differences in the declarations, these come to light during the audit process. When the difference results in a penalty, a request for settlement is made.” (P1)*

*“It has a positive effect on tax audits. For example, a person paid 500 last year, paid through e-municipality, and this year paid 1500. They immediately wonder if there's something strange here, why it happened, and come and ask if there's something wrong. Because they pay every year through e-collection, they can make the comparison more easily. But consider this: a person might not have time, they paid 5 years ago, didn't come for 5 years, and come again 5 years later; they wouldn't know the difference. But now that they have a record in the system, they can analyze it more easily. It's good for us too. If a mistake is made, we can correct it.” (P2)*

Participants P8, P14, P12, and P15 emphasized that e-taxation provides significant time and cost advantages for tax auditing. According to them, the ease offered by digital systems not only facilitates administrative processes but also increases taxpayer awareness, which positively influences payment behavior. This, in turn, indirectly contributes to improved auditing outcomes.

*“I don't think e-taxation negatively affects tax audits. Previously, some people would avoid paying simply because they didn't feel like coming in—they would say, 'I'll stop by when I'm in the area.' But now, as they can make payments online, I believe the total amount of payments has actually increased. I think this has an indirect positive impact on auditing.” (P8)*

*“Everything is easier in terms of reporting as well. Everything can be clearly seen through the system. When we used the receipt-based system, we had to check them one by one, which was very time-consuming. That's why I think technology is more advantageous—at least for those who know how to use it.” (P12)*

In addition to these views, some participants argued that e-taxation systems may not have a direct impact on tax auditing and that other factors play a more decisive role (P3, P5). P5 acknowledged a *slightly positive effect* of e-taxation on auditing but emphasized that this impact is limited. P5 highlighted that more significant determinants—such as tax ethics, tax culture, awareness, and education—play a crucial role in shaping effective tax audits.

*“Because systems now hold more data in a computer environment, for example, the auditor can obtain a user password from the e-municipality and view and audit the transactions from where they are located in Ankara. They can do it easily, but we cannot say that the audit is better or more effective. It can reduce the time and overall costs of the audit process.” (P3)*

The majority of participants stated that e-taxation has a notable impact on tax auditing. This effect, according to participants, is closely linked to improvements in revenue collection and tax compliance, driven by increasing integration of digital technologies. For instance, Participant P1 illustrated this through the use of e-declarations, while P2 emphasized the retrospective traceability of electronically stored records. It was noted that the ease of payment offered by the system has contributed to an increase in both e-declarations and e-collections, enhancing the compliance of taxpayers' actions with relevant tax regulations.

### **The Impact of E-Taxation on the Shadow Economy**

Participants were asked whether e-taxation has an impact on the shadow economy. While Participant P1 emphasized that this issue mainly concerns tax

offices under the jurisdiction of the central government, they also stated that e-taxation practices within the scope of e-municipality have the potential to reduce informality.

Several participants explained the effect of e-taxation on the shadow economy specifically through the example of e-declarations. According to their views (P1, P3, P6, P9), e-declarations ensure that transactions are recorded, and particularly informality arising from taxpayers' lack of knowledge has been prevented to a significant extent.

Participant P3 stated:

*“Digitalization has facilitated many aspects of taxation. For instance, rental income declarations for tax purposes—many citizens were previously unaware of such requirements. Due to this lack of knowledge, they could not submit their rental income declarations. Even business owners often failed to declare because they simply didn't know how. Unfortunately, many individuals slipped into the informal economy due to insufficient information. For example, someone receiving rental income but without an accountant. Now, as rent payments are made online, everything is more transparent and easier through the system. Taxpayers can now select 'rental income' or 'residential rent' directly in the e-municipality system. Everything is more accurate. This may have a positive impact from the Ministry of Finance's perspective in terms of combating the shadow economy—at least now such activities are being recorded.”*

Participant P6 added:

*“For those who live far away or do not want to physically visit the municipality to submit declarations, the number of declarations has increased thanks to the digital system. This could have contributed to reducing the shadow economy in that sense.”(P6)*

In addition to the positive views that digital systems can contribute to reducing the shadow economy, there are also opinions suggesting that such systems may be insufficient in effectively addressing this issue (P2, P13, P12). At the same time, some participants (e.g., P10) expressed more moderate views, suggesting that digital systems may have a *partial* impact in tackling informality. Several participants also emphasized the importance of complementary factors—such as tax morale, tax awareness, and educational or informative programs—as essential for effectively combating the shadow economy.

*“Digital systems do contribute to tackling the shadow economy, but this contribution alone is not sufficient... If a taxpayer's debt is recorded in the system, e-collection is possible; otherwise, it is not. If a notification has been sent to the individual, we can verify that it is an official notice—so no*

*informal activity can be processed through the system. However, some who were once registered may now be operating informally, and others may have never been registered at all... It is very difficult for the system to directly impact the latter group.” (P2)*

*“If there is a digital record, individuals can be tracked and identified—whether it’s five or ten years later. Therefore, keeping records in digital environments may help prevent tax evasion. For instance, when someone rents out a property, some taxpayers might receive the payment in cash. But if the transaction exists digitally, it may already be reflected on the taxpayer’s profile. In that case, the state can recover potential revenue loss. So, to some extent, this can help reduce tax evasion or avoidance.” (P10)*

*“The shadow economy is broad; e-taxation may have limited or no effect. Some taxpayers evade taxes regardless of the system, so its impact is roughly 50-50.” (P12)*

Most participants stated that e-taxation contributes to combating the shadow economy. It was noted that taxpayers who evade taxes due to insufficient knowledge of how to file declarations can easily file their declarations and pay their taxes through the e-declaration system, thus bringing their activities into the formal economy. While all participants agreed on the contribution of e-taxation to the informal economy, they all stated that e-taxation is insufficient in preventing tax evasion. Furthermore, it emphasized that the effective implementation of central government policies to combat the informal economy is a crucial factor in reducing tax evasion tendencies.

### **The Impact of E-Taxation on Financial Reporting**

Participants were asked to evaluate the impact of e-taxation practices on improving the quality of financial reporting. Participants P3, P7, and P15 stated that e-taxation had limited or no direct effect on financial reporting.

*“It didn’t really have much of an effect. Once certain things are compiled through software and the data is entered accurately, reporting becomes easier. In other words, it’s more about the advancement of computer software rather than e-taxation.” (P3)*

P3 further noted that there is no significant difference in the quality of reports between those who make payments in person at municipal counters and those who pay online. However, P3 acknowledged that the overall digital transformation has led to an improvement in reporting quality compared to previous years.

Participant P2 did not link e-taxation directly to improved financial reporting. However, with the e-municipality system, financial reports for all payment methods can be accessed for any period. P2, P3, and P11 noted that

deficiencies or requests for additional information are promptly addressed, highlighting the system's continuous updating and development.

Participant P6 expressed the opinion that e-taxation has not had a significant impact on the improvement of financial reporting, as summarized in the following statement:

*"Of course, it's been comprehensive. Like the example I gave earlier, how many online applications are there? How many other applications? Reporting can be done separately. But we can't say it increased quality. It has probably increased the variety of reports rather than quality."*

Several participants (P1, P14, P13, P9, P11, P8) stated that the adoption of e-taxation systems positively contributed to improving the quality of financial reporting. These participants emphasized that digitalization facilitated data tracking, reporting accuracy, and timely access to financial records.

Participant P14 highlighted the technical advantages of digital systems in reporting:

*"For example, when you open the list of payments made by credit card or, as you call it, payments made over the internet, among our accounts, you can download it in Excel format with a single click, and with the advantage of the program you use, you can immediately make changes, filters, and for example, see how much the accrual is and how much the payment is. We can proceed by using all kinds of variants in between. I think it has a very big advantage."*

Similarly, Participant P9 focused on digital archiving and efficiency:

*"Previously, documents had to be stored physically for up to ten years. Perhaps this could at least be available in a digital environment on the internet, I think. A file could be created and uploaded there. This would eliminate the need for excess paperwork. Paper wouldn't be wasted unnecessarily, and it would be easier online. You could also store it in any format and according to any classification you want. This makes the process more efficient."*

Participant P11 noted improvements in accuracy and control:

*"With all data automatically recorded, the system provides a very easy-to-use control system for accounting personnel. Even our colleagues from IT, despite not having an accounting background, can get better results and reports than me because they work with all the necessary data and extensions together. This can have positive effects in terms of both time and quality in reporting. For example, I work with Halkbank, and we see the*

*virtual POS screen. I see the same data simultaneously in my own system. It makes things much easier for us in terms of control.”*

Participant P8 emphasized the dual benefit of reporting transparency for both municipalities and taxpayers:

*“Through the e-municipality platform, the taxpayer can see in detail what they paid and where. For example, they can see the collections they made through e-government. On what date did they make the payment? How much was it? Which period did they make it for? The taxpayer can track all of this themselves. In this sense, the quality of reporting in the municipality has increased, and this increase in quality has also been reflected to the taxpayer. A two-way effect.”*

Although electronic taxation systems are generally viewed positively, not all participants agree on their direct impact on reporting quality. While many acknowledge that the technology increases reporting speed and volume, a few participants (P3, P6, P7) remained skeptical, attributing improvements primarily to software development rather than electronic taxation itself. In general, most participants acknowledged the operational benefits (e.g., increased speed, accessibility, and automation) provided by electronic taxation systems in financial reporting; however, opinions differed on the extent to which these systems improved reporting quality beyond simply simplifying the reporting process (P3, P6, P7).

## **6. Conclusions**

The rise of the digital economy has prompted governments to take action and make efforts to benefit from the opportunities brought by digitalization. In this context, governments are fulfilling their duties and providing services to citizens quickly, seamlessly, and easily through electronic communication and transaction environments using e-government applications. A similar structure has emerged in local administrations, and in this specific study, efforts have been made to increase the efficiency and transparency of tax collection through tools such as e-taxation.

This study examined institutional experience and perceptions regarding the use of digital tools in local tax administration. A qualitative research method was adopted, and in-depth interviews were conducted with 15 experts working in the Financial Services Directorate of Ataşehir Municipality. The interview technique was chosen to allow for an in-depth exploration of participants' perspectives. The findings indicate that e-taxation contributes to the fight against the shadow economy. More than half of the participants stated that e-taxation enables faster and more effective monitoring of resources in virtual environments. The technology-based nature of this effect on resource tracking was clearly emphasized.

Another finding of the study is that many participants view the impact of e-taxation on tax auditing and financial reporting as positive. Digital tax systems were

reported to enhance reporting quality due to features such as ease of archiving, automation, time and cost savings, and fast access to information. Unlike predominantly quantitative cross-country studies, our findings suggest that the effectiveness of e-taxation reforms is highly contingent upon contextual and institutional factors. Digital literacy, administrative capacity, and taxpayer awareness emerged as key determinants shaping outcomes at the local level. This finding aligns with broader discussions in the literature emphasizing that digital governance reforms are embedded within specific institutional environments.

These findings are consistent with existing literature. Participants noted that features such as ease of filing declarations and transparent recordkeeping reduce informal activities (P1, P3, P6 and P9). Consistent with this, studies by Tenidou et al. (2015), Rohman & Veiga (2017), Chacaltana, Leung & Lee (2018), and Williams (2021) emphasize the mitigating effect of e-government on the informal economy. Some participants also argued that the positive effects of e-taxation are indirect (P8), aligning with Elbahnasawy (2021), who found that the impact of e-government on the informal economy becomes stronger in the long term. Additionally, Schneider (2018) and Zokirovich et al. (2021) highlighted the role of e-payment systems in reducing the shadow economy. In line with these findings, this study also observed that e-payments (e-collections) have a positive influence on reportability (P1, P14 and P9).

What differentiates this study from much of literature is its use of a qualitative analysis approach. While many previous studies rely on surveys or panel data analysis, this research provides in-depth insights into practitioner perspectives. Another contribution to the literature is the finding that the perceived impact of e-taxation may be limited, depending on factors such as digital literacy, tax awareness, and taxpayer engagement. While previous studies have reached more definitive conclusions regarding the effectiveness of e-taxation, this study highlights contextual nuances.

Ensuring transparency in taxation through digital systems helps reduce the shadow economy. Furthermore, the time savings and user-friendliness offered by digitalization are seen as complementary supporting factors. Yet, the shadow economy and tax audit are areas with multifaceted challenges requiring intervention from both governments and international organizations. Combating the informal economy is a multifaceted issue. In this context, alongside the use of digital tools, structural factors such as improving tax ethics and awareness, digital literacy, appropriate legal frameworks, and sustainable implementation mechanisms must be addressed. The same applies to ensuring the effectiveness of e-taxation systems. Encouraging access to and usability of digital platforms and supporting taxpayer compliance are necessary to broaden adoption. Therefore, comprehensive legal and institutional reforms aligned with national digital strategies are critical for ensuring long-term sustainability.

This study examines the government's digital practices at the local level, primarily based on e-taxation. The study's main limitations are its single-case study (a municipality in Turkey) and the fact that only municipality personnel were interviewed. Conducting in-depth interviews within a local administration limits the generalizability of the findings. Therefore, future studies could conduct an examination in municipalities of varying sizes or at the national level. Additionally, this study employs a qualitative research method; supporting these findings with quantitative data would undoubtedly lead to more measurable results.

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