

The role and function of the e-signature, time stamp, and e-evidence in the context of Turkish commercial law

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One of the aims of the Turkish Commercial Code (TCC) is to enable digital companies to promote digital transformation. To achieve this aim, it has brought many novelties to Turkish Law. This paper explains the roles and functions of the e-signature, time stamp and e-evidence in the context of the TCC, and concludes that although the TCC promotes digital companies, further changes to the legal framework are necessary to keep up with the technological advancements.

Introduction

One of the aims of the Turkish Commercial Code, enacted in 2012, is to enable digital companies – that is, companies that have no physical presence – to utilize digital transformation. To achieve this aim, the TCC provides a significant number of changes to the law, such as e-invoicing, corporate governance, e-books, registered e-mail and an e-trade registry. In addition, as there is a need for trust and security regarding transactions online, the TCC includes two essential instruments: the e-signature and the time stamp. The TCC enables all legal persons (which includes natural persons) to conclude mandatory legal transactions online using a qualified e-signature and timestamp. Legal persons have the right to create ‘baseline’ documents of mandatory transactions, (such as documents which are essential for company establishment, annual general meeting decisions, commercial books, invoices etc.), in an electronic environment. The TCC has determined the evidential value of mandatory transactions in line with other related laws and regulations, which have important

implications in the context of trust, security, and commercial transactions. This paper explains the roles and functions of the e-signature, time stamp and e-evidence under the TCC, and notes a number of important points on the TCC’s interplay with other applicable legal frameworks in the context of commercial transactions. Finally, it underscores the importance of being open to amendments to be able to keep up with technological advances.

Underpinning principles of the digital company

Digital by default and once only

Although ‘digital by default’ and ‘once only’¹ are terms that belong to digital transformation and e-government concepts, in this article, we consider them in the context of digital companies. Digital companies provide their services digitally over multiple channels. Once-only means that a digital company will obtain information from its customers, other businesses, shareholders, employees, providers and public institutions only once, ‘so that this information can be re-used internally in compliance with data-protection rules’.²

Security and trust

Security covers data, personal data and physical assets. Digital companies should ensure that their digital solutions are compliant with relevant IT security, cyber security and information security policies and standards, such as ISO 27001³

¹ Communication to the Commission, European Commission Digital Strategy A digitally transformed, user-focused and data-driven Commission, (Brussels, 21.11.2018, C(2018) 7118 final), https://ec.europa.eu/info/sites/info/files/file_import/digitally-transformed_user-focused_data-driven_commission_en.pdf.

² Communication to the Commission, European Commission Digital Strategy A digitally transformed, user-

focused and data-driven Commission, p 5: see also the General Data Protection Regulation: <https://eur-lex.europa.eu/eli/reg/2016/679/oj> and Turkish DPL numbered 6698:

<https://www.mevzuat.gov.tr/MevzuatMetin/1.5.6698.pdf>.

³ <https://www.iso.org/isoiec-27001-information-security.html>.

(Information Security System Management System Standard and policies required by that standard) and ISO 27032⁴ (Cybersecurity Standard). To that extent, digital companies need to safeguard the availability, confidentiality, authenticity, integrity and non-repudiation⁵ of data provided by employees, providers, stakeholders, businesses and public authorities. To ensure security, build trust and create a trustworthy digital ecosystem,⁶ digital companies should take applicable cybersecurity rules and personal data protection rules and policies into consideration. By way of example: the Turkish Data Protection Law⁷ and its relevant secondary legislation⁸ and the General Data Protection Regulation (GDPR)⁹ of the EU (based on criteria, which is enshrined in article 3 of the GDPR), related provisions on cybersecurity and data protection (particularly articles

51 and 60) of the Turkish e-Communication Law,¹⁰ the Turkish National Cybersecurity Strategy Report¹¹ and Turkish Internet Law numbered 5651.¹²

The legal grounds of the digital company: related provisions of the Turkish Commercial Code

The Turkish Commercial Code number 6102 entered into force in 2012.¹³ One of the important changes that the TCC introduced to Turkish Law is the concept of a 'digital company'. Several provisions of the TCC shape the concept of digital company in different ways. The important pillars that enable the digital company under the TCC can be listed as follows:

e-Invoice (TCC Article 1525)

⁴ <https://www.iso.org/standard/44375.html>.

⁵ There are significant problems with non-repudiation, for which see Stephen Mason *Electronic Signatures in Law* (4th edn, Institute of Advanced Legal Studies for the SAS Humanities Digital Library, School of Advanced Study, University of London, 2016), the issues set out in paras 16.14-16.26 – the book is a free download: <http://ials.sas.ac.uk/digital/humanities-digital-library/observing-law-ials-open-book-service-law/electronic-signatures>.

⁶ EU Budget for the future Investing in the Future Digital Transformation 2021-2027 (6 June 2018), https://ec.europa.eu/commission/sites/beta-political/files/budget-june2018-digital-transformation_en.pdf.

⁷ Obligations Concerning Data Security ARTICLE 12- (1) states that the data controller is obliged to take all necessary technical and organizational measures to provide an appropriate level of security for the purposes of: a) preventing unlawful processing of personal data, b) preventing unlawful access to personal data, c) ensuring protection of personal data; in case of data breach subparagraph (5) envisages that in case the data processed are obtained by others by unlawful means, the data controller shall communicate the breach to the data subject and notify it to the Board within the shortest time. Where necessary, the Board may announce such breach at its official website or through in any other way it deems appropriate; <https://www.kvkk.gov.tr/Icerik/6649/Personal-Data-Protection-Law>.

⁸ For example: According to the Turkish Data Protection Authority's decision numbered 2018/10 on Sufficient Measures to be Taken by Data Controllers in Processing Special Categories of Personal Data; special categories of personal data shall be transferred via registered mail, or encrypted corporate e-mail; – Communiqué On The

Principles And Procedures For The Request To Data Controller - Procedures of Request - ARTICLE 5 – (1) Data subjects may make requests to data controllers within the scope of their rights specified in Article 11 of the Law, in writing or by registered electronic mail (KEP) address, secured electronic signature, mobile signature or by the e-mail address which has been previously recorded in the data controller's system or by means of a software or application designed for purposes of this request. - Guideline on Personal Data Security (Technical and Organizational Measures) envisages minimum requirements for keeping personal data secure.
⁹ Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (Text with EEA relevance) OJ L 119, 4.5.2016, p. 1–88.

¹⁰ <https://www.mevzuat.gov.tr/MevzuatMetin/1.5.5809.pdf>.

¹¹ <https://www.uab.gov.tr/uploads/pages/siber-guvenlik/2016-2019guvenlik.pdf>.

¹² Law on regulation of publications on the internet and suppression of crimes committed by means of such publications, <https://www.mevzuat.gov.tr/MevzuatMetin/1.5.5651.pdf>.

¹³ Note that The New Law was promulgated in the Official Gazette on 14 February 2011. As stated in the New Turkish Commercial Code No. 6102 and Law No. 6103 on Validity and Application of the Turkish Commercial Code, the New Law has become effective on 1 July 2012 available at

<https://www.mevzuat.gov.tr/MevzuatMetin/1.5.6102.pdf> and repealed the old Turkish Commercial Code Law No.

6762 dated 2 July 1956

<https://www.wipo.int/edocs/lexdocs/laws/en/tr/tr021en.pdf>.

e-Preservation and Submitting (Article 82)

Time stamp (TCC Article 1526)

e-Signature (TCC Article 1526)

e-Commercial Register

Certified e-Mail (TCC Article 18, 1525)

e-Corporate Governance

e-Company Meetings (such as e-General Meeting, e-Board of Management Meeting) (TCC Article 1527)

e-Transparency (TCC Article 1524): Website, Information Society Services, Accessibility and Access Right

Digital companies, which have the above-mentioned components, need to transform all their relationships, in terms of communication with other interested parties (such as government, other companies, shareholders, customers, employees), into digital relationships. By doing so, a digital ecosystem will be created, and the e-transformation of the businesses will take place. The Ministry of Trade's informatics system – the Central Registry and Record System (MERSIS)¹⁴ – which contains an e-commercial registry system, envisages end-to-end digital flow during the company's lifetime. 'Legal e-notification' is another specific regulation related to the subject. According to the provisions of article 7a/1,7 of the Turkish Notification Code, 'It is mandatory to notify all private legal entities, including those established by law, electronically.'¹⁵ There is also a By-Law on Legal e-Notification, which covers rules and principles of e-notification.¹⁶ Article 7 of the Bye-Law applies to those who are not subject to the obligation to receive electronic notification addresses: 'Natural or legal persons who fall under the second paragraph of Article 5 may apply to the General Directorate of Turkish Post (PTT) to obtain an electronic notification address (Article 7/(1)).' The PTT determines the

identity of the applicant according to the following information and documents, as provided in article 7/2:

a) identification number with the Republic of Turkey for Turkish citizens identity card, passport or other valid official document instead of identity card or secure electronic signature; or

b) foreigners identification number, Blue Card number, passport or secure electronic signature.

The addressee obtains access to the electronic notification address using his or her secure electronic signature or authentication via the e-Government portal¹⁷ or by using the one-time verification code sent to his or her mobile telephone with the password provided by PTT (article 11/1 of By-Law).

In 2018 the PTT established a system called the 'National Electronic Notification System' (UETS) in order to carry out electronic notification processes in accordance with the Legal Notification Law and By-Law on Legal e-Notification (article 3/i). The UETS keeps evidence of whether the electronic notification has reached the address of the addressee and notifies these records to the relevant public authority and to the institution authorized to issue a notification¹⁸ within twenty four hours at the latest (article 12 of By-Law). Evidence records¹⁹ can be provided as evidence unless otherwise proved by the addressee or other relevant third parties (article 14 By-Law). There is also retention period for transactions and evidence records (article 15 of By-Law), which are:

a) Transaction records performed by system administrators and operators working under UETS, the authority and authorities authorized to issue notifications, and interlocutors for ten years.

b) Ten years of transaction records for situations that threaten the continuity of

¹⁴ Central Registry Recording System:
<https://mersis.gtb.gov.tr/>.

¹⁵

<https://www.mevzuat.gov.tr/MevzuatMetin/1.3.7201.pdf>.

¹⁶

<https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=29033&MevzuatTur=7&MevzuatTertip=5>.

¹⁷ <https://www.turkiye.gov.tr/>.

¹⁸ Article 3/i) Authority, administration, institution, organization and persons authorized to issue notification in accordance with the Notification Law,

¹⁹ According to Article 3/b evidence records are records produced and signed with an electronic certificate stating that the notification was received by the National Electronic Notification System (UETS) from the relevant authority and authority authorized to issue the notification, reached the addressee's electronic notification address, read and deemed to have been duly notified.

UETS business processes or information security, or that are unpredictable.

c) Registration of the addressee to UETS ten years.

d) Evidence records for thirty years.

e-Signature

In general

According to Turkish e-Signature Law dated 2004, the electronic signature is defined in article 4 'as a signature that (i) is exclusively connected to the owner of the signature, (ii) is exclusively formed by the electronic signature-forming device that is solely used by the signature owner, (iii) allows to identify the signature's owner via qualified electronic certificates and (iv) allows to determine whether the electronically signed data is later altered or not'.²⁰

The e-Signature Law recognizes only a 'qualified e-signature'. The advanced e-signature is left out of scope of the e-Signature Law. The e-Signature Law does not contain a specific definition of an advanced e-signature because such signatures regulate the legally binding nature of the equivalent of a handwritten electronic signature for natural persons. The provisions of article 5 states that the qualified e-signature has the same legal effect as a handwritten signature. Article 5/2 specifies that certain legal transactions cannot be concluded with a qualified electronic signature. Accordingly, it is not possible to use qualified electronic signatures for documents and contracts subject to specific form or procedural requirements, and for security agreements except bank guarantees. For example, it is forbidden to use qualified e-signatures for marriage, real estate buying or selling.

Scope of application

The e-signature plays an important role in terms of the concept of the digital company. The main provision that regulates the e-signature is article 1526 of the TCC. Article 1526/1 provides for securities, which cannot be assigned, with a qualified e-signature. In 2019, the Ministry of Trade and the Ministry of Justice decided to make amendments

concerning this provision, taking into account new developments since 2012,²¹ and they prepared a draft law on e-bonds and e-cheques. For e-bonds and e-cheques, the qualified e-signature prohibition will be removed in the near future. With this progressive step, the e-signature prohibition now only applies to bills of exchange.

Article 1526/3 is a truly innovative and empowering provision in terms of signatures. This provision enables all commercial companies and corporate and individual entrepreneurs to use the qualified e-signature for all mandatory transactions (such as keeping books, registration and announcement to trade registry) of the TCC and baseline documents essential for such transactions. Considering the nature of related transactions, if there is a need to determine the date and time, a time stamp must be used alongside a qualified e-signature. When uploading relevant documents to the MERSIS system or undertaking other kinds of transactions using the MERSIS system, if transactions do not contain a timestamp, the MERSIS informatics system adds a timestamp to related transactions or documents in order to create undeniability and e-evidence regarding transaction time. Another aim of this practice is to remove the expense of providing a timestamp by the citizen, thereby expanding the use of the MERSIS system.

Article 1526/4 sets out when qualified e-signatures can be used by company representatives. According to this provision, authorized signatories can sign with qualified e-signatures, which are produced on behalf of the company and in the name of signatory. In such cases, when producing a qualified certificate, the electronic certificate service provider has to write both the signatory and the company name into the certificate holder field.

e-General Assembly Meeting (e-GEM)

This article envisages some important principles for the e-GEM:

1. The meetings of executive boards or Boards of Directors of incorporated companies may be held via electronic

²⁰ See full text of the e-Signature Law: <https://www.mevzuat.gov.tr/MevzuatMetin/1.5.5070.pdf>; Study on Mutual Recognition of eSignatures: Update of Country Profiles Turkey country profile (July 2009), <https://ec.europa.eu/idabc/servlets/Doc761f.pdf?id=32350>

²¹ Electronic Era Starts for Cheques and Promissory Notes, https://esinxchange.com/rv/ff004b1d784f403183bcaca8364c8934e5441bae?utm_source=Mondaq&utm_medium=syndication&utm_campaign=LinkedIn-integration.

media, completely or through a method by which certain members may also participate in a meeting by electronic means while some members are physically present.

2. Participation, expressing opinions and voting in the shareholders assembly and General Assembly by electronic means gives rise to the same legal consequences of physical participation as regards expressing opinions and voting.
3. The company management provides all necessary conditions for voting by electronic means, making available any tools to shareholders as required by company charters or the Articles of Association.

According to the provisions of article 1527/5 of the TCC, it is compulsory for companies with shares listed in the Borsa Istanbul to implement the provisions of article 1527 of the TCC²² regulating 'Meetings on Electronic Environment',²³ which is the mechanism for participating and voting in General Assemblies electronically.

The e-GEM project was started in November 2011, and the Turkish Central Securities Depository (CSD) launched the system in October 2012.²⁴ The major obstacle in corporate governance in Turkey was the low level of shareholder participation. The e-GEM aims to solve the problems and obstacles concerning general assembly meetings, which include:

1. Problems in maintaining a standard regarding the quality of the information shared in between financial intermediaries (issuers/intermediaries);
2. The costs attached with organizing physical meetings (issuers);

3. The preparation and distribution of physical documents before the meeting (issuers);
4. The cumbersome and costly processes in preparation of legally required documents (investors/intermediaries);
5. The practice of freezing shareholdings before general meetings (investors/intermediaries);
6. Operational and out of pocket costs of attending general meetings physically (investors);
7. Time and geographical constraints (investors/intermediaries).

The e-GEM is CSD's specific multilingual system (Turkish and English), which is adaptable to local systems (beneficial owner based or hybrid), legal requirements and industry practices.

The changes made in the TCC paved the way for direct shareholder participation in GMs, introducing real time interaction of shareholders and company representatives that chose not to attend a meeting in person, as well as electronic participation and electronic voting.²⁵ Accordingly, the TCC enabled the following:

1. Providing for electronic participation on the same legal basis as participation in physical meetings;
2. Mandating that all listed companies convene electronic GMs concurrently with physically present meetings, and
3. Ensuring information security and ease of access with the use of qualified electronic signatures, providing for the same legal effect as hand-written signatures.

The new standard for shareholder identification is the list of shareholders that contains information on shareholders or their proxies. This can be obtained

²² In order to clarify Article 1527 of TCC, the Ministry of Trade has been published two secondary legislation: The Communiqué on Electronic General Meeting System Applicable at General Assemblies of Joint Stock Companies, <https://www.mevzuat.gov.tr/File/GeneratePdf?mevzuatNo=16548&mevzuatTur=KurumVeKurulusYonetmeligi&mevzuatTertip=5> and The Regulation on Attendance at General Assembly Meetings of Joint Stock Companies by Electronic Means, <https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=16557&MevzuatTur=9&MevzuatTertip=5>.

²³ Yayla Umit, Anonim Ortaklık Genel Kurulları Elektronik Genel Kurullar, 2013.

²⁴ Introduction to 'e-GEM: Electronic General Meeting System', <https://egk.mkk.com.tr/egkweb/assets/home/content/e-GEM.pdf>.

²⁵ Introduction to 'e-GEM: Electronic General Meeting System', <https://egk.mkk.com.tr/egkweb/assets/home/content/e-GEM.pdf>.

from the CSD system one day before the meeting. Accordingly, the e-GEM system has some requirements: in order to join the platform, sign related documents and vote, the investors or users should have a qualified e-signature either in form of smart card²⁶ or on a mobile device (SIM card or e-SIM).²⁷

The e-signature is an essential component of the e-GEM. For people to attend the general meetings virtually, the investors have to be registered to the e-GEM system using their e-signature or mobile signature.²⁸ Investors are expected to attend virtually, in person or via proxy. For proxy, the investors are able to issue an electronic proxy via the e-GEM; a physical Power of Attorney document is no longer required in Turkey.²⁹

e-Board of Management (e-BMS)

Scope and functions

The Central Securities Depository of Turkey's capital markets, the CSD,³⁰ has launched a new information system that allows for meetings of board of directors and management board meetings to be held virtually in an electronic environment. The Electronic Board of Management System (e-BMS)³¹ is a new technology that can be used by all capital stock companies and can manage the entire meeting process. With e-BMS, boards of directors of joint stock companies and management boards of equity firms can participate in meetings, send their opinions and recommendations and are able to cast votes. In short, board members can make decisions virtually without conducting a physical meeting. With the e-BMS, board decisions can be made instantly and endorsed using qualified electronic signatures. Ahead of every virtual meeting,

board members are contacted by email and notified on how to obtain access to and operate the e-BMS.³²

Only authorised board members can obtain access to information and documents by logging on to the system with a qualified electronic signature. If all the board members who attend the meeting sign the board decision using qualified electronic signature through the e-BDS, notarization of the decision will not be required. To use the e-BMS and legally participate in virtual meetings, each board must have provisions for this specified in their company's Articles of Association and must use a government-approved system.³³

Implementing the e-BMS

The following steps provide an outline of the methods:

1. Putting the e-BMS into service: the e-BMS software app must be uploaded into the system of each participating company. Any person using the system on behalf of a company (such as the board secretary) must be authorized during the installation phase.
2. Sharing information and documents: Meeting participants authenticated and authorized by the system will be informed instantly about board meetings and they will be given access to any shared documents.
3. Meeting: members of the Board of Management can participate in the system both visually and audibly and can make comments and suggestions.

²⁶ In Turkey this type of qualified electronic signature is called a conventional e-signature.

²⁷ According to the statistics of the Turkish Information Technologies and Communication Authority's Quarterly Market Data: By the end of December 2019 total certificate number is 4.5 million with 3.9 million e-signature and 618,000 mobile signature: Turkey e-Communication Sector, Report on Quarterly Market Data, Q4, <https://www.btk.gov.tr/uploads/pages/pazar-verileri/4-ceyrekraporu-2019.pdf>.

²⁸ At a First Glance, Electronic General Meetings and Flows, <https://egk.mkk.com.tr/egkweb/en/>; Instructions For Shareholders And Representatives, <https://egk.mkk.com.tr/egkweb/assets/home/content/Instructions-for-Beneficial-Owners.pdf>, pp. 4-5.

²⁹ Iliris Gokce, 'Introducing «e-Voting» & «e-Proxy Voting» Practices to Euro-Asia Capital Markets', e-Voting Opportunities, 2017, https://aecsd.org/upload/iblock/668/turkey_3.pdf; Instructions For Shareholders And Representatives, <https://egk.mkk.com.tr/egkweb/assets/home/content/Instructions-for-Beneficial-Owners.pdf>.

³⁰ Instructions for Shareholders and Representatives, <https://www.mkk.com.tr/en/content/About-Us/About-MKK>.

³¹ <https://www.mkk.com.tr/en/content/Investor-Services/e-BDS>.

³² <https://www.mkk.com.tr/en/content/Investor-Services/e-BDS>.

³³ Bulbul Ozgur, Merkezi Kayıt Kuruluşu Elektronik Yönetim Kurulu Sistemi, TKYD, Yaz 2019, p. 20-21.

The new e-BMS system has been developed to ensure a fast, reliable, and accurate trade registry system in Turkey for facilitating the meeting of the board of management. Both time and cost efficient, the system is especially effective for boards with members in different countries.³⁴

The e-Trade Register: Central Registry and Record System (MERSIS)

TCC article 24/3 states that principles and procedures regarding the e-trade registry shall be regulated by secondary legislation. This provision envisages joint responsibility by the Ministry of Trade and the Turkish Union of Chambers and Commodity Exchanges (TOBB)³⁵ in terms of developing, operating and maintaining the MERSIS.³⁶ Article 13 of the Communiqué on the Trade Registry sets forth conditions for keeping the trade registry in an electronic environment.³⁷ This article in turn refers to TCC article 1526/3 and provides the following requirements:

1. For documents produced electronically and to be based on registration, it is compulsory to use a qualified e-signature with timestamps (article 13/8).
2. MERSIS stipulates procedures, which require the use of a qualified e-signature and timestamp (article 13/9).

³⁴ Bulbul Ozgur, Merkezi Kayıt Kuruluşu Elektronik Yönetim Kurulu Sistemi, TKYD, Yaz 2019, p. 20-21.

³⁵ <https://www.tobb.org.tr/Sayfalar/Eng/AnaSayfa.php>.

³⁶ <https://ticaret.gov.tr/ic-ticaret/ticaret-sicili/merkezi-sicil-kayit-sistemi-mersis>; <https://mersis.gtb.gov.tr/>.

³⁷ <https://ticaret.gov.tr/ic-ticaret/ticaret-sicili>.

³⁸ The following conditions apply to company Websites (Article 10/3 of Communiqué on the Websites to be Opened by Capital Stock Companies):

1. a. all data that is relevant to the company and in which shareholders, minorities, creditors and stakeholders have an interest
- b. documents and calls regarding General Assembly (GA) meetings
- c. year-end and interim financial statements and merger and division balance sheets
- d. audit reports (reports of auditor, operational auditor, special auditor, etc.)
- e. valuation reports
- f. offers for exercising pre-emptive right
- g. announcements related to liquidation
- h. announcements related to action for cancellation.

3. To perform trade registry transactions electronically, it is mandatory for related persons to make an application with a qualified e-signature (article 13/6).

The requirement of capital stock companies to create a website

According to the provisions of article 1524 of the TCC, capital stock companies are obliged to create a website and must allocate part for 'information society services' (to disclose all relevant information and documents on those websites).³⁸ The TCC defines 'information society' as a society with access to information.³⁹ According to the provisions of article 5/3 of the Communiqué on the Websites to be Opened by Capital Stock Companies,⁴⁰ in order to fulfil the obligation to create a website, the companies could either undertake it themselves or pay for a service from 'central database service provider' (CDSP). Article 1524 of the TCC requires companies to be more transparent. This provision is also important for the corporate governance of companies.⁴¹

The CDSP is a private legal entity that carries out activities, including keeping the content that needs to be accessed in the specific part of the companies' own websites in a safe environment, making it available to the company and for archiving (article 4/h). CDSP has to provide infrastructure to support the qualified e-signature (article 8/1,b). Companies that provide the

2. Access to the Web site shall be available to everyone and shall be unrestricted, to ensure the right to and possibility of access.

3. The Web site shall provide the means for electronic GA and BoD meetings and for electronic voting.

4. The Web site is a complete, visual and electronic trade log.

5. The Web site has introduced the concept of stakeholder into Turkish Law.

6. The content uploaded on the Web site is kept there for at least six months from the upload date, or it is deemed not to have been uploaded. For financial statements, this period is five years.

Although the New Law was to be effective as of 1 July 2012, Article 1524 regulating Web sites came into effect as of 1 July 2013.

³⁹ Article 1524 of the TCC:

<https://www.mevzuat.gov.tr/MevzuatMetin/1.5.6102.pdf>.

⁴⁰ Published in the Official Gazette dated May 31, 2013 and No 28663 and became effective on July 01, 2013.

⁴¹ New Turkish Commercial Code, A blueprint for the future, p. 9, https://www.pwc.com.tr/en/publications/ttk-assets/pages/ttk-a_blueprint_for_the_future.pdf.

information required on their website should use qualified electronic signatures and timestamps in processes such as publishing, changing, and renewing the content on the website (article 10/3). To archive the information on the webpage, the companies and CDSPs have to use qualified e-signatures and time stamps (article 12/3). The companies and CDSPs should use long-term electronic signature formats that have been determined by the Information and Communication Technologies Authority (ICTA) (article 12/3).

Acting as a CDS, CSD developed a portal called e-Company: Companies Information Portal,⁴² which aims to facilitate and help companies to fulfil their obligation based on the provisions of article 1524 of the TCC. Companies are free either to develop their own 'information society' subdomains, or use CSD's e-Company portal. When using the e-Company portal, it is sufficient for companies to add an icon called 'information society services' and a link on their websites.⁴³ The link directly forwards the website user to CSD's e-company portal.⁴⁴

Certified/Registered e-Mail

There are two different, but interconnected, provisions provided under the TCC regarding registered e-mail. The first provision is contained in article 18/3. It provides that notices or notifications among the traders specifying that the other party is in default, to terminate the contract, or rescind the contract shall be done via a notary, registered mail, telegraph or with a registered e-mail system using a qualified electronic signature. The second provision on certified e-mail is article 1525 of the TCC, which states that notices, warnings, objections and similar statements, invoices, confirmation letters, participation letters, meeting calls and electronic sending and electronic custody contracts made in accordance with this provision can all be issued in the electronic environment and sent via certified e-mail (article 1525/1).

⁴² e-Company:

<https://www.mkk.com.tr/en/content/Investor-Services/e-COMPANY>.

⁴³ As an example see: <https://www.koc.com.tr/tr-tr/hakkinda/bilgi-toplumu-hizmetleri>.

⁴⁴ See: <https://e-sirket.mkk.com.tr/esir/Dashboard.jsp#/sirketbilgileri/10286>.

⁴⁵ For other functions of the REM Service Providers see Keser Berber Leyla, Mailing Box, Transmission Services and

The ICTA regulates the procedures and principles regarding the registered e-mail system; the transactions to be performed within this system and their results; natural persons, businesses and companies with registered e-mail address; and the rights and obligations, authorizations and audits of the registered e-mail service providers (article 1525/2). The ICTA has published secondary legislation on the registered e-mail system. According to the Communiqué on Procedures and Principles Regarding the Registered e-mail system, natural and legal persons who want to obtain a registered e-mail account can make an application using a qualified e-signature (article 9/2,a). The original message, which is produced by the sender, should contain the sender's qualified e-signature (article 4/1,ş).⁴⁵

Digital accounting system: e-invoice, e-commercial books

Article 1525/1 provides the legal grounds for the e-invoice. In addition to the TCC, the Tax Procedure Law has another provision that constitutes a legal ground for the e-invoice, which is repeated under article 242. Paragraph 2 of article 242 of the Tax Procedures Law provides that the provisions on bookkeeping, recording and documents of the Tax Procedures Law and other tax laws are also valid for electronic bookkeeping, recording and documents; and the Ministry of Finance is authorized to determine different procedures and principles for electronic bookkeeping, documents and records.

Article 64/3 of the TCC enables the Ministry of Finance and the Ministry of Trade to keep their commercial books electronically (e-books). On behalf of the Ministry of Finance, the Revenue Administration has created two platforms on the e-invoice⁴⁶ and e-books.⁴⁷ Moreover, the Revenue Administration has published several regulations on e-invoice and e-bookkeeping applications to facilitate issuing and maintaining legal documents and decrease the costs of establishments.⁴⁸

Authentication Functions of the REM Service Providers within the scope of New Turkish Commercial Code, <http://arslanlibilimarsivi.com/sites/default/files/makale/Leyla-Keser-Berber-Kayitli-e-Posta.pdf>.

⁴⁶ e-Invoice: <https://ebelge.gib.gov.tr/anasayfa.html>.

⁴⁷ e-Books: <http://www.edeften.gov.tr/anasayfa.html>.

⁴⁸ <http://www.edeften.gov.tr/edeftenhakkinda.html>; <http://www.edeften.gov.tr/edeftenmevzuat.html>; <https://ebelge.gib.gov.tr/efaturahakkinda.html>; In order to help companies, which has no technical infrastructure to

The electronic invoice is described as the invoice complying with the conditions in the Communiqué⁴⁹ and issued as an electronic document. There is no difference between a paper invoice and an e-invoice in terms of its legal consequences. To keep invoices digitally during the retention period, the financial stamp⁵⁰ should be used. The financial stamp is a qualified e-seal in terms of eIDAS.⁵¹

An e-book⁵² can also be classified as an 'e-document'. According to article 242/2 of the Tax Procedures Law, the Ministry of Treasury and Finance is authorized to determine the procedures and principles regarding creating electronic books, records and documents, registering, sending, maintaining and submitting them, and electronically keeping and regulating books and documents.

The Ministry of Treasury and Finance and the Ministry of Trade jointly published the Electronic Book General Communiqué Series No. 1. To use the e-book application or website, natural and legal persons, as taxpayers, have to meet following requirements:

1. Natural persons must use qualified e-signatures.
2. Legal persons must use a financial stamp.
3. They both should have to use compatible software with the e-book application and web pages.

use e-invoice, the Revenue Administration develop "e-invoice portal" and deployed its usage free of charge: <https://ebelge.gib.gov.tr/efaturaportali.html>. For further details see also Electronic Transformation in Turkey, PwC, June 2017, p. 2-3,

https://michaelamerz.files.wordpress.com/2017/06/pwc-turkey-e-transformation-presentation_june-2017.pdf.

⁴⁹ General Communiqué series no. 397, <https://ebelge.gib.gov.tr/dosyalar/tebligler/397SiraNoluVUKGenelTeblig.pdf>.

⁵⁰ Financial Seal Electronic Certificate Service Provider was established and operated by TÜBİTAK BİLGEM Public Certification Center (Kamu SM) for the Revenue Administration to provide electronic certificates to legal entities, institutions, organizations and businesses, <http://mm.kamusm.gov.tr/>.

⁵¹ Regulation (EU) No 910/2014 of the European Parliament and of the Council of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC, *OJ L 257, 28.8.2014, p. 73–114*, article 35-40.

⁵² Purposes of the e-book keeping applications are listed as follows: Revise the liabilities pertaining to book entries in

4. 'Certificate files shall be created for stamped books and these files shall be submitted to the approval of the Revenue Administration'. The financial stamp certificates of the Administration 'shall be kept along with the electronic books to be submitted upon demand after being downloaded by those who keep electronic books'.⁵³

Electronic books generated by using the abovementioned steps are deemed to be statutory books valid under the Tax Procedures Law and the TCC. Statutory books are accepted as valid evidence according to the Civil Procedure Law (article 222/2,4).

Functions of the time stamp in the context of the digital company

Article 1526/3 is the only provision that explains the functions and role of time stamps in the context of the TCC. As mentioned above, if there is a need to establish the date and time, a time stamp must be used alongside a qualified e-signature. If transactions do not contain a timestamp, the MERSIS informatics system adds a timestamp to related transactions or documents in order to provide undeniability and create e-evidence regarding the transaction time.. Given the above considerations and the nature of transactions which are classified under digital company, the following components would require

accordance with the changing technological and administrative needs and ensure stableness, integrity and sources of these books; Eliminate the liabilities to print, confirm and maintain invoices on paper; Increase voluntary compliance with taxes; Create and place the appropriate infrastructure for electronic audit. The advantages of the e-book keeping application are below: Provide a common form and standard for both administrative and internal and external audit needs of international companies operating in different legal environments; Save from printing, paper and toner/cartridge costs, archiving costs, labour and time; and decrease confirmation costs, Eliminate many cost items such as preparing data in the desired form, allocating personnel for this work, transferring data to related departments etc. for taxpayers when they want to reach the book entries of authorities.

<http://www.edeFTER.gov.tr/anasayfa.html>.

⁵³ Electronic invoice and electronic bookkeeping application, https://www.vergidegundem.com//tr_TR/publicationPaper?categoryName=Vergide&publicationNumber=9&publicationYear=2013&publicationId=1440603.

the use of a time stamp: Registered e-Mail (REM), e-Invoice, e-Books, e-Trade Registry, information to be published on the company's webpage, e-GEM and e-BMS.

e-Evidence in the context of the digital company

Pursuant to article 1526/3, all mandatory transactions of the TCC concluded with a qualified e-signature and baseline documents and created in an electronic environment are legally binding electronic evidence in accordance with the Turkish Civil Procedure Law (CPL). Article 205/2 provides that electronic data duly created with a qualified electronic signature are considered as legally binding and are considered as positive proof. Legal procedures regarding the application of the qualified e-signature are also set forth under the same article.

The provisions of article 82 of the TCC set out the requirements for the preservation and submission of documents and retention periods. Every merchant is responsible for keeping classified 'commercial books, inventories, opening balance sheets, interim balance sheets, financial tables, annual reports, community financial statements and annual reports, and work instructions to facilitate the intelligibility of these documents and other organizations documents, commercial letters received, copies of commercial letters sent'.⁵⁴

The retention period for these electronic documents is ten years. It is compulsory to keep electronic records available and in machine readable form during the retention period (article 82/3). The Communiqué on Procedures and Principles Regarding the Registered e-mail System (REM)⁵⁵ defines registered e-mail evidence, which means data produced in the REM system and signed with the REM service provider's transaction certificate, indicating that a particular transaction occurred at a certain time (article 4/1, k).

REM is a system with functions such as the creation of REM evidence, secure identity authentication, the registered e-mail account, registered e-mail directory, and archiving services for all processes of REM

messages, including sent and received, via electronic communication platforms (article 4/1, o). The REM system is used to ensure the legal and technical security of communications between the parties or respondents of an electronic message through the REM system (article 11/1).

The REM system has important legal consequences. The records created by the REM Service Provider regarding the services provided through the REM system and the REM evidence are deemed as positive proof until proven otherwise. The legal consequences concerning all transactions carried out using the REM account are borne by the account holder (article 15).

Concerning article 82, which regulates the obligation to keep and submit books digitally, there is a Communiqué on e-Books⁵⁶ that explains in detail related requirements. Taxpayers who benefit from the application must comply with the following measures:

1. The obligation to keep and submit books covers all kinds of electronic records and data, including electronic signature and financial stamp values, database files, storage media and verification and viewing tools relating to the integrity and inalterability of electronic books and certificates. The fulfilment of this obligation should ensure easy access to electronic books, a comprehensible and complete account of them, and the creation of readable paper prints.
2. Electronic books and certificates must be preserved within taxpayers' own information technologies systems. They may not be stored by third parties or abroad.

The last issue is a good example of data localization, which is a rising trend in Turkey.

Conclusion

The positive aspects that the TCC and later amendments to the TCC have brought to Turkish law should be appreciated. For instance, notarization, paper-based processes and archiving are no longer

⁵⁴ TCC Article 82.

⁵⁵ Communiqué on Procedures and Principles Regarding the Registered e-mail System: <https://www.resmigazete.gov.tr/eskiler/2011/08/20110825-7.htm>.

⁵⁶ Communiqué on the e-Books: <https://www.resmigazete.gov.tr/eskiler/2019/10/20191019-4.htm>.

necessary under the applicable laws. By removing such requirements, the TCC helped to reduce paper consumption, enable green IT, remove unnecessary administrative burdens, reduce costs, and achieve digital transformation. Moreover, the current legal framework enables e-signatures, time stamps and evidence value of these components that have a pivotal role to create a fully digital company. However, despite all the advantages the TCC introduced, many companies have not used most of the provisions on digital companies until very recently. With the Covid-19 crisis, companies' approaches have changed dramatically. Those companies that started to make use of all components of the digital company that have been available since 2012 under the law to continue their business.

When the advances in technology and the needs of today's digital society are taken into account, it can be said that the time has come to amend the TCC.

Accordingly, as a result of the crisis created by the Covid-19 pandemic, all interested parties, including the companies themselves, have appreciated the importance of digitalisation. It can be concluded that the legal framework discussed above is inadequate to address the needs of today's digital world. Therefore, it is necessary to be open to new concepts such as blockchain and remove all barriers against the e-signature, e-seal and digital by default, and to keep up with technological advancements and ensure that people and businesses are empowered by a legal framework that reflects the needs and realities of today. To that extent it would be useful to mention that blockchain has been the subject of proof of the authenticity of electronic evidence in China.⁵⁷

Arguably, blockchain has been successful privately,⁵⁸ and the e-ID practice among companies in Turkey has been successfully, despite the fact the blockchain is not the subject of regulation. e-ID is one of the more

important uses of blockchain.⁵⁹ That point is also essential for eIDAS review in the Europe.⁶⁰

There are other examples where electronic signature and e-evidence are used in commercial activities. Although the TCC does not contain any provision, the e-tender would be a good example for such kinds of activities. According to the provisions of article 19 of the e-Tender Application Regulation,⁶¹ after the tenderers via e-KAP prepare e-offers,⁶² they are signed with an e-signature and sent via e-KAP with the tender date and time. In joint ventures, all joint venture partners must sign an e-proposal by e-signature. e-KAP encrypts before sending the e-proposal, duly signed with the e-signature to the Authority. The bidder records the e-key, created by eKAP as a result of encryption. It is ensured that the offers specified in the tender document of the e-offer are not stored and opened by the encryption. The Authority on e-KAP determines the storage methods until the opening time. The e-key for the proposal is sent to the e-KAP after the tender date and time until the bids will be opened. Both the time to receive the e-proposal and the related e-key is recorded using a time stamp. Every time a person obtains access through e-KAP, including transactions determined by the relevant authority, a record is made in e-KAP. These tenders are taken into account in the tender procedures made over e-KAP. Documents and records created via e-KAP using e-signatures are considered as proof positive until otherwise is proved (article 4/5 of the e-Tender Application Regulation).

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⁵⁷ Blockchain technology has been used to demonstrate authenticity of a digital record in China, for which see Hangzhou Huatai Yimei Culture Media Co., Ltd. v. Shenzhen Daotong Technology Development Co., Ltd. (2018) Zhe 0192 Civil Case, First Court No. 81, Hangzhou Internet Court of the People's Republic of China, translated by Dr Jiong He, 16 Digital Evidence and Electronic Signature Law Review (2019), 61-70.

⁵⁸ For private and permissioned blockchain see Michèle Finck, *Blockchain Regulation and Governance in Europe* (Cambridge University Press, 2018), p. 15.

⁵⁹ Domingo, Ignacio Alamillo; SSI eIDAS Legal Report, How eIDAS can legally support digital identity and trustworthy

DLT-based transactions in the Digital Single Market, April 2020, https://joinup.ec.europa.eu/sites/default/files/document/2020-04/SSI_eIDAS_legal_report_final_0.pdf.

⁶⁰ Domingo, pp. 90-91.

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<https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=14742&MevzuatTur=7&MevzuatTertip=5>.

⁶² Electronic Public Procurements Platform: <https://ekap.kik.gov.tr/EKAP/Default.aspx?ReturnUrl=%2fEKAP%2f>.

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