

THE USE OF INFORMATION TECHNOLOGIES IN TAX INSPECTIONS WITHIN THE FRAMEWORK OF DIGITAL TRANSFORMATION IN TÜRKİYE

TÜRKİYE'DE DİJİTAL DÖNÜŞÜM ÇERÇEVESİNDE VERGİ İNCELEMELERİNDE BİLGİ TEKNOLOJİLERİNİN KULLANIMI

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ARTICLE INFO	ABSTRACT
<p>Received 19.02.2025</p> <p>Revized 13.03.2025</p> <p>Accepted 20.03.2025</p> <p>Article</p> <p>Classification: Research Article</p> <p>JEL Codes H20 H29 K34</p>	<p>Türkiye's e-transformation process started with the introduction of the Internet in 1993 and the development of the 'Türkiye Informatization and Economic Modernization' project in the same year. The biggest development of e-transformation efforts in the public sector was the establishment of the e-government gateway. In 2008, with the launch of the e-government gateway, citizens started to be served from a single point. The e-government gateway played an important role in the creation of the infrastructure of the Public Applications Center, which mediates the sharing of public data and provides Public-to-Public Data Sharing, and in data sharing between institutions. With Türkiye's digital transformation process, the integration of information technologies into tax inspection processes was realized by the Ministry of Treasury and Finance and the digital tax inspection period started. In this study, it is aimed to examine the information technologies that can be used by both the taxpayer and the administration in tax inspection processes and to evaluate their contribution to tax inspection processes. Information technologies used in the tax inspection process increase the number of tax inspections and ensure that they are finalized faster and more accurately. This situation increases the voluntary tax compliance of taxpayers. In addition, tax inspection costs decrease and transparency increases. The use of information technologies has increased the effectiveness and efficiency of tax inspections by providing a dynamic structure. Therefore, it is beneficial to update and improve the information technologies used in tax inspection according to the needs.</p> <p>Keywords: Digital Transformation, Tax Audit, Information Technologies, Electronic Document Management System, Tax Audit Analysis System</p>

MAKALE BİLGİSİ	ÖZ
<p>Gönderilme Tarihi 19.02.2025</p> <p>Revizyon Tarihi 13.03.2025</p> <p>Kabul Tarihi 20.03.2025</p> <p>Makale Kategorisi Araştırma Makalesi</p> <p>JEL Kodları H20 H29 K34</p>	<p>Türkiye'nin e-dönüşüm süreci 1993 yılında internet ile tanışması ve aynı yıl 'Türkiye Bilişim ve Ekonomik Modernizasyon' projesinin geliştirilmesi ile olmuştur. Kamuda e-dönüşüm çalışmalarının en büyük gelişmesi ise e-devlet kapısının kurulmasıdır. 2008 yılında e-devlet kapısı kullanıma açılması ile vatandaşlara tek bir noktadan hizmet sunulmaya başlanmıştır. E-devlet kapısı, kamu verilerinin paylaşımına aracılık eden, Kamudan Kamuya Veri Paylaşımı sağlayan Kamu Uygulamaları Merkezi'nin altyapısının oluşturulması ve kurumlar arası veri paylaşımında önemli bir rol üstlenmiştir. Türkiye'nin dijital dönüşüm süreci ile bilgi teknolojilerinin vergi inceleme süreçlerine entegrasyonu Hazine ve Maliye Bakanlığınca gerçekleştirilmiş ve dijital vergi inceleme dönemi başlamıştır. Bu çalışmada vergi inceleme süreçlerinde hem mükellef hem de idare tarafından kullanılacak bilgi teknolojileri incelenerek vergi inceleme süreçlerine katkısının değerlendirilmesi amaçlanmıştır. Vergi inceleme sürecinde kullanılan bilgi teknolojileri vergi incelemelerinin sayısını arttırarak daha hızlı ve doğru şekilde sonuçlandırılmasını sağlamaktadır. Bu durum mükelleflerin vergiye gönüllü uyumunu arttırıcı etki oluşturmaktadır. Ayrıca vergi inceleme maliyetleri azalmakta şeffaflık ise artmaktadır. Bilgi teknolojilerinin kullanımı vergi incelemelerini dinamik bir yapıya kavuşturarak etkinlik ve verimliliği arttırmıştır. Bu nedenle, vergi incelemesinde kullanılan bilgi teknolojilerinin ihtiyaçlara göre güncellenmesi ve geliştirilmesinde fayda vardır.</p> <p>Anahtar Kelimeler: Dijital Dönüşüm, Vergi İncelemesi, Bilgi Teknolojileri, Elektornik Belge Yönetim Sistemi, Vergi Denetim Analiz Sistemi</p>

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Introduction

Digital transformation has led to significant changes in human and social communication. The transformation in communication has become an important source of governance, not only in economic terms, but also in many areas such as education, health, public services. Digitalization and the changes it has caused have facilitated the overcoming of barriers between businesses and in business processes, reduced costs, and increased transparency and efficiency. With the innovations provided by information and communication technologies, the communication process has become easier and communication between producers, customers and employees has accelerated.

Digital transformation is “a holistic transformation that brings together human, business processes and technology elements in line with the opportunities offered by information and communication technologies and changing social needs”. Digital transformation requires not only technology transfer but also a cultural change. Especially in the labor market, it is as important as technology transfer to provide a workforce with sufficient qualifications required for change and transformation. Ensuring that employees use new technologies, direct them in line with their needs, and ensure that they become world citizens with an innovative approach that can develop advanced technologies can be realized with a quality education that can keep up with the realities of the world (Eravcı, 2020:110). Digital transformation has led to the emergence of new business models. Initially, digital transformation was mainly discussed based on information systems literature and focused on technological aspects such as optimization of operational processes in organizations (Vial, 2019). In recent years, it has received considerable attention from academics (Hanelt et al. 2020) and researchers (e.g., Verhoef et al. 2021; AlNuaimi, 2022), who emphasize the strategic, managerial and organizational implications of the concept.

As a process, digital transformation refers to a process design that concerns not only the future but also the present and the past. Therefore, the main components of transformation are human, process and technology adaptation. The fact that there are different components in this process requires addressing digital transformation with a system approach and including all layers of the transforming structure in this process. Transformation is the approach of adapting the old system and upgrading the existing system in order to keep pace with the change process and even survive in the change process. From this perspective, in the adaptation of people, process and technology, which are the main components of the digital transformation process, people are the main subject, while technology, object and process are the predicate. According to this approach, where the process is the predicate, it is necessary to transform in order to reach a better future by collecting and processing data, accessing information from information, knowledge from knowledge and wisdom. (Bozkurt et al., 2011: 35-36).

This study examines the use of information technologies in tax audits within the framework of digital transformation in Türkiye. The study consists of three parts. In the first part, the concept of digital transformation is discussed and Türkiye's digital transformation process is analyzed. In the second part, the tax inspection process and electronic applications in Türkiye are mentioned. In the third part, information technologies used in tax audits in Türkiye are analyzed.

1. The Concept of Digital Transformation and Türkiye's Digital Transformation

1.1. The Concept of Digital Transformation

Digital transformation is a dynamic process that requires continuity (Teichert, 2019). If there is a transformation in the digital field with the use of digital technology tools, this is digital transformation. Digital transformation involves the advancement of technology. In digital transformation, mobile devices, platforms such as cloud computing where digital skills can be exhibited and shared, social media tools, social media applications, and smart networks are

effective (Wade, 2015: 5). Therefore, digital transformation increases social welfare, increases productivity and adoption of new technologies that accelerate the value creation process (Demirkan et al. 2016).

Digital transformation is a process that involves many stages, concerns the business models, strategic orientations and values of organizations (Brooks, & McCormack, 2020), and involves not only technical dimensions but also social dimensions (Bonfour, 2016; Kane et al., 2015; Osmundsen et al., 2018; Stolterman & Fors, 2004). From this perspective, studies on digital transformation show that the concept of innovation is at the center of digital transformation and that digital transformation and innovation are often used interchangeably (Osmundsen et al., 2018; Reis et al., 2018). There are different digital transformation definitions in the literature. Table 1 presents various definitions of digital transformation made by different authors.

Table 1: *Various Definitions of Digital Transformation*

Liu vd. (2011)	Organizational transformation that integrates business processes into a digital economy with digital technologies.
Westerman vd. (2011)	It is the technology used by organizations to improve their efficiency and reach.
PwC (2013)	It is the fundamental transformation of the entire business world through the use of new technologies based on the internet that have a significant impact on society.
Mazzone (2014)	It is the digital evolution of an organization's business model and method, designed both strategically and tactically.
BMW (2015)	It is the complete interconnection of all sectors of the economy and society, the ability to collect and analyze the necessary information and turn it into actions.
Bouée & Schaible (2015)	It is the networking of all sectors to adapt to this new reality.
Hess vd. (2016)	It is the change of an enterprise's product, process, business model and organizational structure with digital technologies.
Parviainen vd. (2017)	Changes in ways of working, roles and job offerings resulting from the adoption of digital technologies in an organization or its operating environment.
Bondar vd. (2017)	It is the coherent networking of all economic sectors and the adaptation of actors to the new conditions of the digital economy.
Schmarzo (2017)	It is the application of digital capabilities to processes, products and assets to improve efficiency and customer value, manage risks and seize new fundraising opportunities.
Bloomberg (2018)	Digital transformation requires the organization to better deal with change in general, essentially making change a core competency as the organization becomes end-to-end customer-centric.
Deloitte (2018)	It is the use of technology to improve the performance of all sectors. In a digitally transformed business, digital technologies enable improved processes, talent engagement and new business models.
Heavin & Power (2018)	While digital transformation has its challenges, current research shows that the digital phenomenon is an opportunity to innovate and redefine the way organizations do business. The two main aspects of digital transformation are defined in terms of technology and customer/user.
OECD (2018)	It refers to the economic and societal impacts of digitization and digitalization.
European Commission (2019)	It is the combination of advanced technologies, the integration of physical and digital systems, the dominance of innovative business models and new processes, and the creation of smart products and services.
Lozic (2019)	It is the process of creating a completely new business model and, more importantly, a new strategic model of new market acquisition and profit territory.
Dijital Akademi (2020)	In line with the opportunities offered by rapidly developing information and communication technologies and changing social needs, it is the holistic transformation that organizations carry out in human, business processes and technology elements in order to provide more effective, efficient services and to ensure beneficiary satisfaction.

THE USE OF INFORMATION TECHNOLOGIES IN TAX INSPECTIONS WITHIN THE FRAMEWORK
OF DIGITAL TRANSFORMATION IN TÜRKİYE

Nasiri vd. (2020)	It is a tool for transforming business processes, cultures and organizational aspects to meet the changing market requirements brought about by digital technologies.
Bozkurt vd. (2021)	It is the process of creating new opportunities and values using digital technologies; strengthening social structures with digital technologies and making them more efficient.
Verhoef vd. (2021)	Digital transformation is the process of using digital technologies to analyze and compile collected data into usable information for evaluation, decision-making, developing new digital business models, helping businesses create value, and improving performance and impact.
Henderikx & Stoffers (2022)	It is a technology-enabled disruptive change process that affects every aspect of the organization.
Brosnan vd. (2023)	It is a mechanism that orchestrates the renewal of holistic aspects of an organization's business model, operating model and value chain through technology and digital resources.

Source: (Türkyılmaz, 2024: 283)

Since digital transformation is a dynamic process, there is no agreed definition (Haffke et al., 2016; Schallmo & Williams, 2018). The word “digital” and many other concepts derived from this word (digital readiness, digital business model, digital technology, digital innovation, digital transformation, digital economy, digital taxation and digital entrepreneurship, etc.) continue to suffer from similar confusion (Bican & Brem, 2020). Based on these definitions, it is possible to define digital transformation as an organizational transformation in which current digital technologies are followed and integrated into the business processes of all sectors.

1.2. Digital Transformation Process in Türkiye

In the process of digital transformation, the problems of developing economies, especially Türkiye, are different from the problem areas of developed countries. One of these problems is the weakness of innovation systems due to lack of infrastructure (OECD & EC, 2005). Another problem is the limited qualified labor capacity and skills required for digital transformation. According to World Bank data, developing countries such as Türkiye have significant problems with their education systems (see World Bank). The potential to increase competition and social welfare by integrating technologies from industry to production through digital transformation is not as high in developing economies as in developed economies (Erdil et. all, 2016; Erdil, 2023).

Digital transformation increases interaction and communication between countries. In Türkiye, the transformation that started with communication and media has brought change and innovation in many sectors such as finance, retailing, industry, education and health. New business models and new professions have emerged, business processes have changed, and the flexibility of labor markets has increased (Yankın, 2019: 28).

The need for e-transformation in Türkiye came to the agenda in the 1980s and was heavily influenced by the great information and technology-oriented transformation in the world in the 1990s and 2000s. The first stage of the e-transformation process was Türkiye's introduction to the Internet in 1993 and the development of the “Türkiye Informatics and Economic Modernization” project in the same year (Çarıkçı, 2010: 22). In 1997, the High Council of Science and Technology took critical steps to formulate Türkiye's science and technology policies. These steps are as follows;

- Preparation of the National Information Infrastructure Master Plan (TUENA),
- Establishment of the National Academic Network and Information Center (ULAKBİM),
- The launch of the Electronic Commerce Network.

In 1998, the “Public Net Technical Board” was established. This board played an important role in the establishment of the e-government transition process and vision. The “e-Europe Plan” prepared by the EU in March 2000 also affected Türkiye. In 2001, the EU Leaders

Summit was held and Türkiye signed the “e-Europe Project” at the Summit. With this signature, the process of transition to the information society called “e-Transformation Türkiye” started (Şahin, 2019: 105-106).

In 2003, the ‘Information Society Department’ was established within the ‘State Planning Organization’. The aim of this department is to determine strategies for information and communication technology investments of public institutions and to coordinate the e-Transformation Türkiye Project. The e-Transformation Türkiye Project aims to provide citizens with better quality and faster public services and to create a state structure that adopts the principle of having participatory, transparent, efficient and simple business processes. In the same year, the ‘e-Transformation Türkiye Project Short Term Action Plan’ was put into practice. The State Planning Organization prepared the Information Society Strategy and Action Plan (2006-2010) in 2005-2006. The main institutional structures envisaged to take part in Türkiye's transformation into an information society are the ‘E-Transformation Türkiye Executive Board’, the ‘E-Transformation Leaders Board’ and the ‘E-Transformation Türkiye Advisory Board’. The most important stage of e-government development is the establishment and execution of the ‘E-Government Gateway’. The duty and responsibility for the establishment, operation and management of the e-government Gateway, which enables the provision of public services on a common platform, through a single portal, and enables citizens to access government services electronically in a secure and efficient manner, was assigned to the Ministry of Transportation on behalf of the Prime Ministry. With the assignment of the E-Government Gateway project to Türksat, the E-Government Gateway was launched in December 2008, thus providing citizens with services from a single point. The e-Government Gateway, which is the user-facing face of e-Government services, and the infrastructure called the Public Applications Center, which mediates the sharing of public data and provides Public-to-Public Data Sharing (G2G), have played an important role in data sharing between institutions. The Tax Offices Automation Project (VEDOP) is one of the important e-government projects.

The ‘Ministry of Science, Industry and Technology’ was established to monitor and develop digital technologies. In Türkiye, the Ministry of Science, Industry and Technology established the ‘Digital Transformation Platform in Industry’ in 2016, taking into account the current situation and global developments regarding digital transformation, in a manner inclusive of public and non-governmental organizations. The Ministry of Science, Industry and Technology chairs the executive board of the platform, while the members of the executive board are the Presidents of Turkish Industry and Business Association (TÜSİAD), Independent Industrialists' and Businessmen's Association (MÜSİAD), Union of Chambers and Commodity Exchanges of Türkiye (TOBB), Technology Development Foundation of Türkiye (TTGV), Turkish Exporters Assembly (TİM) and International Investors Association (YASED). The main objective of the platform is to increase production capacity through digital transformation in the manufacturing industry, expand the capacity of technology production and spread competencies (Eleventh Development Plan, 2018: 17).

With the transition to the Presidential Government System, the Presidential Digital Transformation Office (CBDDO) was established in 2018 to ensure coordination and to establish an institutional and strong superstructure with a central coordination function. In this way, an agile governance mechanism that can ensure coordination with a strategic perspective was put into practice. Within the scope of the Presidential Decree No. 48, which entered into force after being published in the Official Gazette dated 2019, the duties and organizational structure of the Digital Transformation Office were detailed and the Head of the Digital Transformation Office was defined as the Public Digital Transformation Leader. The Public Digital Transformation Leader is responsible for the preparation of digital transformation roadmaps, especially the creation of digital transformation strategies and implementation processes in the public sector in order to increase the efficiency of the performance and services

of public institutions and to lead the digital transformation of the public sector. The most important responsibility of the Office, which works in cooperation with all Ministries, is to ensure digitalization at every stage of public, private and social life (Gencel, 2023). Another innovation introduced by this regulation is the name change of the e-Government Gateway. The new name of the common portal is “Digital Türkiye”.

2. Tax Audit Process in Türkiye

Tax inspection is an important part of the state's efforts to protect tax revenues and ensure a fair tax system. Tax audits are activities aimed at investigating, determining and ensuring the accuracy of the tax due. In declaration-based tax systems such as Türkiye, it is necessary to investigate the accuracy of taxpayers' declarations. A properly functioning tax system is necessary for the state to achieve economic, financial and social objectives such as accessing the financial resources it needs to provide public services, regulating the market, ensuring fairness in income distribution, ensuring and securing competition on equal terms in the market. It is an audit process to ensure the effectiveness and compliance of the tax system in a country. Tax administrations audit whether taxpayers fulfill their tax obligations correctly.

In Türkiye, the Turkish Tax Inspection Board (VDK) is the unit responsible for tax audits. The Turkish Tax Inspection Board is an audit unit within the central organization of the Ministry of Treasury and Finance, reporting directly to the Minister of Treasury and Finance. Although its main duty is tax audit, it also carries out activities such as inspection and investigation. It carries out its activities through tax inspectors. VDK was established on July 10, 2011 with the publication of the Decree Law No. 646 in the Official Gazette, which gathered different audit units of the Ministry of Finance under a single roof.

Tax audits are generally conducted by tax audit staff authorized by tax administrations. In Türkiye, those authorized to conduct tax audits are specified in Article 135 of the Tax Procedure Law No. 213. According to the VUK, those authorized to conduct tax audits are tax inspectors, assistant tax inspectors, the province's highest finance officer or tax office managers. Those who work as managers in the central and provincial organizations of the Turkish Revenue Administration are authorized to conduct tax audits in any case (VUK).

The purpose of tax inspection in Türkiye is explained in Article 134 of VUK. The article in question is as follows: *“The purpose of tax inspection is to investigate and determine the correctness of the taxes to be paid. If deemed necessary by those authorized to conduct the examination, the examination may be extended to the actual inventory of the economic assets included in the enterprise and the examination of the elements that should be shown in the declarations. The expenses required for the actual inventory and certified by the examiner shall be paid to the taxpayer by the Treasury.”*

As stated in the article, the purpose of tax inspection is not only to investigate and find tax losses and evasion. Those authorized to conduct tax inspections also work to determine the real tax base by checking whether the taxpayer and those responsible for taxation fulfill their tax obligations in accordance with the legislation. In addition, if necessary, an examination can also be carried out by investigating and examining the actual situation of the taxpayer.

The purpose of the tax inspection process in Türkiye is explained in Article 134 of the VUK, those authorized to conduct tax inspection are explained in Article 135 of the VUK, those subject to tax inspection are explained in Article 137 of the VUK, the time of tax inspection is explained in Article 138 of the VUK, the place of tax inspection is explained in Article 139 of the VUK, and the tax inspection period is explained in Article 140 of the VUK. In addition, the completion of the tax inspection is explained in Article 21 of the ‘Regulation on the Procedures and Principles to be Followed in Tax Inspections’, the submission of books and documents in the tax inspection is explained in Article 12 of the regulation and the issues regarding the return of books and documents in the tax inspection are explained in Article 22. Accordingly, the tax

inspection process consists of 10 steps as shown in the table below. The tax inspection process starts with the creation of the inspection task order by the VDK units and its notification to the Inspector and ends with the dispatch of the tax inspection reports issued with the pre-assessment reconciliation minutes.

Table 2: *Steps of the Tax Review Process*

Process	Content	Scope of Work Performed
Step 1	Determination of the work	Creation of the inspection task order by the VDK units and notification to the Inspector
Step 2	Start review	Commencement of work and examination by Tax Inspectors
Step 3	Legal book/document submission	Submission of legal books and documents to the examiner
Step 4	Review phase	Conducting examinations and investigations by the Tax Inspector
Step 5	Draft minutes	Submission of the prepared draft minutes to the taxpayer's information
Step 6	Signing of minutes	Signing the tax inspection report
Step 7	Evaluation of the report	Evaluation of the prepared report by the Commission
Step 8	Rest request	Meeting the rest request from the taxpayer by the commission
Step 9	Pre-assessment settlement	Realization of the pre-assessment reconciliation meeting
Step 10	Referral to the tax office	Dispatch of pre-assessment reconciliation minutes and tax inspection reports

Source: Turkish Tax Inspection Board (VDK)

3. Information Technologies Used in Tax Audits in Türkiye

Rapid advances in information technologies have also affected the taxation process. Digitalization, which aims to make the best use of the resources offered by the opportunities offered by information technologies and to achieve high efficiency, has shown its impact in all areas, including public areas, in recent years (Özen and Gürel, 2020: 17; Bostan and Kızılkaya, 2023: 48). The development of technology and the fact that it has become impossible to examine electronic data with classical methods and the effective use of information technologies has become mandatory has led to a transformation in tax examination processes (Karyağdı, 2022: 13). Information technologies are used by governments to encourage citizens to participate in the system, to provide services to citizens and to be used in government activities. Digital applications have increased citizen participation in governance by governments and ensured transparency in bureaucracy (J.Ahn, 2011). Digitalization in the tax field aims to increase efficiency by integrating tax-related information systems into business processes (Biçer, 2021: 41).

The transfer of the tax office to the internet in Türkiye has played an important role in laying the foundation for transparency and e-government practices in the public sector. With digital applications, taxpayers can complete their tax transactions much faster and simpler through the internet tax office. In this way, both taxpayers and tax offices save time and resources (Turkish Revenue Administration, 2023). Thanks to information technologies, tax inspections are concluded more effectively and efficiently (Arslan and Yiğit, 2024: 10).

VDK evaluates notices and complaints in order to use its audit power more efficiently, increase the efficiency of tax inspections and prevent unnecessary occupation of administrative authorities. VDK conducts its audits mainly to ensure that the obligations under the VUK such as notifications, bookkeeping and recording of transactions, document order and submission are fully fulfilled, and thus to prevent tax losses and evasion by detecting unrecorded transactions. With the VDK-RAS, VDK conducts studies to identify risky taxpayers according

THE USE OF INFORMATION TECHNOLOGIES IN TAX INSPECTIONS WITHIN THE FRAMEWORK
OF DIGITAL TRANSFORMATION IN TÜRKİYE

to the sectors where the informal economy and tax evasion are intense, to analyze and refer them for examination, and to ensure that they are taxed by identifying unregistered transactions through efficient and effective tax audits. It provides and develops these activities by following the developing technology and practices in the world. Thus, the importance given to audits is increased with applications such as e-book, e-invoice, e-audit, e-inspection, which are developed in parallel with the obligations imposed on taxpayers to prevent unrecorded transactions, and the quality as well as quantity of the audits are increased (VDK, 2023). VDK analyzes the activities of taxpayers by groups and sectors through VDK-RAS, which is created by collecting all kinds of information, data and statistics. In this way, it identifies risky areas and continues its progress in the IT process with the development of VDK-VEDAS, the e-audit system established within VDK during the examination process.

As a result of the developments in the field of technology, tax auditing, which is the activity of investigating and determining the accuracy of the tax to be paid, which is an important element of the Turkish tax system due to the fact that it is based on declaration, has become obligatory to be carried out with technological methods rather than traditional methods. For this reason, traditional tax auditing is gradually being replaced by electronic tax auditing, which is defined as computer-aided auditing in which the processes related to tax auditing are carried out completely or partially using electronic records.

In Türkiye, various systems have been created and implemented with the increase in information technologies and digitalization of tax transactions. The systems developed by the Tax Inspection Board to be used in tax audits are presented in Table 3 in terms of the date of implementation, the purpose of the application and the target group.

Table 3: *Systems Used in Tax Inspections*

Information Technology (Application)	Starting the Application	Purpose of the Application	Target Group
Tax Inspection Board Information Processing System (VDK-BIS)	2012	Execution of All Business Processes in Electronic Environment	Tax inspectors
Tax Inspection Board Risk Analysis System (VDK-RAS)	2013	Analyzing the activities of taxpayers in terms of groups and sectors by using all kinds of information, data and statistics and identifying risk areas through comparisons	Tax inspectors
Electronic Notification System (e-notification)	2016	Notification of Documents Requiring Notification to Electronic Addresses of Taxpayers	Tax inspectors and Taxpayers
Tax Inspection Board Taxpayer Portal	2016	The opportunity for taxpayers to follow the examination processes quickly and easily and to apply for reconciliation and rest	Taxpayers
Electronic Document Management System (EBYS)	2017	Signing of Official Documents with Qualified Electronic Signature	Official authorities and taxpayers
Taxpayer Information Report (MBR)	2017	Submission to the Inspectors of Information Regarding the Analysis Studies Conducted on Taxpayers and Summaries of Declarations and Notifications	Tax inspectors
Tax Audit and Analysis Program (VEDAS)	2017	Performing File Verifications by Quickly Analyzing Taxpayers' Data	Tax inspectors
Electronic Data Submission System (E-VIZ)	2022	Submission of Electronic Books and Documents to Tax Inspectors Securely in Electronic Environment	Tax inspectors and Taxpayers

Tax Offices Audit Information System (VDK-VEDEBIS) (E-Inspection)		Presenting audit activities through information technologies, identifying new risk areas and developing solutions	Tax inspectors
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Source: (Arslan & Yiğit, 2024: 10)

In our country, most of the tax examinations are carried out by the Tax Inspection Board (VDK). Computer-aided technologies should be utilized at a high level in order to be able to deal with the data, most of which are stored in digital media. In this context, on 09.01.2017, the Electronic Document Management System (EBYS) was integrated into VDK-BIS (Tax Inspection Board Presidency Information Processing System), which is used to monitor all processes of tax inspections from the initial stage to the reporting and transmission to the necessary units in electronic environment, to create statistics, and to make the information, data and other statistics available to all managers and tax inspectors.

3.1. Tax Inspection Board Information Processing System (VDK-BIS)

The VDK-BIS program, which serves to monitor all works and processes of the VDK Presidency in an electronic environment, was made available to all Tax Inspectors as of February 2012 (VDK Annual Report, 2012: 58). VDK-BIS is used by tax inspectors in the entire process from the beginning to the completion of the examination (VDK, 2023). With VDK-BIS, the entire work of the VDK Presidency and all inspectors is monitored and processed through this system. VDK-BIS has been developed to create and monitor all elements such as follow-up, reporting, and communication between units in electronic environment, to create necessary statistical information, and to make information and experience available to all inspectors (VDK Annual Report, 2013: 57; VDK Annual Report, 2014: 52). VDK-BIS was integrated with the Electronic Document Management System (EBYS) on 09.01.2017. The electronic document management system is a workflow office automation system that produces reports required for decision-making and work follow-up, provides information to and receives information from external systems.

3.2. Tax Inspection Board Risk Analysis System (VDK-RAS)

VDK-RAS, created by VDK, is used to analyze taxpayers' activities by groups and sectors, make comparisons, and thus identify risk areas. This application collects continuous and periodical information on taxpayers from public institutions and organizations, other institutions and organizations in the nature of public institutions, and real or legal persons (VDK Annual Report, 2013: 35). According to the information obtained, the activities of taxpayers are analyzed in terms of groups and sectors, comparisons are made, and thus risk areas are identified. According to the identified risk areas, taxpayers with high marginal benefit and priority in the examination are identified from the data. Effective examination processes are carried out for the identified taxpayers. In audit, examination and research activities, VDK-RAS enables the provision of information and data related to the examination from a single point through the Taxpayer Information Report.

3.3. Electronic Notification System (E-Notification)

The e-notification practice has started in Türkiye as of April 1, 2016 and has been integrated into the examination process by the VDK Presidency. E-notification is the transmission of a document created in a computer or electronic environment via electronic mail from the internet through the official authority capable of notification (Özbay, 2014: 1421; Tüzüner, 2016: 145). Article 3-ç of the Electronic Notification Regulation defines electronic notification as notification made electronically in accordance with the Notification Law and Regulation. The fact that notification can be made electronically reduces the practices that result in the irregularity of the notification process (Akkan, 2018: 51-56). E-Notification, the documents that must be notified according to the TPL No. 213 are notified to the electronic addresses of

the taxpayers through the E-Notification system. This notification has the same result as the notification made in physical environment (VUKGT, 2015). The notification process, which takes weeks in the physical environment, is realized in seconds with the electronic notification system and saves paper, time and energy. The notification status regarding the electronically notified documents is notified to the taxpayer's predetermined phone number via SMS and/or e-mail.

3.4. Tax Inspection Board Taxpayer Portal

VDK Taxpayer Portal was prepared by the VDK Presidency in order to raise awareness on tax awareness and taxpayer rights within the framework of a taxpayer-oriented and participatory management approach. "VDK Taxpayer Portal" was launched on July 1, 2016 on the website www.vdk.gov.tr. Taxpayers who are subjected to tax inspections can find out the stage of the inspections being conducted on them, give their opinions and make their requests more quickly and easily through this portal. At the same time, taxpayers have the opportunity to download and fill out the petitions for rest and reconciliation requests through this portal and can submit their suggestions regarding the services provided. They can also receive information on the results of these transactions (VDK, Annual Report, 2016: 35).

3.5. Electronic Document Management System (EBYS)

Rapid developments in information and communication technologies have increased the efficiency in the managerial activities of organizations, and the effective use of electronic media in management activities has directly affected the execution of corporate information and document transactions (Odabaş & Rukancı, 2004: 404). E-government, e-transformation studies and the realization of corporate business processes through electronic environments, documents produced on paper in offices, stored in files or archives have been moved to electronic environments and started to be produced in these environments and processed in electronic systems (Umut & Külçü, 2014: 104). E-government refers to the new understanding that has emerged with the change created by the demands of the society for democracy, participatory governance, better governance and effective services and the developments in information technologies. It is the provision of public services in a more effective, fast, economical, quality, continuous, reliable and transparent manner by using information and communication technologies in a way to meet the expectations of citizens and the business world (Balcı & Kırılmaz, 2009: 50-51).

EBYS refers to the system that protects the content, format and relational characteristics of all kinds of documentation created by administrations while performing their activities and ensures the management of these documents in the process from their production to their final liquidation. EBYS are applications based on computer automation and personnel-technology interaction, which are created with the integration of software, hardware and communication technologies and function to realize the processes of document production, completion of the cycle, recording, storage, protection, archiving, recall from the file or archive, and destruction when the period expires in accordance with the legal regulations (Arslan & Kaya, 2017: 2001-2002).

EBYS has an important share in e-government applications. EBYS provides transparency in public administration, strengthens accountability, strengthens adherence to the law, and provides effective and fast management. The main conveniences offered to the user by EBYS are managing documents, filing and storing them for reuse, communicating through the exchange of documents, collaborating on documents and automating document flow (Zantout & Marir, 1999: 472). Another contribution is that it contributes to effective, economical and efficient resource utilization. With EBYS, correspondence is standardized, referral and approval processes are shortened, and stationery costs and time are saved.

Organizations that will use electronic documents should first establish an electronic document management infrastructure. Strategies for the production, provision, protection, destruction and access of documents in the organization should be determined and a document management policy that includes these strategies should be established. It is important to review the system at certain intervals for the continuity and sustainability of EBYS systems. In this framework, interviews and questionnaires to be conducted with the people using the system, comparisons with other systems and applications, and performance analyzes on the technical features of the system should be carried out at certain intervals (Özdemirci et al., 2009: 335-341). Due to the complexity of the electronic environment, electronic document management is also based on technical application. Therefore, systematized document management within the organization is important for the transition to electronic document management. In addition, it is important to institutionalize document and archive management, to perform all transactions with established standards and rules, and to structure the software process (Bayram et al., 2012: 3). In our country, the Tax Inspection Board started to implement EBYS in 2017 and its integration with the VDK BIS system was completed.

3.6. Taxpayer Information Report (TIR)

The Taxpayer Information Report refers to the program interface that provides the presentation of all information that is tax-related and tax-relevant to the taxpayer without the need for any other program, source, correspondence, etc. based on the information available in the database, other public institutions/organizations and the private sector (GSM operators, banks, cargo companies, etc.) about the taxpayer under investigation (VDK, Annual Report, 2023: 12). In order to be used in audit and examination activities and to provide guidance to Tax Inspectors, the MBR, which includes taxpayers' declaration and notification summaries regarding the analysis studies conducted on risky taxpayers, is submitted electronically to the Tax Inspector in charge via VDK-BIS, regardless of whether it is sent from VDK-RAS or not. With VDK-RAS, analysis screens such as third party data (EMRA data, Return information, e-Documentation data, Tourism share, Valuable Housing Tax Information), rate analysis, sales analysis, etc. have also been added to the MCR in order to accelerate the examination activities and facilitate the assessments to be made by the Tax Inspectors (VDK, Annual Report, 2023: 29). In order to facilitate tax inspections, MBR (Taxpayer Information Report) was made available to inspectors through VDK-RAS as of 2017 (VDK, Annual Report, 2017: 16).

3.7. Tax Audit and Analysis Program (VEDAS)

An e-audit analysis system called VEDAS was developed within VDK in order to complete tax audits more efficiently and in a shorter time by using electronic data such as e-books and e-invoices produced by taxpayers. VEDAS is a program that is used effectively in tax inspections of taxpayers registered in the e-document system and provides significant time savings in the generation of analysis data. While developing VEDAS, it was aimed that the program should also work on big data, taking into account today's conditions and evolving electronic recording obligations. In this way, regardless of the size of the electronically recorded data, the risks and uncertainties of working on a sample are eliminated (VDK, Annual Report, 2017: 39; Arslan & Yiğit, 2024: 14).

In order to test the e-audit infrastructure developed within the VDK Presidency and the VDK-VEDAS software, tax audits that can be completed using e-audit techniques are planned. The technical infrastructure that will enable the development of VDK-VEDAS is created through the feedback to be obtained from the examinations and examination assignments are made for this purpose. VDK-VEDAS software has been provided with standard analyzes that can be easily used by all tax inspectors. The work of project teams to increase the variety of standard analyzes is being put into practice (VDK, Annual Report, 2018: 36).

3.8. Electronic Data Submission System (E-VIZ)

The widespread use of electronic books and documents, developments in computer-aided audit techniques, and developments in digital data transfer and storage processes have made remote examination possible and triggered the process. In this context, as a result of the studies conducted by the VDK Presidency, the Electronic Data Submission System (e-Viz) Project was developed and put into use as of December 2022 (VDK, Annual Report, 2022: 37). E-Viz is a system that enables the electronic submission of electronic books and documents and other documents kept/generated electronically to the Tax Inspector conducting the examination (HMB, 2024). The opportunities provided by the E-Viz system are as follows (VDK Annual Report, 2023: 11):

- The possibility of submitting electronic books and documents and all other files created in electronic environment that the Ministry permits to be kept in electronic environment,
- Taxpayers can submit electronic books and documents electronically 24/7 within the legal periods without disrupting their working life,
- In addition to electronic books and documents, taxpayers can also submit all other files created electronically through the system,
- Track the stage of the submission process,
- Possibility to manage submission transactions through a single system for all tax examinations for which the submission officer is authorized,
- File immutability information for each file uploaded to the system,
- Possibility to legally document all files submitted by taxpayers with the document produced using a secure electronic signature.

3.9. Tax Offices Audit Information System (VDK-VEDEBIS- E-Audit Applications)

E-inspection is a continuously developing and dynamic inspection activity that performs the functions of traditional inspection in electronic environment and has a high adaptability to developments and innovations in the field of informatics. The purpose of e-inspection, as in the inspection activity, is to provide guidance and guidance to the administration, to identify and evaluate the risks faced by the units within the automation system in mutual cooperation and coordination with the administration, and to contribute to risk management. This contribution comes in the form of proposing solutions to improve the automation applications for inspection activities, the evaluation of data and the application of other new information technologies for the administration and taxpayers. Within the framework of this purpose, existing data are selected and received in line with predetermined criteria and risk indicators, and then processed, evaluated and analyzed with the help of various computer programs. Within the scope of e-inspection activities, large amounts of data can be evaluated and analyzed in a short period of time, thus achieving constructive, preventive, deterrent, solution-proposing and automation system-improving inspection results. With e-inspection, many more transactions can be inspected much more quickly than can be done in traditional inspections. The e-inspection activities conducted by VDK are carried out through a program called VDK-DEBIS (Tax Inspection Board Presidency Information System), which consists of the VDK-VEDEBIS (Tax Offices Audit Information System) module.

E-inspection activities within the scope of VDK-VEDEBIS are carried out at three levels (VDK, 2023: 57):

- Reviewing the queries generated through VDK-VEDEBIS and separating the ones that can be concluded by inviting the taxpayer for explanation or taking the taxpayer to a tax audit and ensuring that such queries are transferred to the relevant Branch Directorate,
- Identifying the queries generated through VDK-VEDEBIS that highlight deficiencies or defects in the internal functioning of the inspected unit with a risk-oriented approach,

- Identifying inspection queries that include risk-based issues independent of these queries.

The issues that stand out in the VDK-VEDEBIS e-inspections are as follows:

- Contributing to the operation of automation systems in a way that produces minimum errors through the control mechanisms to be established.
- Identifying areas vulnerable to corruption and ensuring that measures are taken against them.

4. Conclusion

Digital transformation has led to significant changes in human and social communication. The need for transformation has emerged not only in economic terms, but also in many areas such as education, health and public services. The innovations provided by information and communication technologies developed with digital transformation have facilitated communication processes. In line with changing social needs, there has been a holistic transformation that brings together human, business processes and technology elements.

The need for e-transformation in Türkiye started to be felt in the 1980s and was heavily influenced by the information and technology-driven transformation in the world in the 1990s and 2000s. Türkiye's e-transformation period began in 1993 with the introduction of the Internet and the development of the 'Türkiye Informatics and Economic Modernization' project. In 1997, important steps were taken by the High Council of Science and Technology to formulate Türkiye's science and technology policies, such as the preparation of the National Information Infrastructure Master Plan (TUENA), the establishment of the National Academic Network and Information Center (ULAKBIM), and the launch of the Electronic Commerce Network. In 1998, the establishment of the 'Public Net Technical Board' played an important role in the process of transition to e-government. In 2001, Türkiye signed the 'e-Europe Project' at the EU Leaders' Summit, which started the process of transition to the information society called "e-Transformation Türkiye". As of December 2008, the E-Government Gateway became operational to provide services to citizens from a single point. The E-Government Gateway has assumed an important role in inter-institutional data sharing through the infrastructure called the Public Applications Center, which mediates the sharing of public data and enables Public-to-Public Data Sharing. The Tax Offices Automation Project (VEDOP) is one of the important e-government projects.

In our country, most of the tax inspections are carried out by the Tax Inspection Board. In order to carry out tax inspections effectively and to carry out transactions with data stored in digital environment, computer-aided technologies should be utilized at a high level. For this reason, it has been ensured that all processes of the work carried out for tax inspections, from the initial stage to the reporting and transmission to the necessary units, are monitored electronically, statistics are created, and the information, data and other statistics obtained are made available to all managers and tax inspectors. For this reason, the Tax Inspection Board Presidency Information Processing System (VDK-BIS) was integrated with the Electronic Document Management System (EBYS) as of 09.01.2017.

The Tax Inspection Board takes into account notices and complaints in order to use its audit power more efficiently, to increase the effectiveness of tax inspections and to prevent unnecessary occupation of administrative authorities. With the VDK-RAS established by the Tax Inspection Board, risky taxpayers are identified, analyzed and referred for examination according to the sectors where the informal economy and tax evasion are intense. Thanks to the efficient and effective tax audits carried out, it identifies unrecorded transactions and works to ensure that they are taxed. It develops these activities by following the developing technology and practices in the world. Thus, by increasing the importance given to audits through applications such as e-audit (VDK-VEDAS) and e-inspection (VDK-VEDEBIS), which are

THE USE OF INFORMATION TECHNOLOGIES IN TAX INSPECTIONS WITHIN THE FRAMEWORK
OF DIGITAL TRANSFORMATION IN TÜRKİYE

developed in parallel with the obligations imposed on taxpayers to prevent unrecorded transactions such as e-books and e-invoices, the quality as well as quantity of the audits are increased. In addition, e-notification, Taxpayer Portal, Electronic Document Management System (EBYS), Taxpayer Information Report (MBR) and Electronic Data Submission System (E-VİZ) continue to be used to facilitate tax inspectors and taxpayers in tax inspection processes.

In Türkiye, moving the tax office to the internet environment has increased citizens' participation in governance, supported the development of transparency in the public sector and played an important role in the formation of e-government applications. With digital applications, taxpayers can perform their tax transactions much faster and simpler through the internet tax office. In this way, both taxpayers and tax offices save time and resources. Although there has not been a significant increase in the number of tax inspection staff, the level of inspections has increased. It has also supported voluntary tax compliance by increasing the confidence of taxpayers.

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