

Basic Principles of Legal Regulation of Electronic Commerce (Problems and Perspectives)

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*“The new information age demands on
new approaches to old problems”¹*

In the 21st century mankind has stepped into a new phase in the development of civilisation. We live in the epoch of growing progress in information technologies and the so-called “internet-expansion”.² The “informatisation” of modern society has reached the level in which in modern life it is difficult to imagine a field of our activities where information technologies are not applied extensively employed. “Information and communications technology is one of the most potent forces in shaping the twenty-first century. Its revolutionary impact affects the way people live, learn and work and the way government interacts with civil society. “It is fast becoming a vital engine of growth for the world economy”³ – these are the opening words of the Global Information Society Okinawa Charter, the provisions of which cover issues relating to the stimulation of economic and social transformation through information-communication technologies.

As stated by John Chambers, the President of Cisco Systems Inc., the largest company in the field of modern information technologies, such a revolution of social links “will presumably exceed the industrial revolution according to the scale of its impact. It makes the playing field equal for everyone, and creates unparalleled opportunities for counties, companies and natural persons all over the world. Its outcome is an economy in which the main factor of success and survival is not size, geographical location or material resources, but swiftness of reaction, and the ability to change”.⁴

The development of information-communication technologies was a precondition to such economic and legal phenomena in business relations and everyday life as the “the online economy” and “electronic commerce”. In the modern information society, electronic commerce constitutes a combination of technological, economic, financial and legal relations.⁵ In its legal meaning, “electronic commerce” connotes making various transactions via electronic means, above all in industrial field, both in the domestic and

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¹ Towards Digital Equality, The US Government Working Group on Electronic Commerce, 2nd Annual Report, 1999, <http://www.ecommerce.gov>.

² Information Technologies and Modern Corporation, <http://www.russianlaw.net/law/doc/a176.doc>.

³ Okinawa Charter on Global Information Society.

⁴ *Patel/McCarthy*, Digital Transformation, The Essentials of E-business Leadership, N.Y. (McGraw-Hill), 2000, 6.

⁵ *Solovianenko*, Legal Regulation of Electronic Commerce and Electronic Signature (International Experience and Russian Practice), *Khoziaistvo i Pravo*, 2003, No. 1, 27.

international markets.⁶ Thus, electronic commerce means those activities conducted during the sale of goods, performance of work, and rendering services via open computer networks.⁷ The experts of the World Trade Organisation state that “there is no separate concept of electronic commerce as such. The only peculiarity of transactions made within the framework of electronic commerce is that they are made via electronic means”.⁸ It should be mentioned that the legal framework of electronic commerce is rather wide. According to the UNCITRAL definition, the following transactions can be made within the framework of electronic commerce (the list is not exhaustive): sales, supply, agreements on the distribution of goods, trade representation, agency agreements, factoring, leasing, consulting, investment contracts, insurance, concession agreements, bank agreements... etc.⁹ Thus, electronic commerce is the economic-legal process of exchange of goods and services via electronic means of communication.¹⁰

There are issues, which can not be regulated autonomously by the law of a single state. This is true of electronic commerce as well. In the first stage of development of electronic commerce, the choice had to be made between the national traditions of individual states and the unification of legal rules. There were attempts to resolve this dilemma through acknowledging the open computer network as a cyberspace, an international space along with Antarctica, outer space and the high seas¹¹. But finally, the winner turned out to be the trend which supported the necessity of unifying provisions regulating electronic commerce and electronic signatures by international organisations. Within this context, voluminous work was done by UN Commission on International Trade Law (UNCITRAL).

With a view toward promoting electronic business, UNCITRAL developed the Model Law on Electronic Commerce (1996-1998).¹² The UNCITRAL group working on the various aspects of electronic commerce, considered every legal aspect of these complicated relations. Its 31st- to 38th sessions were dedicated to the development of the Model Law on Electronic Signatures,¹³ while at the 40th session the draft Convention on Making Agreements Electronically was presented.¹⁴

⁶ See: *Ibid.*

⁷ Internationalisation of legal regulation of the issue of application of electronic signatures, <http://www.russianlaw.net/law/doc/a119>.

⁸ *Orlov/Ananiev*, There is no unison with respect to electronic commerce in the World Trade Organisation, *Ebusiness*, 2001, No.1, 23.

⁹ Report of the United Nations Commission on International Trade Law on the Work of its Thirty-Fourth Session (25 June-13 July 2001), General Assembly, Official Records, 56th Session, Supplement No.17, (A/56/17), UN, 2001, 56.

¹⁰ *Operkent*, *Global Economy & Electronic Commerce*, London (Business School Press), 1999, 14; *Global Business and Information Technologies, Modern Practice and Recommendations*, Moscow, 2001, 55.

¹¹ *Menthe*, *Jurisdiction in Cyberspace: A Theory of International Spaces*, *Mich.Tel.Tech.L.Rev.*3, April 23, 1998; Internationalisation of legal regulation of the issues of application of electronic signatures, <http://www.russianlaw.net/law/doc/a119>.

¹² UNCITRAL Model Law on Electronic Commerce with Guide to Enactment (1996), with additional article 5 bis as adopted in 1998.

¹³ UNCITRAL Model Law on Electronic Signatures with Guide to Enactment, United Nations, New York, 2002.

¹⁴ Report of the United Nations Commission on International Trade Law, 40th session, 14-18 October 2002, Vienna ACN.9/WG.IV/WP. 97 - Provisional Agenda.

Of particular importance is the issue of unification of electronic commerce within EU countries, and thus a Directive on Electronic Commerce¹⁵ and a Directive on Electronic Signatures¹⁶ were adopted. Based on the key provisions of the aforementioned Model Laws and Directives, many countries throughout the world have adopted legal acts regulating electronic commerce and electronic signatures.¹⁷

During the process of the integration of Georgian economy into global one, the interest in co-operation in trade and investment with foreign companies is constantly increasing. Foreign economic activities are an integral part of the economic life on any modern state. Thus, each state strives to create favourable conditions for entrepreneurs in the international economic sphere, especially for participation in international trade relations. One of the efficient ways of attaining this goal is intensive participation in measures to promote the development of unified legal practices with the international marketplace. For the development of electronic commerce in Georgia, as well as for the development of legislative strategy that will promote both Georgia's integration into global trade relations and the development of domestic trade relations, it is necessary to conduct a legal analysis of various aspects of electronic commerce and electronic signatures.

The purpose of this article is to study the basic principles of electronic commerce and electronic signatures, as well as identification of the necessary preconditions for successful implementation of these relations in Georgia. Below we shall consider the following issues: the form of transactions made via electronic means; making transactions via electronic mail and web-pages; agreements on electronic exchange of data; electronic

¹⁵ Directive 2000/31/EC of the European Parliament and the Council of Europe of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce in the Internal Market (Directive on electronic commerce), Official Journal of the European Communities 17/7/2000.

¹⁶ Directive 1999/93/EC of the European Parliament and the Council of Europe of 13 December 1999 on Community framework for electronic signatures, Official Journal L 013, 19/01/2000, 0012-0020; <http://rechten.kub.nl/simone/Eu-sig.htm>.

¹⁷ Electronic Transactions Bill of Australia was adopted in 1999, fully came into force on 1 July, 2001; Electronic Signatures in Global and National Commerce US Federal Act 2000 Act; The German Electronic Signature Act came into force in May 2001; Irish Electronic Commerce Act of 2000; Byelorussian Law on and Electronic Documents of 2000; South Korean Framework Act on Electronic Commerce of 2001; Thailand's Electronic Transaction Act and Electronic Signature of 2002; In 2002 a number of legal acts were adopted in Turkey and Pakistan on electronic transactions; In 2000 changes and amendments on electronic commerce and electronic transactions were made to Mexican Federal Civil, Federal Trade and Federal Civil Procedure Codes, etc.

Although there is no legal act regulating electronic commerce in Georgia, it should be mentioned, that in 2000-2001 the State Informatisation Department of Georgia prepared the draft Law on Electronic, Commerce, Electronic Documents and Electronic Signature, where certain provisions of UNCITRAL Model Law were incorporated to a certain extent, but some clarification and improvements were required. The draft Law necessitated thorough revision.

signature; legal status of certification bodies; electronic banking; electronic activities in the Georgian banking system and peculiarities of online settlement (TRGS); identification of legal trends in formation of the legal framework necessary for the development of electronic commerce in Georgia.

1. Numerous transactions are made within the framework of electronic commerce. An analysis of compliance with the requirements of their form is of particular importance. According to the well established opinion of social science, the purpose of the form of an agreement is the reinforcement and correct reflection of the agreed upon intentions of the parties.¹⁸ An agreement is considered to be made if the parties thereto agreed upon its every essential clause in compliance with the form provided for this purpose (Civil Code, Article 327 I). As a rule the form is identified by the parties on the grounds of a freely entered into agreement. An agreement can be made either orally or in writing. A majority of agreements are made orally, but one can not avoid mentioning the fact, that actually, under modern circumstances, the written form is the dominant one.¹⁹ Furthermore, if the law provides for a certain form for the validity of an agreement, or the parties provide for such a form, then the agreement comes into force following the fulfilment of the requirements concerning their form (Civil Code, Article 328 I). In other cases, the principle of freedom of form applies and the required form is identified by the parties on the grounds of a voluntary agreement.²⁰ The law provides for an exhaustive list of agreements for the validity of which written form is required. For conducting electronic business both on domestic and international markets, it is required to identify whether written form is required for the validity of the transaction and whether this requirement is considered to be met (complied with) when the transaction is made via electronic means. For the clarification of this issue, it is necessary to identify both the purposes that the written form serves,²¹ as well as the guarantees for complying with them when conducting transactions via electronic means.

As is often stated, the legal requirements provided for traditional paper documents are the main impediment to the development of modern means of data transmission. But this impediment can be overcome with the help of a flexible functional-equivalent approach, which is based on an analysis of the purposes and functions of the legal requirements provided for concluding agreements on paper, in order to identify the means of attaining and fulfilling these purposes and functions within the framework of information technologies.²² It is fairly admitted in legal literature, that the written form of an agreement serves specific purposes, the most important of which are: the purpose of assertion, warning, delimitation and information.²³ An agreement concluded on paper

¹⁸ *Sergeev/Tolstoi* (ed.), *Civil Law, Guidebook, Part 1*, Moscow (Prospect), 1998, 504.

¹⁹ For details see: *Comments on the Civil Code of Georgia, Book 3, Law on Obligations*, Tbilisi (Samartali), 2001, 109.

²⁰ See: *ibid*, 102-109.

²¹ *Gesetz über die Rahmenbedingungen für elektronische Signaturen*, (*Kreutz, Marcus*) <http://www.ecc-handel.de/aktuelles/archiv/999071216.php> - 29.08.2000.

²² *Electronic document and its validity*. <http://www.internetpolicy.kg/modules.php?op=modload&name=News&file=article&sid=29>.

made in full compliance with its legal requirements secures compliance with these requirements. As concerns an electronic transaction, the issue of observance of the required form is guaranteed by the functional-equivalent approach, the implementation of which obliges a lawmaker to settle the following tasks: to establish the criteria of equivalency of an electronic document; to describe the meaning of the term "electronic document" and the fields of application of electronic documents; to admit (to accord) the legal validity of an electronic document; to accord the value of evidence to an electronic document.²⁴ The US Federal Electronic Signatures in Global and National Commerce Act defines the term "electronic document" as a contract or some other instrument, which is made, derived, sent, notified, received or stored via electronic means.²⁵ Thus a document is electronic if the information in it is presented in an electronic-digital manner.²⁶

The UNCITRAL Model Law on Electronic Commerce is totally based on the so-called functional equivalent. This means, that if under domestic legislation actions performed during the making or execution of a transaction are to be displayed in written form or with the help of a written document, this requirement is considered to be met if the above actions are performed via one of several electronic means in compliance with the procedure provided for by the Law. It is apparent, that a decision on making a transaction via electronic means is made by the parties themselves. Thus, the Model Law provided for the most important legal principle of electronic commerce: parties who entered into a transaction, are not entitled to question its validity and binding nature solely on the grounds that it was made and signed via electronic means.²⁷ Information can not be deprived of its legal value solely because it has an electronic form of data transmission. The aforementioned principle is conventionally known as the principle of technological non-discrimination, a policy that aims at securing equal treatment for electronic transmission of data and paper documents.²⁸

Article 328 II of the Civil Code of Georgia should also be mentioned here, under which if the parties agreed upon a written form, an agreement can be made by drawing up a single document signed by the parties. Telegraph notice, telecopy or mutual exchange of letters is likewise sufficient for observance of the required form. As is evident, the lawmaker has applied such general wording as "mutual exchange of letters", that can be accomplished either through conventional or electronic mail. Thus, if the parties agreed in advance to make a written agreement via electronic means, the electronic documents concluded by

²³ Comments on the Civil Code of Georgia, Book 3, Law on Obligations, Tbilisi (Samartali), 2001, 110.

²⁴ Electronic document and its validity, <http://www.internetpolicy.kg/modules.php?op=modload&name=News&file=article&sid=29>.

²⁵ The Federal Electronic Signatures in Global and National Commerce Act. Adopted by US106th Congress on January 24, 2000 (came into force on 01.10.2000, except for the provisions contained in Art. 107).

²⁶ Federal Law of Russian Federation on Electronic Digital Signature, 2002, Art. 3.

²⁷ *Solovianenko*, Legal regulation of electronic commerce and electronic signature (international experience and Russian practice), 30.

²⁸ Electronic document and its validity, <http://www.internetpolicy.kg/modules.php?op=modload&name=News&file=article&sid=29>.

them will have the same legal value as physical documents made on the paper, i.e. the agreement will be made in compliance with written form. Furthermore, it is required to codify the functional-equivalent approach.

Based on the aforementioned conception, it could be said, that an agreement made via electronic means, fully complies with necessary requirements, while providing a simple written form of a transaction. This means that in the case of electronic commerce, a transaction can be made as a result of exchange of documents via electronic means, that a basis for ascertaining the intentions of the party to the agreement. Such a document thus exists in the form of an electronic record. This electronic document is then signed by a party to the agreement or duly authorised representative (agent). In electronic commerce, an electronic-digital signature in some other form analogues to that of a personal signature may also be employed.²⁹

If the issue of observance of simple written form in making an agreement via electronic means can be settled on the basis of the functional-equivalent approach, in legal literature it is disputed whether an agreement which requires notarised (qualified) written form for acknowledging its validity can be made through the electronic exchange of data. One thing that can be said is that a negative attitude towards this issue still prevails in the legal literature.³⁰ Furthermore, mention should be made of an alternative approach to this issue, namely, the US Federal Electronic Signatures in Global and National Commerce Act (Art., 101).³¹ Under this Act, if certification or endorsement of a notary is required for the validity of an entry, his requirement can be met via the electronic signature of a duly authorised person.

2. Legal literature identifies two methods of making an agreement via the internet that differ from each other in their essential characteristics. The first method involves making an agreement via electronic mail (e-mail), namely, through the sending and receipt of offers and acceptances via e-mail. Electronic mail can be considered as a digital analogue of the ordinary mail, in which information loses its form (i.e. the combination of letters, figures and symbols) during transmission, and it is transformed into a combination of data (digits), which is then decoded,³² after which it acquires a perceivable form. All this occurs during a very short period of time. And thus it is without doubt that electronic mail is far quicker than the conventional one. The other method calls for making an agreement via web-pages (sites), in which a person offers goods or services through posting the information on a web-page in graphic, text or voice format. The other person, who is

²⁹ Electronic Form of Transaction in International Trade <http://www.russianlaw.net/law/doc/a124.htm>.

³⁰ Certain Aspects of making agreements via internet: comparison of legal situation in Russian Federation and the United Kingdom http://nadya.program.ru/science/sasharef/internet.html#_ftnref4.

³¹ The Federal Electronic Signatures in Global and National Commerce Act, Adopted by US106th Congress on January 24, 2000 (came into force on 01.10.2000, except for the provisions contained in Art. 107).

³² Certain Aspects of making agreements via internet: comparison of legal situation in Russian Federation and the United Kingdom http://nadya.program.ru/science/sasharef/internet.html#_ftnref4.

willing to accept this offer, completes a certain form (checklist), where he enters certain personal information, if required and if possible, and thereby defines the terms of the agreement. Following this, the customer clicks a "Yes" button (a button, which, generally is found at the bottom of the checklist), and customer's information is submitted to the server.³³ This method is very popular in relations related to the sale of customer goods.

An interesting and often disputed issue within legal literature concerns from which moment an agreement made via e-mail is considered to be made. Contractual rights and obligations arise only after making an agreement, thus it is of utmost practical importance to clarify from which moment an agreement is considered to have been made.³⁴ As is known, an agreement is considered to be made through offer and acceptance, only when the offer is received by the acceptor. This provision is applied in the countries of continental European law. As for countries of the Anglo-American law, they acknowledge the so-called "mail-box" rule, under which if an offer and acceptance are to be sent via mail, an agreement is considered to be made from the moment of sending an acceptance.³⁵ Such a difference between the countries of these two legal systems often causes practical problems in the context of conventional mail service. Identification of the moment of sending an agreement acquired a different meaning with respect to sending and receipt of messages via electronic mail, as the exchange of data takes a very short period of time in this case. The study of identification of the moment of making an agreement has moved into quite a different direction. It has become very complicated to determine when a message is considered to be sent or received. An answer to this question is contained in the UNCITRAL Model Law on Electronic Commerce (Article 15), under which, unless otherwise agreed between the originator and the addressee, the dispatch of a data message occurs when it enters an information system outside the control of the originator or of the person who sent the data message on behalf of the originator. In other words, a data message is considered to be dispatched, and the moment of sending a message is fixed to be the moment when the message enters an information system, which is beyond the control of the author of the message, or of the person, who sent the message on behalf of the author.

In this case the information system beyond the control of the addressor (author) is considered to be the server, which receives the message from the mail server where the mail-box of the addressor (author) is located,³⁶ i.e. from the moment when a mail programme notifies the customer concerning the sending a message following its delivery. In addition, the Model Law provides for a dispositional provision for the moment of receipt of a data message, which allows the parties to define the mode of conduct themselves.³⁷ Furthermore, unless otherwise agreed between the addressor and the addressee, the time of receipt of a data

³³ See *ibid.*

³⁴ Comments on the Civil Code of Georgia, Book 3, Law on Obligations, General Part, 89.

³⁵ *Boguslavski*, International Private Law, Moscow, 1998, 201.

³⁶ Certain Aspects of making agreements via internet: comparison of legal situation in Russian Federation and the United Kingdom http://nadya.program.ru/science/sasharef/internet.html#_ftnref4.

³⁷ International-legal aspects of regulation of electronic commerce and electronic exchange of data http://msal.h1.ru/docum/elek_komm_obmen.html.

message is determined as follows: if the addressee has designated an information system for the purpose of receiving data messages, receipt occurs at the moment the data message enters the designated information system, or if the data message is sent to an information system of the addressee that is not a designated information system, at the moment when the data message is retrieved by the addressee. If the addressee has not designated an information system, receipt occurs when the data message enters an information system of the addressee.³⁸ If the addressee has not identified a specific information system, the moment of receipt is considered to be the moment when the data message enters any of the information systems of the addressee. Information system means the server, in which the mail-box of the recipient (addressee) is located, such as yahoo, mail.ru, yandex, etc.³⁹

There are cases in international practice, when the addressor and the addressee of a data message agree that the recipient is to confirm the receipt of the data message in order to avoid certain misunderstandings. The form of confirmation, as a rule, is defined by the parties. When the addressor of the data message states that the message is of a preliminary nature and depends on confirmation, the message is not considered to be received until the receipt of confirmation.

As for making agreements via web-pages, it should be mentioned that primarily the legal nature of the information posted on it should be identified. Information posted on the web-page is available for everyone and is destined for an indefinite category of persons. Quite often, an internet-offer does not include all the essential clauses of the agreement. In this case, a customer completes the form (checklist) posted on the site concerned, indicating the basic conditions of the agreement and then clicks the "Yes" button. According to established opinion, a proposal on a web-page is an invitation to an offer, while the offer itself is the completed checklist.⁴⁰ Naturally, in such cases acceptance will be consent on the part of the person who posted the invitation, and even that takes a very short period of time.⁴¹ Diverse opinions are conditioned by the fact that there are web-pages where agreement terms are given exhaustively and acceptance through clicking the "Yes" button on the web-page is absolutely sufficient for making an agreement,⁴² i.e. no consent on the part of the distributor of the information through web-page is required. However, it should be mentioned that a link between a customer and the server is a matter of seconds, and looks very much like, say, a telephone conversation, and as in the case of lost connection, the other party is always aware of it. The legal purpose of these technical peculiarities is that the sender of acceptance is able to identify whether it was received immediately.⁴³ Through web-pages, agreements are

³⁸ See: *ibid.*

³⁹ See: *ibid.*

⁴⁰ For details see: Certain Aspects of making agreements via internet: comparison of legal situation in Russian Federation and the United Kingdom http://nadya.program.ru/science/sasharef/internet.html#_ftnref4.

⁴¹ Grundlegende rechtliche Instrumente im E-Commerce, <http://www.ecc-handel.de/erkenntnisse/1014893004/> - 28.02.2002.

⁴² Certain Aspects of making agreements via internet: comparison of legal situation in Russian Federation and the United Kingdom http://nadya.program.ru/science/sasharef/internet.html#_ftnref4.

⁴³ See: *ibid.*

made in a very short period of time, a fact that makes these operations so popular in consumer relations. It should also be mentioned, that in EU countries, EC Directive of 2000 accords conceptual importance to the confirmation of acceptance with a view to uniform regulation of these issues.⁴⁴

3. As a rule, parties settle legal issues arising during and with respect to making and execution of transactions made within the framework of electronic commerce, with the help of special agreements on data electronic exchange and on the application of electronic documents. Such agreements are mainly employed in entrepreneurial relationships, and provide for the regulation of relations between commercial partners. Agreement terms make additions to the core agreement itself (e.g. sales contract). Furthermore, they do not provide for the regulation of contractual obligations themselves, during fulfilment of which electronic means will be applied, as these obligations are subject to application of civil or trade law provisions. Such agreements are intended to provide for:

- The procedure of sending a data message;
- Technical and procedural requirements approved by the parties;
- The procedure of confirmation of the receipt of a message;
- The measures of control and protection of messages, as well as measures against unauthorised use of data messages;
- Registration, recording and storage of messages;
- The legal validity of a data message and its admissibility as evidence.

Inasmuch as an electronic agreement made in full compliance with the requirements of the law is equivalent to a written one, it is natural, that it generally has the same purpose and implication as a written agreement. An agreement on the electronic exchange of data serves the following purposes: a) Simplification, explanation and modernisation of legal mechanisms for making commercial agreements electronically; b) Accordance of legal validity to agreements made via electronic means, thereby securing their legal status; c) Promotion of further expansion of commercial practice on the basis of agreements of the parties.⁴⁵

4. The issue of the agreement's signature is of particular importance for the legal regulation of electronic commerce. In the case of electronic signature of agreements, it is necessary for the signature to serve the following legal purposes: to identify the person, who signed the electronic document; to guarantee that the electronic document was signed by a duly authorised person; to secure the validity of the document; as a means

⁴⁴ Certain Aspects of making agreements via internet: comparison of legal situation in Russian Federation and the United Kingdom http://nadya.program.ru/science/sasharef/internet.html#_ftnref4. Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (Directive on Electronic Commerce), The draft was approved by the Council of European on 28.08.2000, and by the European Parliament on 04.05.2000. The full text of the Directive is available at the official homepage of the ER: http://europa.eu.int/smartap/cgi/sga_doc31.

⁴⁵ *Solovianenko*, Legal regulation of electronic commerce and electronic signature (international experience and Russian practice), Khoziaistvo i Pravo, 2003, No. 1, 28.

for declaring the intentions of the parties; to symbolise the electronically made agreement as a written one.⁴⁶

Uniform regulation of the issues of electronic signature in the EU countries is secured by the Directive on Electronic Signature,⁴⁷ while the 31st-38th sessions of UNCITRAL Electronic Commerce Working Group were dedicated to the development of the Model Law on Electronic Signature⁴⁸. The Directive of 1999 provided for framework regulation of electronic signature and services to be rendered, with respect to the issuance of certificates for electronic signature keys, in order for EU Member States to adopt laws and secondary legislation on the basis of this Directive. This legislation is meant to secure electronic signatures that are created through the application of reliable means of electronic digital signatures and have the requisite certificate: a) That they comply with all legal requirements provided for signatures with respect to electronic data, similar to a signature made by an individual personally with respect to information printed on paper; b) To allow documents signed electronically to be admitted as legal evidence.

Mention should also be made of the globally acknowledged approach towards the legislative regulation of electronic signatures known as so called "Technological neutrality". Legal acknowledgment of any analogue to a personal signature and its legal validity is not restricted based on the technology employed. An electronic signature must only comply with the requirements of the applicable law.⁴⁹ Due to this reason, the UNCITRAL Working Group working on electronic commerce issues rejected the introduction of the notion of a "cryptographic key" into the draft Model Law on Electronic Signature, as it fall beyond the principle of neutrality, which was the basic principle of the draft.⁵⁰

In order for an agreement made via electronic means to be equivalent to an agreement made in writing, it is necessary to sign it. It is apparent, that due to the peculiarities of an electronic document, it is impossible to sign an electronic document within the conventional meaning of them. It should thus also be signed electronically. An electronic signature is not merely a digital signature. It is a wider notion. There are many definitions of an electronic signature, but they all have one and the same standpoint. This means certain information that is the part of an electronic document or is logically related thereto, and is necessary for its authentication.⁵¹ An electronic signature may be simple,⁵² which

⁴⁶ See: *ibid*, 35.

⁴⁷ Directive 1999/93/EC of the European Parliament and of the Council of 13 December 1999 on Community framework for electronic signatures, Official Journal L 013, 19/01/2000, 0012-0020; <http://rechten.kub.nl/simone/Eu-sig.htm>.

⁴⁸ UNCITRAL Model Law on Electronic Signatures with Guide to Enactment, United Nations, New York, 2002.

⁴⁹ *Solovianenko*, Legal regulation of electronic commerce and electronic signature (international experience and Russian practice), *Khoziaistvo i Pravo*, 2003, No. 1, 43.

⁵⁰ Report of the United Nations Commission on International Trade Law on the Work of its Thirty-Fourth Session (25 June-13 July 2001), General Assembly, Official Records, 56th Session, Supplement No.17, (A/56/17), UN, 2001, 56.

⁵¹ Internationalisation of legal regulation of the issue of application of electronic signatures, <http://www.russianlaw.net/law/doc/a119.htm>.

⁵² Die elektronische Signatur auf Siegeskurs (*Blakowski, Geroald*) <http://www.ecc-handel.de/aktuelles/archiv/989418806.php> - 09.05.2001.

involves making of an electronic signature by simple means (e.g. through attachment of scanned signature)⁵³. An advanced signature⁵⁴ is a one which is made by means of coupled keys. Technically safe and legally acknowledged means of signature are required for making agreements electronically.⁵⁵

What makes an electronic document problematic is its authentication and inviolability,⁵⁶ a situation that can be resolved through use of an electronic digital signature, which is the most reliable signature and which is based on the application of coupled keys – open and closed ones (sometimes they are known as public and personal keys). An electronic digital signature is a combination of symbols that is generated by a special algorithm through a “mixture” of the text of the document and the personal code of the signing person.⁵⁷ As is apparent from this definition, an electronic digital signature inseparably relates a specific electronic document to a specific person, or to be more precise, to the code known to the latter.⁵⁸ If we modify the document signed by electronic digital signature, or even a single symbol thereof, the signature will not coincide.⁵⁹ An electronic digital signature is a requisite of an electronic document that aims at the protection of an electronic document against forgery. It is created through a cryptographic transformation of received information with the help of the closed key of an electronic digital signature, and allows for the identification of the holder of the certificate for the key, thereby insuring that the information in the document was not modified (distorted).⁶⁰ Thus, an electronic digital signature is an electronic signature, which is the transformation of an electronic entry through the use of asymmetric cryptosystem, in which a person, who owns the initial, non-transformed electronic entry and public key of the signing person, is able to precisely identify whether: a) The transformation was effected through the use of a personal key that corresponds to the public key of the signing person; b) The initial electronic entry was modified after the transformation was effected.⁶¹

As a consequence of the foregoing definition, it might be asserted that an electronic document is signed with the aid of a special programme. The same programme is capable of verifying the validity of the signature. There are many such programmes, for example, verification methodology according to the PGP (Pretty Good Privacy) programme package of the Network Association Company.⁶² The PGP programme is a cryptographic

⁵³ See, *ibid.*

⁵⁴ Gesetz über die Rahmenbedingungen für elektronische Signaturen, (*Kreutz, Marcus*), <http://www.ecc-handel.de/aktuelles/archiv/999071216.php> - 29.08.2001

⁵⁵ Bedeutende rechtliche Fragen im E-Commerce <http://www.ecc-handel.de/erkenntnisse/976522639/> - 11.12.2000.

⁵⁶ Bits statt Siegel - Digitale Signatur (o.V.) <http://www.ecc-handel.de/aktuelles/archiv/988280923.php> - 26.04.2001.

⁵⁷ Computer Exotics, or an Electronic Agreement <http://www.russianlaw.net/law/doc/a96.htm>.

⁵⁸ See, *ibid.*

⁵⁹ See, *ibid.*

⁶⁰ Federal Law of Russian Federation on Electronic Digital Signature, 2002, Art. 3.

⁶¹ Draft Law of Georgia on Electronic Commerce, Electronic Document and Electronic Digital Signature, Art. 2.

⁶² Computer Exotics, or an Electronic Agreement, <http://www.russianlaw.net/law/doc/a96.htm>.

programme. It makes use of coupled keys: open and closed ones, which actually constitute blocks of text, between which there exists a certain mathematical correlation. One exchanges the open key with the other party.⁶³ A closed (personal) key along with an open (public) key linked to it mathematically have the following characteristic: the open (public) key is able to verify the electronic digital signature created by the personal key. The closed key of an electronic digital signature is the unique succession of symbols, known to the holder of the certificate of the signature key that aims at creating electronic digital signatures in electronic documents through the use of means of creating electronic digital signature. The open key of an electronic digital signature is the unique succession of symbols, which corresponds to the closed key of the electronic digital signature that is available for any user of the information system, and which aims at confirmation of the authenticity of the electronic digital signature in the electronic document with the help of means of electronic digital signature.⁶⁴ The purpose of the electronic digital key is to insure the element of trust in electronic commerce.⁶⁵

Of particular interest is the issue of acknowledgment of electronic signatures made abroad. In the countries of the EU, particular provisions for the regulation of this issue are given in the Directive on Electronic Signature, which provides for an exhaustive list of cases in which electronic signatures may be recognised: a) Signatures, made in EU Member State are recognised on the basis of reciprocity, as the former are based on general requirements of the Directive; b) If the signature is made in an EU non-Member State, but it meets the requirements of the Directive, it may be recognised in an EU Member State. In such cases, the state may provide for additional requirements with respect to the signature; c) Bilateral or multilateral agreements on the acknowledgements of signatures may be made between or among the member states.⁶⁶

5. A certificate for a signature key is the document that contains the open key of an electronic digital signature and is issued by a certification body to a participant of the information system, issues with the purpose of confirming the authenticity of the electronic digital signature, and identification of the holder of the certificate for a signature key. Centres for registration of open keys (so-called certification bodies, certifying centres) have been established for the confirmation of the authenticity of electronic digital signatures, and the identification of persons signing data messages. For example, in Germany an electronic digital signature certificate can be obtained from special centres – in the so-called Trust Centres. If the centre is able to meet special safety requirements, it will be authorised to issue qualified certificates,⁶⁷ and which finally leads to a qualified electronic signature.⁶⁸

⁶³ See, *ibid.*

⁶⁴ Federal Law of Russian Federation on Electronic Digital Signature. 2002, Art. 3.

⁶⁵ Die elektronische Signatur auf Siegeskurs (*Blakowski, Gerold*) <http://www.ecc-handel.de/aktuelles/archiv/981381971.php> - 05.02.2001.

⁶⁶ Internationalisation of legal regulation of the issue of application of electronic signatures, <http://www.russianlaw.net/law/doc/a119.htm>.

⁶⁷ Die elektronische Signatur auf Siegeskurs (*Blakowski, Gerold*) <http://www.ecc-handel.de/aktuelles/archiv/989418806.php> - 09.05.2001

⁶⁸ See, *ibid.*

Such centres may operate both in the accreditation and in licensing fields. Legislation of certain countries provide for their mandatory licensing. It should be mentioned, that the Directive of the European Parliament on Electronic Signature provides for voluntary accreditation of centres and states, establishes that they should be free to offer their services and that their services should not be related to obtaining licences. Furthermore, individual states may provide for additional requirements. It should also be mentioned, that at the initial stage of development of electronic commerce, many countries gave preferred to employ a mandatory mechanism for licensing.

The issue of responsibility of the certification body is also rather interesting. If we compare directives, model laws and normative frameworks of various countries, it might be asserted, that a legal regime of limited liability has been introduced for certification bodies,⁶⁹ which would provide for the imposition of liability on a certification body only in the amount of actual damage caused to a person due to his reliance upon the data given in the certificate, the verification and confirmation of which was the obligation of the certification body. This liability does not cover uncollected income and moral damage.⁷⁰ Unless otherwise provided by law or agreement, the centre is liable unless it proves that due fulfilment of its obligations was impossible due to force majeure, i.e. due to special or objectively unavoidable circumstances. Certification bodies do not bear responsibility for damages that exceed a threshold mentioned in the certificate (this is the so-called "reliability threshold", "recommended limit of trust"⁷¹) and the damages occurred as a result of reliance upon data provided in the certificate, the verification and confirmation of which was the obligation of the centre.⁷² The threshold of liability can be set when issuing certificates to users. Furthermore, a certification body may set different thresholds in different certificates, as required. Thresholds of a certification body are set in such a manner as not to exceed a certain limit (recommended limit of trust). Furthermore, in order to insure that the centre is able to reimburse damages, it must maintain a certain amount of authorised capital as a precondition for beginning business operations⁷³.

6. One of the most rapidly developing trends is electronic banking and its essential constituent internet-banking,⁷⁴ which implies electronic banking activity conducted within the information space of a global computer network.⁷⁵ Electronic banking activity cov-

⁶⁹ *Solovianenko*, Legal regulation of electronic commerce and electronic signature (international experience and Russian practice), *Khoziaistvo i Pravo*, 2003, No. 2, 50.

⁷⁰ See: *ibid*.

⁷¹ Draft Law of Georgia on Electronic Commerce, Electronic Document and Electronic Digital Signature provides for the term "recommended limit of trust" (Art. 2, Para. 20).

⁷² *Solovianenko*, Legal regulation of electronic commerce and electronic signature (international experience and Russian practice), *Khoziaistvo i Pravo*, 2003, No. 2, 51.

⁷³ Internationalisation of legal regulation of the issue of application of electronic signatures, <http://www.russianlaw.net/law/doc/a119.htm>.

⁷⁴ *Tedeev*, *Banking Law, Guidebook*, Moscow, 2005, 318.

⁷⁵ See *ibid*, 319.

ers the conduct of banking activities electronically, both via global computer networks and with the help of some other electronic means (e.g. local area and special computer networks).⁷⁶ It should be mentioned that the operation of bank accounts via internet is a globally practiced and dynamically developing process. Thus, internet-banking is the main constituent and the most prospective sector of international electronic banking activities. It enables clients to make online use of their accounts from a distance by means of the internet. As a rule, internet-banking systems cover almost the entire portfolio of banking services offered by financial institutions to their clients in their offices (of course, except of cash transactions). Based on the level of intensity of their engagement in the markets of relevant banking services, the legal literature divides internet-banking into following types: basic (opening and operation of accounts via internet, clearing transactions under assignment from natural or legal persons from their accounts via internet, and the cashless sale and purchase of foreign currency via the internet) and additional (attraction of savings of natural and legal persons via the internet, allocation of attracted money resources on one's behalf, and at one's expense via the internet, and rendering information and advisory activities via the internet).⁷⁷ The growing popularity of Internet-banking both in countries with highly developed industrial economies as well as other countries, is a vivid manifestation of the existence of a sustainable and prospective demand for these non-traditional (new) type of banking services.

7. In an era of growing progress in information-communication technologies, electronic activities are being introduced in the banking system of Georgia quite intensively. On 12 June, 2003 the President of the National Bank of Georgia issued Order No. 135 on the Transfer of Online Settlement System (RTGS) onto Paperless Technologies. Under the same Order the Regulation on Electronic Activities in the Banking System of Georgia and the Regulations on Real Time Gross Settlement System (TRIGS) were approved.

The Regulation on Electronic Activities in the Banking System of Georgia provides the regulatory regime for rights and relations between parties (system organiser, system user) while servicing business activities conducted between the subjects of settlement relations with electronic-technological systems (with a certain bank settlement system). The network of system organiser and system users is defined on a case-by-case basis (Art. 1 I). The Regulations provide for the framework for such important issues as defining the subjects of relations of servicing by electronic-technological settlement systems; standardisation; securing the protection of information; storage and destruction of electronic data; agreements between the system organiser and system users of electronic services (activities); and obligations of system organiser, etc.

As for real time gross settlement system (RTGS), it should be noted that its introduction considerably diminished the system risk of the banking sector of the eco-

⁷⁶ See, *ibid.*

⁷⁷ For details see: *Tedeev*, *Banking Law, Guidebook*, Moscow, 2005, 320-330.

nomy.⁷⁸ As mentioned at the beginning, regulation of these relations in Georgia is envisaged by the Regulations on Real Time Gross Settlement System (TRIGS) which apply to participants in the settlement system who make use of electronic documents and electronic-digital signatures (Art.1 III). Consequently, RTGS is a combination of organisational forms, procedures, technological-functional and programme-technical means of monetary resources (Art. 2). The Regulations reinforce such basic notions as an “electronic document” and “electronic digital signature”. According to the Regulations, an electronic document is an electronic copy of a paper document that serves as the basis for conduct of transactions between the subjects of settlement relations and has the same legal value as a sealed and signed settlement instrument (Art. 2). Thus, it can be explicitly asserted that in defining the legal nature of the document, the Regulations are based on the “functional-equivalent” approach, by which an electronic document is equal to a duly drawn paper settlement instrument. As concerns an electronic-digital signature, according to the generally accepted definition, it is a requirement of an electronic document that aims to protect the electronic document concerned against forgery. It is created through cryptographic transformation of received information with the help of the “closed key” of the electronic-digital signature, and allows for the identification of the holder of the certificate, as well as for verification that the information in an electronic document has not been modified (distorted). This purpose of an electronic-digital signature is reflected in the Regulations on Real Time Gross Settlement System (TRIGS), on the basis of which an electronic-digital signature is a succession of symbols, created as a result of the transformation of an electronic document with the help of a special system (replicated by system organiser) developed with the assistance of a computer technique that certifies the authenticity and integrity of the electronic document, and that identifies the signing person (Art. 3). The Regulations are based on the use of coupled keys (open and closed) unique to the cryptographic programme. The Regulations regulate such key issues as the conditions for acknowledging the equality of personal and electronic-digital signatures, passport of electronic-digital signatures and codification keys, obligations of the holder of the passport of signature keys, use of the means of electronic-digital signature, as well as general principles of exchange of electronic instruments, etc.

8. A free entrepreneurial environment and competitive industrial structures involved in electronic business operations are necessary for the successful conduct of market-economy relations in Georgia. First of all, for the development of electronic commerce it is necessary to elaborate a common legislative strategy and the legal regulation of the aspects of electronic commerce and electronic signature based on this strategy. This can be done through simultaneous adoption of legal acts on electronic commerce and electronic signatures. A law on electronic commerce should include the following provisions:

⁷⁸ For details see: *Tedeev*, Banking Law, Guidebook, Moscow, 2005, 320-330.

– Legal acknowledgement and authenticity of an electronic instrument. This issue should be regulated on the basis of the so-called “functional-equivalent approach” that constitutes the underlying principle of the UNCITRAL Model Law on Electronic Commerce. This approach is based on an analysis of the goals and functions of the legal requirements provided for drafting a paper instrument, with a view to establishing how these goals and functions are to be attained or accomplished within the framework of information technologies. Legislative reinforcement of this approach will secure compliance with the requirements envisaged for paper instruments when making an instrument via electronic means;

- Procedure for storage of electronic instruments;
- Procedure for sending and receipt of a data message (time, place);
- A material portion of the law to deal with the rights, obligations and responsibilities of the persons conducting electronic commerce.

As for a law on electronic signatures, it should meet the following requirements:

– The law should be entirely based on the principle of so-called “technological neutrality”, according to which legal acknowledgement and validity of any electronic analogue of a personal signature will not be restricted according to the technology employed. If an electronic signature, be it electronic-digital or of some other type, is made in accordance with the procedure provided by the law, a document so signed should meet official requirements provided for the simple written form;

– Pursuant to the provision of the European Parliament’s Directive on Electronic Signatures, it would be desirable for the activities of the centres for registration of open keys to be based on voluntary accreditation, and not require mandatory licensing;

– The liability of certification bodies (grounds for limitation of liability) should be identified separately.

And finally, it should be mentioned that formation of a normative framework regulating electronic commerce and electronic signatures should be based on the current legislation of countries with advance technologies, as well as on model laws developed by international organisations, harmonisation of provisions, and development of common methodologies. Only in this case will it be possible to adapt our country to the global economic system.