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Internet and E-commerce in Jordan

Valentina M. Donini



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Abstract

Many studies have already highlighted the existing gap—the digital divide—between the industrialized, digitalized West and the rest of the world, where the development of ICT is still at its early stages. ICT diffusion is a fundamental requirement for the development of e-commerce and bridging the divide is the only way to enter into the virtuous circle of the new economy. Mediterranean countries, however, are still far behind, facing several problems such as poor technical infrastructure, ineffective long-term policy, State monopolies and inadequate legal framework. This paper, which is concentrated on the legal aspects, focuses on Jordan which represents an interesting field of investigation: it has embarked on a privatization program of telecommunication services (law 13/1995), and it has enacted an Electronic Transactions Law (law n. 85/2001), which even if it is not meant to be a comprehensive piece of legislation, it is certainly a fundamental step in order to facilitate e-commerce and e-transactions. Moreover, due to the comparative approach of this paper, relevant legislations of other countries will be examined, particularly Tunisian law 83/2000, and Egyptian law 15/2004.

Keywords

Jordan – E-Commerce – Digital Divide – Privatisation - Legal framework – UNCITRAL model laws – UNIDROIT Principles of International Commercial Contracts – Electronic Transactions law

Introduction

What is generally known as *new economy* is one of the most interesting effects of globalization. E-commerce represents a key element of the *new* or *net economy*, being at the same time both an instrument and a factor of globalization. As a matter of fact, the outstanding progress and diffusion of ICT has made the world smaller, especially from the economic point of view.¹ It has allowed the development of e-commerce, which is becoming a common means of trading in many sectors in developed countries, permitting any small or medium enterprise to become an integral part of the global market.²

To date, the benefits that e-commerce has already provided to advanced economies should be regarded as important indicators of the potential opportunities that it can offer to less developed countries. As it facilitates the worldwide distribution and exchange of goods and services, e-commerce is the main element of globalization of the world economy and markets. Therefore, Mediterranean countries should not lose this opportunity to fill the gap that still divides them from the Western world, in terms of economic and technological development. In fact, enterprises in developing countries will incur large costs if they do not engage in e-commerce, as it has been demonstrated that in every technological revolution, the countries that delayed the adoption of new technologies have suffered considerable economic losses.³

The diffusion and above all the affordability of ICT is a prerequisite for the development of e-commerce, but until now the Mediterranean area is still far behind in this field, mainly due to economic conditions, lack of investments and an inadequate legal framework, which can be summarized in the well-known concept of 'digital divide'.⁴

There is still a great disparity between Western countries and less industrialized countries,⁵ as can be perceived from a comparative analysis of Internet penetration in the world and in the Arab countries. While Europe has a penetration rate of about 36% of Internet users on the whole population

1 See F. Cairncross, *The Death of Distance: How the Communication Revolution will change our lives*, Boston, 2001.

2 It is important that small and medium enterprises understand the challenges and opportunities of e-commerce and ICTs: the development of an e-strategy, may spur growth, create jobs, improve market access, develop market information, contribute to income generation and enhance rural productivity, for instance through the institutions of e-cooperatives and virtual souk.

3 UNCTAD *Capacity-building in electronic commerce*, UNCTAD (TD/B/COM.3/35). This happened, for instance, during the so called 'container revolution' in the late 1960s, when developing countries not providing appropriate container handling facilities endured a strong increase in transport costs.

4 The term 'digital divide' refers to the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard both to their opportunities to access information and communication technologies (ICTs) and to their use of the Internet for a wide variety of activities. OECD, *Understanding the Digital Divide*, 2001, p. 4, available on: <http://www.oecd.org/dataoecd/38/57/1888451.pdf>.

5 The issue of digital divide is a manifestation of several existing social and development divides, among and within countries and has been deeply studied and discussed, also under the legal point of view. See for instance, R. Badrinath, *Playing the Digital Game*, in *International Trade Forum*, n. 1, 2001, pp. 4-5; J.M. Spectar, *Bridging the Global Digital Divide: Frameworks for Access and the World Wireless Web*, in *North Carolina Journal of International Law and Commercial Regulation*, vol. 26, 2000, pp. 57-103. For an attempt of finding a solution, see *Digital Opportunities for All: Meeting the Challenge*, Report of the Digital Opportunity Task Force (*DOT Force*), 2001, available on: www.dotforce.org/reports/. For a comparison between the digital divide and the literacy divide, see M. Warschauer, *Reconceptualizing the Digital Divide*, in *First Monday – Peer Reviewed Journal on the Internet*, available on: http://www.firstmonday.org/issues/issue7_7/warschauer/.

and North America has a 68% rate, in the Middle East the average penetration rate amounts to 9,6%, representing just the 1,8% of users in the world.⁶

For a number of reasons, however, these data do not offer a real picture for ICT diffusion. Firstly, the concept of digital divide ought to be replaced with the concept of e-readiness, which is more specific for the Internet issue.⁷ In fact, in the Arab world the digital divide involves mainly Internet, whereas other sectors, such as mobile telephony, are better developed⁸. Hence, when assessing a country e-readiness, more comprehensive ICT indicators should be taken into consideration, such as PC ownership, mobile phones, fixed lines and, of course, the overall number of Internet users.⁹

Moreover, due to high costs of connectivity and ICT equipment, most of the general public in the region obtains access via an Internet café or community centres, rather than getting an individual computer and a personal subscription. By offering shared services and enabling low-cost access to ICT, telecentres¹⁰ act as strategic tools to overcome the digital divide. However, as these centres are informal communities, it is difficult to assess the exact number of Internet users, even though the connection between a low rate of individual accounts via ISP, and a high prevalence of Internet Cafes is rather evident.¹¹

Furthermore, it must be pointed out that the Arab world¹² does not present a homogeneous situation, as there are many differences on the economical, technological, social and institutional levels, as can be seen from the following table, where it is self-evident how the Gulf Countries are playing a leading role in the diffusion of ICT. Their economic success makes the Gulf countries able to face a real ICT revolution and overcome the digital divide.¹³

6 Source: InternetWorld Stats.com.

7 See the McConnell report (2001), *Ready?Net.Go! Partnership leading the Global Economy*, available on: <http://www.mcconnellinternational.com/ereadiness/ereadinessreport2.htm>; for the Jordan case, see *The National E-Readiness of the Hashemite Kingdom of Jordan. A Global View of Jordan's Competitive Advantages*, McConnell International, 2002, available on: http://www.mcconnellinternational.com/ereadiness/Government_of_Jordan_EReadiness_Report_McConnell_International.pdf

8 S. Aita, *Internet en Langue Arabe: espace de liberté ou fracture sociale?*, in *Maghreb-Machrek*, n. 178, 2003-2004, p. 38.

9 See for instance the 2005 ICT Use index, elaborated by the *Madar Research Journal*, vol. 4, 2006, n. 1, available on: www.madarresearch.com, leading to a slightly different result as compared to the InternetWorldstats data. The Index is calculated by adding up the values of the aforementioned parameters and dividing the sum by the country's population figure. Considering that a higher index score indicates more aggressive ICT adoption, Jordan's result (0,91) is highly encouraging, being the first non GCC country of the list, after Bahrain, UAE, Qatar and Kuwait.

10 A telecentre may be defined as 'a strategically located facility that provides public access to ICT-based services and applications for a range of developmental aims'. See R. Keramane, *Telecentres and Development: Application to the Algerian Context*, Paper presented at the Seventh Mediterranean Social and Political Research Meeting, Florence & Montecatini Terme 22-26 March 2006, organised by the Mediterranean Programme of the Robert Schuman Centre for Advanced Studies at the European University Institute, p. 6.

11 For an interesting survey on the diffusion of Internet Café in Jordan and in Egypt, see D. Wheeler, *The Internet in the Arab World: Digital Divides and Cultural Connections*, paper presented at the *Jordan Royal Institute for Inter-Faith Studies*, in June 2004, available on: http://www.riifs.org/guest/kecture_text/internet_n_arabworld_all_txt.htm.

12 When extending this comparison to the non Arab countries of the Mediterranean Partnership, the result would be very different: Malta has a penetration rate of 78%, Cyprus 31% (even if these two countries have now entered the UE), Israel 45%, while Turkey is still at 13,7%.

13 For instance through the institution of Dubai Internet City, the world's first free trade zone for e-business established by Dubai Technology Electronic Commerce and Media Free Zone law (1/2000). See <http://www.dubaiinternetcity.com/>. For an assessment of the latest UAE progresses in Information Society, see United Arab Emirates Knowledge Economy 2006, available on: www.madarresearch.com.

Internet Users in the Arab world

Country	Population (2006 Est.)	Usage, in Dec/2000	Internet Usage, Latest Data	% Population (Penetration)	Use Growth (2000-2005)
UAE	3,870,936	735,000	1,397,200	36.1 %	90.1 %
Kuwait	2,630,775	150,000	700,000	26.6 %	366.7 %
Bahrain	723,039	40,000	152,700	21.1 %	281.8 %
Qatar	795,585	30,000	165,000	20.7 %	450.0 %
Lebanon	4,509,678	300,000	700,000	15.5 %	133.3 %
Morocco	30,182,038	100,000	4,600,000	15.2 %	3,400.0 %
Jordan	5,282,558	127,300	629,500	11.9%	394.5 %
Saudi Arabia	23,595,634	200,000	2,540,000	10.8 %	1,170.0 %
Oman	2,424,422	90,000	245,000	10.1 %	172.2 %
Tunisia	10,228,604	100,000	953,000	9.3 %	853.8 %
Palestine	3,259,363	35,000	243,000	7.5 %	594.3 %
Egypt	71,236,631	450,000	5,000,000	7 %	1,011.1 %
Algeria	33,033,546	50,000	1,920,000	5.8 %	3,740.0 %
Syria	19,046,520	30,000	800,000	4.2 %	2,566.7 %
Libya	6,135,578	10,000	205,000	3.3 %	1,950.0 %
Yemen	20,764,630	15,000	220,000	1.1 %	1,366.7 %
Iraq	26,628,187	12,500	36,000	0.1 %	188.0 %

Source: InternetWorldStats.com (updated September 2006)

Likewise, apart from economic obstacles, a major impediment to the diffusion of Internet in the Middle East is represented by the overwhelming presence of English content, and the symmetric absence of Arabic content. As a matter of fact, when analysing the top languages in the Internet, Arabic does not even appear,¹⁴ while English and Chinese represent the foremost spoken languages. It means that beyond a program of diffusion of ICTs, there is the need of either improving the knowledge of English, or increasing the number of Arabic websites.¹⁵

14 According to the Global Reach research (last updated: 2004), the percentage of Arabic speaking people on the Internet is of 1.4%. See <http://www.greach.com/>.

15 See G. Nunberg, *Will the Internet Always Speak English?*, in *The American Prospect*, vol. 11, n. 10, 2000, available on: [www.prospect.org](http://www.prospect.org;); J. Korpela, *English, the Universal Language of the Internet*, available on: <http://www.cs.tut.fi/~jkorpela/lingua-franca.html>. See also OECD, *Understanding the Digital Divide*, 2001, p. 23, available on: <http://www.oecd.org/dataoecd/38/57/1888451.pdf>.

Internet users by language

TOP TEN LANGUAGES IN THE INTERNET	Internet Users, by Language	% of all Internet Users
English	322,600,837	29.7 %
Chinese	144,301,513	13.3 %
Japanese	86,300,000	7.9 %
Spanish	81,729,671	7.5 %
German	58,854,682	5.4 %
French	49,660,498	4.6 %
Korean	32,372,000	3.1 %
Portuguese	32,372,000	3.1 %
Italian	28,870,000	2.7 %
Russian	23,700,000	2.2 %
Rest of world languages	194,241,342	20.5%

Source: InternetWorldStats.com (updated September 2006)

Focusing on legal matters, the lack of an adequate regulatory framework, capable of offering the necessary guarantees for a trustworthy and secure online commerce, implies that both businesses and consumers are reluctant to get involved in electronic transactions.

Up to now, the only Mediterranean countries having enacted legislation on e-commerce and Internet related issues are Tunisia (Electronic Trade and Commerce Law, 83/2000) and Jordan (Electronic Transaction Law, 85/2001). Egypt has recently promulgated Law 15/2004 on E-signature and the Establishment of the Information Technology Industry Development Authority (ITIDA), but it is only a partial specific-focused discipline, as it does not provide a global framework on the subject.¹⁶ Other countries, such as Morocco and Lebanon, are still elaborating their legislation, whereas existing draft laws have not been passed yet.

As to the Gulf countries, in consideration of their success on the economic and infrastructure fronts, the legal framework is also a step forward. In the UAE, at the federal level Cyber-Crime Law 2/2006 has been issued. This law protects against cybercrimes such as hacking, forgery, fraud, and cyber theft,¹⁷ but it also protects against the use of digital technology to insult any religion. Moreover,

16 A more comprehensive approach was provided by the draft law, which regulated also contracts, evidence, encryption, domain names, consumer protection and taxes. This draft law however has not been transformed into law.

17 Cybercrime represents a problematic issue, due to the difficulties in assessing the real extent of it, and to the difficulties in cooperating in criminal enquiries for institutional, operational and cultural limits; on this point see G. Iarda, G. Marullo, *Cybercrime. Conferenza internazionale. La Convenzione del Consiglio d'Europa sulla criminalità informatica*, Milano, 2004; S. Schjolberg, A.M. Hubbard, *Harmonizing National Legal Approaches on Cybercrime*, ITU, 2005, available on: http://www.itu.int/osg/spu/cybersecurity/docs/Background_Paper_Harmonizing_National_and_Legal_Approaches_on_Cybercrime.pdf. Similar hurdles may be found in the Arab world, also considering the lack of relevant legislation. Up to date, the only comprehensive legislation on this subject is the UAE draft law. As to the other countries, there is no *ad hoc* regulation, although there are some provisions that may apply to cybercrime. See for instance the reform of the Tunisian criminal code (Law 2 August 1999, n. 89) which has inserted a new art. 199ter regulating computer crimes, as well as art. 38 of Jordan ETL, stating that: 'Any person who commits an act that constitutes a crime pursuant to legislation in force by using electronic means shall be subject to the penalty of imprisonment for a period no less than three months and no more than one year, or a fine of no less than three thousand dinars and no more than ten thousand dinars, or to both penalties jointly. In case the said legislation provides for higher penalties than under this Law, the higher penalties shall apply'. At European level, the Convention on Cybercrime (signed in Budapest, in 2001) should regulate different aspects such as computer-related forgery, computer-related fraud, child pornography and offences related to infringements of copyright and related rights. Most interestingly, this Convention is also open to non-member States, in order to achieve the purpose of prevention and regulation at a global scale, considering the importance of international cooperation in this field. See for instance the rule laid down at art. 23 of the Cybercrime Convention, stating

Dubai law 5/2001 has given legal recognition to digital signatures in criminal investigations, but what is most interesting under a comparative point of view, is law 2/2002 on electronic transactions and commerce.¹⁸

Hard law vs. soft law

Law and policy have a strong impact on ICT issues. Ever since international economic relations have been established, law has been developed to shape and facilitate them in a satisfactory manner.¹⁹ The Internet however challenges the classic patterns of regulation, in terms of the identity of the rule-makers and the instruments used to establish these rules.²⁰ The rise of the Internet has marked the so-called end of territory,²¹ i.e. the end of the close connection between political authority and physical space. As a consequence, on one side, a process of ‘dematerialization’ of economy has emerged, depriving of any significance the concept of State boundary and above all, of State sovereignty. On the other side, the relationship between economy and technology is closer,²² and it has broken the historical tie between order and space, and between State and production of law. Recent trends in legislation have shown the crisis of the traditional State monopoly as a rule maker, while other actors have appeared.

Generally speaking, there has always been a gap between law and technologies, as an adequate legislative frame does not always accompany the impressive changes and progresses in science. In the field of IT technologies this gap is more and more obvious, due to the rapidity of the technological evolution, compared to the slowness of the legislative process.

This gap highlights a strong debate which has a twofold approach: either deciding for non-regulation (or deregulation), aiming at removing any regulation perceived to be excessive, if not a hindrance to market forces, or searching for an alternative option to *traditional law*, intended as the traditional static set of regulations laid down by a legislative body and directed to the standardization of behaviours and actions through the binding force of law. This alternative may be constituted by the

(Contd.) _____

that: ‘The Parties shall co-operate with each other, in accordance with the provisions of this chapter, and through the application of relevant international instruments on international co-operation in criminal matters, arrangements agreed on the basis of uniform or reciprocal legislation, and domestic laws, to the widest extent possible for the purposes of investigations or proceedings concerning criminal offences related to computer systems and data, or for the collection of evidence in electronic form of a criminal offence’.

18 This law consists of 39 articles directed at ‘facilitating electronic communications by means of reliable electronic records, and facilitating and eliminating any barriers to e-commerce and other electronic transactions which may result from uncertainties over writing and signature requirements and to promote the development of the legal and business infrastructure necessary to implement secure electronic commerce’ (art. 3).

19 A. Johnston, E. Powles, *The Kings of the World and their Dukes’ Dilemma: Globalisation, Jurisdiction and the Rule of Law*, in *Globalisation and Jurisdiction*, Leiden, 2004, pp. 13-55.

20 M.E. Price, S.G. Verhulst, *Self-Regulation and the Internet*, The Hague, 2005.

21 B. Badie, *La fin des territoires*, Paris, 1995.

22 This connection is so strict, that is even difficult first to ascertain a logical distinction between law and techno-economy, and afterwards to find out the fundament of law, in a society that is dominated by technology.

so-called *soft-law* (as opposed to *hard law*), which includes self-regulation,²³ codes of conduct,²⁴ model laws²⁵ and other non-binding acts.²⁶

As to the content of the applicable law to the Internet, there is a lively debate between *unexceptionalists* vs. *exceptionalists*, i.e., on one hand, those who believe in the need of applying traditional legal concepts to Internet issues, and on the other, those who argue that, in consideration of the exceptional nature of the Internet, no traditional regulation is possible, or even desirable. According to the first approach, cyberspace transactions are no different from 'real-space' transnational transactions, and 'activity in cyberspace is functionally identical to transnational activity mediated by other means, such as mail or telephone or smoke signal.'²⁷

On the other hand, those advocating the exceptionalist²⁸ approach state that: 'It is true that events and transactions in realspace and cyberspace are identical in many ways, and can be treated identically for purposes of many questions'. But it is also true 'that events and transactions in realspace and cyberspace are not identical in many other ways. Transactions in cyberspace, for example, can take place at much greater physical remove; they are consummated by means of the movement of bits rather than atoms; they are digitally encoded; they are unaffected by the participants' sense of smell; they are embedded in and mediated by computer software; they travel at the speed of light.'²⁹

It is evident how nowadays *soft law* - a new way of intending law as it appears deprived of its binding force in favour of a more persuasive power, obtained, *imperio rationis*, through its merits and purposes - is playing a leading role in Internet regulation.

To date, this is the main trend followed in attempts to unify or harmonize national laws. Considering the inefficiency of traditional law as far as Internet is concerned, due to the fact that it meets the limits of territorial boundaries and excessive rigidity and formality, *soft law* represents a valid alternative, since it is more flexible and adaptable to the new exigencies of IT technologies.

For instance, the Model Laws on Electronic Commerce (1996) and Digital Signature (2001) set forth by UNCITRAL (United Nations Commission on International Trade Law) share this point of view, ensuring a persuasive strength due to the absence of a traditional compelling force. These laws offer a uniform model, which should pave the way to a substantial unification of laws in the field of IT technologies, if national states, preparing their own legislation, agree to follow the general principles

23 Self-regulation consists of a series of representations, negotiations, contractual agreements and collaborative efforts with government, undertaken by private actors in order to prevent more intrusive and more costly action by government itself. The problem with the Internet stems from the complexity of determining what ought to be included in the self of self-regulation.

24 Codes make users feel safe, and if they feel safe, they are more likely to trust the industry members who adopt the code. As a result, the reason for the development of Internet Codes of conduct is that many professional see the adoption of a code as a mark of professional status. For the taxonomy of these codes (which may be divided into voluntary codes, mandatory codes and service agreements), see M.E. Price, S.G. Verhulst, op. cit., p. 31-33.

25 A model law is a set of general and flexible principles, which States should follow when regulating those matters. Obviously it has no binding force, but it may have a strong persuasive impact. See for instance the UNCITRAL model laws (www.uncitral.org).

26 Otherwise, an alternative to regulation could be the use of Internet filters and rating mechanisms, which could play a role as self-regulatory tools, especially when dealing with protection of minors and parental control. Its role for e-commerce is however minor.

27 J. Goldsmith, *Against Cyberanarchy*, *The University of Chicago Law Review*, vol. 65, n. 4, 1998, p. 1240.

28 Or 'regulation skeptics', J. Goldsmith, op. cit., p. 1199.

29 See D. Post, *Against 'Against Cyberanarchy'*, in *Berkley Technology Law Journal*, vol. 17, n. 1, 2002, p. 1380. His exceptionalist approach, however, had been revealed even before the dispute with Goldsmith, when arguing that cyberspace should be concealed as a 'distinct place for purposes of legal analysis by recognizing a legally significant border between Cyberspace and the real world'. D.R. Johnson, D. Post, *Law and Borders – The Rise of Law in Cyberspace*, in *Stanford Law Review*, vol. 48, 1996, p. 1378. See also L. Lessig, *The Zones of Cyberspace*, in *Stanford Law Review*, vol. 48, 1996, pp. 1403-1411.

set forth in the Model Laws. These principles may be abridged in the principle of functional equivalence, party autonomy and technology neutrality,³⁰ and as a matter of fact, they have been embedded in the recent legislation of many countries, including Arab States such as Tunisia and Jordan.³¹

However, while supporting *soft law* initiatives, UNCITRAL has also embarked on the drafting of a *hard law* product. Considering that problems created by uncertainties as to the legal value of electronic communications exchanged in the context of international contracts constitute an obstacle to international trade, the General Assembly has adopted on 23 November 2005 the *United Nations Convention on the Use of Electronic Communications in International Contracts*. The Convention, which is more specific and detailed than the Model Laws, aims at enhancing legal certainty and commercial predictability where electronic communications are used in relation to international contracts, but it is too soon to examine its application in Mediterranean countries, considering that it has not entered into force yet, and that Lebanon is the only Mediterranean country having signed it.³²

Always on the *hard law* level, reference should be made also to EU law, which through the implementation of many directives has built a comprehensive framework for Internet related issues. Many aspects have been regulated, such as electronic signature (Directive 1999/93), electronic communications (Directive 2002/19 on access to, and interconnection of, electronic communications networks and associated facilities; Directive 2002/20 on the authorisation of electronic communications networks and services; Directive 2002/21 on a common regulatory framework for electronic communications networks and services, and Directive 2002/22 on universal service and users' rights relating to electronic communications networks and services), protection of privacy (Directive 2002/58 concerning the processing of personal data and the protection of privacy in the electronic communications sector), consumer protection (Directive 97/7/ on the protection of consumers in respect of distance contracts, amended by Directive 2002/65 concerning the distance marketing of consumer financial services) and e-commerce in general (Directive 2000/31 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market).

30 According to the principle of functional equivalence, once the purposes and functions of paper-based requirements such as writing, signature, and original are analyzed, and the criteria necessary to give electronic data the same level of recognition as information on paper considered, it is possible to grant equal treatment of paper-based and electronic transactions. The technology neutrality principle means that the rules set forth in the Model laws do not depend on the use of particular types of technology. This is extremely important in view of speed of technological innovation, and it 'helps ensure that legislation remains capable of accommodating future developments and would not become dated too soon'. J.A. Estrella-Faria, *Legal Certainty for Electronic Transactions: the Role of the UNCITRAL Model Law on Electronic Commerce (1996)*, in A. Schulz, *Legal Aspects of an E-Commerce Transaction. International Conference in The Hague, 26 and 27 October 2004*, Munich, 2006, p. 164. As to party autonomy, the Model Law recognizes this principle by acknowledging the primacy of party agreement.

31 Legislation implementing provisions of the Model Law on electronic commerce has been adopted in Australia (1999), China (2004), Colombia (1999), Dominican Republic (2002), Ecuador (2002), France (2000), India (2000), Ireland (2000), Mauritius (2000), Mexico (2000), New Zealand (2002), Pakistan (2002), Panama (2001), Philippines (2000), Republic of Korea (1999), Singapore (1998), Slovenia (2000), South Africa (2002), Sri Lanka (2006), Thailand (2002) and Venezuela (2001). Moreover, both the US Electronic Transactions Act, (adopted in 1999 by the National Conference of Commissioners on Uniform State Law) and the Canadian Uniform Electronic Commerce Act, adopted in 1999 by the Uniform Law Conference of Canada) are strongly influenced by the Model Law. Also Dubai Electronic Transactions and Commerce Law No.2/2002 follows the UNCITRAL model law on e-commerce. As to the UNCITRAL Model Law on Electronic Signatures, relevant legislation has been adopted in China (2004), Mexico (2003) and Thailand (2001). The success of the Model Laws depends mostly on the minimalistic approach (as opposed to a fundamental reconstruction of the existing legal framework) which regulates only those matters absolutely necessary to accommodate electronic commerce, thereby preserving flexibility and permitting the development of new technologies and implementations. The aim is in fact to facilitate e-commerce through the removal of legal barriers, rather than regulate it.

32 Up to now only eight countries have signed the Convention, i.e. the Central African Republic, Senegal, Lebanon, China, Madagascar, Sierra Leone, Singapore and Sri Lanka. For further updating in the Status of the Convention, see www.uncitral.org.

Why Jordan?

The role of Jordan in the process of globalization and development of e-commerce is quite interesting for a number of reasons.

As already pointed out, the development of e-commerce is strictly connected to the diffusion of ICT. Many attempts and many initiatives have been made in order to overcome the digital divide and fill the gap between industrialized and developing countries. For instance, in the framework of the Euro-Mediterranean partnership,³³ Jordan has signed an association agreement (EMAA) with EU in November 1997, which has entered into force on 1 May 2002. This Association Agreement aims at prosecuting the Cooperation Agreement signed between EU and Jordan in 1977, in order to boost free movements of goods from Jordan to Europe. Differently from the previous agreements, which focused only on the economic issue, the Euro-Mediterranean partnership includes both a political and social partnership. However, the economic issue is the main objective: the key-commitment is the establishment of a free trade area for industrial goods³⁴ to be achieved by 2010. In this framework, technological cooperation plays an important role: taking for granted the difference in economic and social development existing between Jordan and the Community, and considering the process of social and economic modernization that Jordan has undertaken, the EMAA should create a new climate for their economic relations and in particular for the development of trade, investment and economic and technological cooperation. According to art. 64 of the EMAA, in fact, one of the objectives of the Cooperation is to stimulate 'technological innovation, transfer of new technologies, and dissemination of know-how, in particular with a view to accelerating the adjustment of Jordan'.

More specifically, art. 73, which is expressly dedicated to information infrastructures and telecommunications, states that 'cooperation shall focus on telecommunications in general; standardization, conformity testing and certification for information technology and telecommunications; dissemination of new information technologies, particularly in relation to networks and the interconnection of networks (ISDN - integrated services digital networks) and EDI (electronic data interchange); stimulating research on and development of new communication and information technology facilities to develop the market in equipment, services and applications related to information technology and to communications, services and installations'.

On the international level, it must be pointed out that Jordan has joined WTO in April 2000. In anticipation of its adhesion, the Jordanian government has initiated an intense process of revision and modernization of the regulatory and economic framework in order to enhance investments and allow the economic growth of the country.³⁵ Major economic and legislative reforms have been made to bring Jordanian foreign trade regime into conformity with WTO requirements. Many free zones have been instituted, the first one is the Aqaba Special Economic Zone, aiming at enhancing economical capabilities in Jordan, by attracting foreign and local investments thanks the privileges and exemptions

33 Considering the importance of regional cooperation, in 2001, Jordan has also signed the so-called Agadir agreement, a South-South agreement functional to the Euro-Mediterranean partnership, aiming at creating a free trade area with Egypt, Morocco and Tunisia by 2010. However, as to regional cooperation, also the GAFTA agreement must be mentioned: in 1998 Jordan joined the Great Arab Free Trade Area, an Arab League initiative aiming at liberalizing traditional trade barriers for goods, and gradually also for non-tariff barriers, in order to achieve by 2007 the establishment of a free trade zone among member states (H.L. Stovall, E. Tinawi, Y. Katz, H. Ullman, *Middle East Commercial Law Developments*, in *The International Lawyer*, vol. 32, 1998, p. 411; Minwer al-Rimawi L., *A Brief Overview of Underlying Macroeconomic Conditions of Arab Capital Markets*, in *European Business Law Review*, 2001, p. 241).

34 As to agricultural products, the EMAAs call for a gradual and mutual liberalization, but so far there is still a protectionist policy against agricultural products from Mediterranean countries. See J. Zarrouk, F. Zallio, *Integrating Free Trade Agreements in the Middle East and Africa*, in *The Journal of World Investment*, n. 2, 2001, pp. 403-423.

35 However, it has been considered that some WTO provisions erect obstacles to economic progress and reconciliation in the Middle East region that has suffered from a lack of foreign investment due to regional conflicts. See for instance, A.M. Ezrahi, *Opting Out of Opt-out clauses: Removing Obstacles to International Trade and International Peace*, in *Law and Policy in International Business*, 31, 1999, pp. 123-155.

provided in this free trade zone,³⁶ but many others followed, such as the Zarqa, Sahab, and al-Karak free zones.

In the frame of WTO initiatives, the signature of the Information Technology Agreement deserves a special mention given that Jordan was one of the first Arab countries, together with Oman,³⁷ taking part to this agreement. The ITA is a multilateral agreement within the WTO, aimed at expanding world trade in information technology products in view of the key role this trade plays in development of information-based industries and the dynamic expansion of the world economy, through a tariff cutting mechanism.³⁸ ITA also aims to achieve maximum freedom of trade in information technology products, and to encourage continued technological development of the information technology industry on a worldwide basis. Given that the diffusion of ICT is a pre-requisite for the development of e-commerce, it is apparent how the signature of the ITA represents an important step forward.³⁹

Moreover, other agreements should be mentioned.

First, Jordan has signed a free trade agreement with the USA. As a matter of fact, the United States has played an important role in the recent politics and economics of Jordan.⁴⁰ The creation, in 1998, of the so-called Qualified Industrial Zones had already pointed out the privileged role of Jordan in the Middle East policy of the USA. The QIZs are industrial areas where goods can be exported towards the USA without any customs duties, importation duties or other taxes, if they have been manufactured mostly (35%) in Jordan and Israel.⁴¹ The QIZs have paved the way for a tighter cooperation: Jordan is the fourth state, after Canada, Mexico and Israel, having signed a free trade agreement with the USA.⁴² Negotiations had been started in July 2000, and in December 2001 the Jordan-American Free Trade Agreement (JAFTA) has entered into force, aiming at establishing clear and mutual advantageous rules governing their trade,⁴³ by eliminating tariff and non tariff barriers to trade within 10 years. More interesting, the JAFTA includes provisions specifically for e-commerce, in order to facilitate a virtual, global market, and enhance intellectual property as well.⁴⁴ Art. 7 recognizes the economic growth and opportunity provided by electronic commerce and the importance of avoiding barrier to its use and development and states that each Party is committed not to impose customs duties on electronic transmissions, nor impose unnecessary barriers on electronic transmissions, including digital products. Furthermore, art. 7(2) expressly provides that the Parties shall also make publicly available all relevant laws, regulations and requirements affecting electronic commerce.

36 See Law 32/2000 establishing the Aqaba Special Economic Zone.

37 Today, also Egypt, Bahrain and Morocco have signed the ITA. For further updating, see www.ita.org.

38 Even if the ITA Declaration provides for the review of non-tariff barriers (NTBs), there are no binding commitments yet.

39 There are three basic principles that one must abide by to become an ITA participant: all products listed in the Declaration must be covered, all must be reduced to a zero tariff level, and all other duties and charges must be bound at zero. There are no exceptions to product coverage, however for sensitive items, it is possible to have an extended implementation period. See www.wto.org.

40 The privileged role of Jordan in the US foreign policy depends on several factors, first of all the political tie. Jordan has always been a trustful ally of US, and the signature of a Peace treaty with Israel, in 1994, has strengthened this relation.

41 See for instance the agreement concerning the institution of the Irbid Qualifying Industrial Zone, available on: http://www.jordanecb.org/pdf/QIZ_Agreement.pdf.

42 At the condition that Jordan would compel to a process of economic reforms. The entry of Jordan in the WTO in April 2000 has made this process easier. See www.usjoft.com.

43 JAFTA Preamble.

44 Jordan in fact has agreed to accede the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonographs Treaty (WPPT) within two years from the entry into force of the Agreement. The two treaties have actually entered into force in Jordan in 2004.

Most interestingly, the agreement evokes the principles announced in the U.S.-Jordan Joint Statement on Electronic Commerce,⁴⁵ according to which: ‘Electronic commerce will enhance the standard of living of citizens in the United States and Jordan, as well as the rest of the globe, by creating new, high-paying jobs and opportunities.’⁴⁶ To reach these results, the private sector should play a special role in the development of electronic commerce, while both governments should avoid imposing unnecessary regulations or restrictions on electronic commerce. From the legal perspective, both governments are called to encourage effective self-regulation through codes of conduct, model contracts, guidelines, and enforcement mechanisms developed by the private sector. Moreover, the Statement makes express reference to the UNCITRAL Model Law on Electronic Commerce, in order to adopt the relevant provisions directed to the removal of paper-based obstacles to electronic transactions.

The final goal is to avoid the growth of a digital divide on a social, cultural or geographic basis, however, despite this ambitious aim, it is self-evident that this statement is a simple declaration of intents, with no binding force.

Jordan program of economic and legislative reforms

The choice of Jordan for a comparative study on ICT technologies is also endorsed by further considerations.

Jordan has not been a pioneer in the IT revolution. Internet has been introduced in Jordan only in 1995, while other countries such as Tunisia, Lebanon and Egypt had already gone online a few years earlier. However, an intense program of economic and legislative reforms has fostered a variety of e-initiatives. First of all, Jordan has embarked on a global school reform directed at wiring all schools with broadband Internet,⁴⁷ and above all, making the study of English and computer science compulsory.⁴⁸ The aim is to foster a new generation able to take part in the process of globalization and to exploit the full potential of the Internet revolution.

The same approach has been shared by the *Royal Committee for Economic Reform*, which in its effort of improving and modernizing Jordan Economy and Administration has paid special attention to the knowledge of English and Computer science.⁴⁹

Furthermore, an *Interministerial Coordinating Committee for Public Sector Reform* has been established, in order to enhance and increase the e-government system to every Public Institution. Moreover, a Ministry for Communication and Information Technology has been instituted, while the Ministry for Posts and Telecommunication has enhanced the program *Jordan E-government Initiative*.⁵⁰

45 In the same year, 2000, it has been issued also an US-Jordan Joint Statement on *Global Information Economy*, stating that Jordan and US ‘will work together to enable the people of both countries to share fully in the benefits of the global information economy’.

46 Available on: www.ecommerce.gov/jointstatements/jordan.html. See also the US-Egypt joint statement, at the website: www.ecommerce.gov/ecomnews/us-egypt.html.

47 Connecting schools is the first step in a massive government initiative to provide broadband Internet connectivity throughout Jordan and is considered a cornerstone of the monarchy’s efforts to modernize the country.

48 It has already been stressed that an important obstacle to the diffusion of the Internet in the Arab world is represented both by the fact that the dominant language of Internet is currently English, and by a widespread lack of e-competence. See G. Nunberg, *Will the Internet Always Speak English?*, in *The American Prospect*, 11, n. 10, 2000, available on: www.prospect.org.

49 The global reform process, which took place in 2002, aims at reaching fundamental goals, such as increase in productivity and efficacy, rationalization of expenses, adaptation of administrative organization to international standards and improvement of quality in services offered to citizens. In order to reach these goals, ICT plays a leading role. See Caimed, Centre for Administrative Innovation in the Euro-Mediterranean Region, *Giordania. Manutenzione, innovazione e riforma amministrativa*, April 2004, available on: www.caimed.org.

50 Other e-initiatives include the *Electronic Business Development Activities* program, which took place in 2000, in order to build e-commerce awareness, dissemination, and business qualifications training for small and medium enterprises. The

All these programs share the idea that using ICT in social and economic processes fosters a cost reduction, increases productivity and improves services, especially in those places affected by a lack of financial resources and where geography hinders communication.⁵¹ Moreover, at least in theory, e-government should play a leading role in enhancing transparency and efficacy of governmental authorities, and therefore it could even encourage democracy.

Liberalization of telecommunication services

If e-commerce needs ICT to develop, it is apparent how access and affordability become a major issue. Apart from the problem of the digital divide, the biggest obstacle to the diffusion of ICT is the State monopoly in telecommunication services. Liberalization and privatization of services is therefore an important requirement for the development of ICT in general, and e-commerce in particular. The modernization of Jordan's telecommunication sector is the first step towards its inclusion in the worldwide e-society. Jordan's ICT infrastructure has developed only after a strong economic reform that has led to a telecommunication privatization policy, one of the first in the area.

The reform plan and the stabilization program started in 1994, even if the debate began much earlier. It was aimed at achieving fiscal and monetary stability, and at increasing the productivity and efficiency of the various sectors by introducing competition among private sector participants, within a regulatory framework that would guarantee fair competition among all.

This necessitated that the Government cease to be an active participant in these sectors, and therefore required the privatization of major government-owned enterprises. Until 1994 the state-owned Jordan Telecommunications Corporation (TCC) was the sole operator for the country since its establishment in 1971, and was unable to meet market expectations for telecommunications services, preventing private participation, competition and economic pricing.⁵² As a consequence, the overall performance of the sector was weak with high prices, low customer satisfaction and poor service delivery. Under these conditions, of course, the development of e-commerce, connected to ICT diffusion, was not even thinkable.

However, after a long debate, in 1995 a new Jordan Telecommunications Law was promulgated. Law 13/1995 is directed to 'prepare the general policy of the telecommunications and information technology sectors in the Kingdom', and 'spread public awareness of the importance of the role of telecommunications and information technology to the overall economic and social development and advancement of the Kingdom.'⁵³

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Jordan Connect Program aims at linking high technology and other entrepreneurs with the resources they need to create new companies or help existing companies grow, by helping provide the money, supervision, technology, marketing strategies, management strategies, partners, legal aid, and other needed support services. As to the access issue, *the Knowledge Station program* aims at giving citizens from throughout the country access to ICT skills. The same goal is shared by the *e-Village pilot program*, which is directed to build skills and professional capacity to develop economic opportunities and create new job opportunities in the ICT sector. See also the REACH program, acronym for Regulatory framework, Estate and infrastructure, Advancement programs, Capital and Human resource development, which has been launched in 1999 (<http://www.reach.jo>).

51 J. Anderson, *The Internet and the Middle East: Commerce Brings Region On-Line*, in *Arab Information Project*, available on: www.georgetown.edu/research/arabtech/meer97.htm.

52 Telecommunications Law 29/1971 (amended in 1993) allowed TCC not only as service provider, but also to act as regulator and policymaker.

53 Law 13/1995, art. 3. At art. 2 this law contains an interesting definition of *Information Technology*: 'The generation, manipulation and storage of information using electronic means'.

The main effects of this law were the establishment of an independent telecommunications regulatory commission,⁵⁴ the limitation of the role of the Ministry of Posts and Telecommunications and the incentive for the private sector investment and provision of services (including foreign investment to a maximum of 49 percent⁵⁵). In 1997, TCC was transformed into Jordan Telecommunications Company (JTC), a government-owned company, and began to operate on a commercial basis. Following its privatization program,⁵⁶ JTC has been partially privatized in 2000, with France Telecom leading a consortium and purchasing a 40% stake in the Company. On November 2002, the Government of Jordan sold an additional 10.5 % of JT shares to the public. As a consequence of the privatization process and of the partnering with France Telecom, Jordan Telecom was committed to a timed action plan, in order to facilitate Internet services in Jordan.

Today, Jordan has one of the most open telecommunications markets in the Middle East region: the fixed network has been largely converted to digital switching and transmission, and expanded to reach a higher teledensity rate. As a matter of fact, Jordan Telecom group subscriber base reached 1,5 Million subscriber as of end of March 2006, compared to 1,4 Million subscriber⁵⁷ as of end of year 2005, but this data includes both fixed lines (about 670,000 subscribers) and mobile lines (860,000 Mobilecom subscribers, a subsidiary of Jordan Telecom): prices are governed by the fixed network license, and must be approved by the Telecommunications Regulatory Commission. Internet is becoming popular, irrespective of high costs of personal computers, especially when compared to average incomes.

However, even if these data are very encouraging, they should not be overrated given the gap that still divides Jordan from Western standards.

The need for an adequate legal framework

Developing countries cannot survive without becoming active participants in the global marketplace. ICT offers an important tool for inserting in the new economy benefits, especially when considering the impressive potential deriving from e-commerce. However, there is the problem of access to these means, which makes the divide between the industrialized world and developing countries even bigger. It is clear that the current low level of participation in e-commerce by developing countries cannot be attributed to the lack of benefits of e-commerce for those countries. Rather, it has more to do with the special constraints that developing countries are facing in this area, including lack of awareness, the high cost of connectivity, lack of infrastructure, legal issues and security problems.⁵⁸

54 The *Telecommunications Regulatory Commission* should 'regulate telecommunications and information technology services in the Kingdom in accordance with the established general policy so as to ensure the provision of high quality telecommunications and information technology services to users at just, reasonable and affordable prices; and, by so doing, to make possible the optimal performance of the telecommunications and information technology sectors.' (Art. 6(a)).

55 The Investment Law 26/1995, is strictly connected to Law 13/1995. It aims at enhancing foreign investments in Jordan by assimilating foreign investors to national investors, and granting fiscal and customs benefits to foreign companies.

56 Law 25/2000 is a milestone in the privatization policy, laying down the relevant general principles and paving the way for competition also in ICT sector. According to art. 3, 'Privatization means the adoption of an economic methodology which enhances the role of the private sector in the economy' in order 'to raise the efficiency, productivity and competitiveness of economic enterprises'. An implied reference to e-commerce may be found in art. 3(E), where it states that this methodology encompasses the use of advanced technology in order to enable such enterprises to create stable markets and to penetrate new markets through their ability to compete in international markets. Moreover this law has established a Privatization Council, chaired by the Prime Minister, in charge of laying down general policies for privatization, specifying the public enterprises it decides to be privatized, or restructured in preparation for privatization, and adopting the appropriate implementation method to achieve this purpose. However, irrespective of the liberalization process, the government will still play a leading role in the privatized companies, because of the golden share possibility provided by art. 14 of law 25/2000.

57 Source: Jordan Telecom Financial Reports (first quarter 2006), available on: www.jordantelecom.jo.

58 UNCTAD Capacity-building in electronic commerce, UNCTAD (TD/B/COM.3/L.17).

Several studies have identified lack of trust⁵⁹ as one of the main possible constraints on e-commerce, particularly as far as consumer protection, security and privacy are concerned.

There is a strict connection between trust and risk: if there is no risk, there is no need to trust, because the absence of risk implies confidence. Consequently, there is the need for a legislation that should solve these issues by regulating data protection, confidentiality of information and above all, by offering a new framework for new legal concepts. In fact, even if rational economic behaviour could play a major role in building trust, there is still room for instinctive performance, depending on the perception of the economic tools.⁶⁰ This is particularly true for Internet transactions, producing a depersonalization of relationship and consequently a lack of trust in the system, while, normally, business people 'prefer personalized, face to face dealings and the development of business relations through the growth of personal relations over successive visits and cups of tea.'⁶¹

To all intents and purposes, it is compelling to consider trust as an essential ingredient for successful long-term relationships with individuals and a key determinant of e-commerce success.⁶²

However, in analysing the Arab enterprises' relationship with Internet and e-commerce, it is necessary to separate small and medium enterprises from larger corporations or multinational enterprises. As a matter of fact, while bigger enterprises may effectively integrate and compete in e-commerce and ICT by offering transaction platforms, small and medium-sized enterprises are more reluctant to run risks, preferring personal interactions. As a result, although most SMEs technically moved online, their websites are simply informational, just offering online cataloguing: in this way, despite their access to new technologies, they are not benefiting from the full potential represented by approaching new markets.

Therefore creating and developing trust should be a primary concern: e-commerce can be successful only if individuals can trust organisations and products they cannot physically see or touch. Trust creation and its effects however depend to a large extent upon culture, hence, when dealing with

59 'Trust deals with beliefs, or willingness to believe, that one can rely on the goodness, strength, and ability of somebody (the seller or the buyer) or something (for example Information Technology applications). It is the expectation that arises within a community where regular, honest, and cooperative behaviour is the norm, based on commonly shared standards'. C. Prins, L. van der Wees, *E-commerce and Trust: A Variety in Challenges*, in C. Prins et al., *Trust in Electronic Commerce*, The Hague, London, New York, 2002, p. 4.

60 It has been demonstrated that people do not take always the most rational decisions: they are much afraid of losing than they are happy of winning (...). In the e-commerce environment the irrational behavior is fostered by the further variable of trust in machines, which is added to the traditional need for trust in people. F. Egger, *Consumer Trust in E-Commerce: From Psychology to Interaction Design*, in C. Prins et al., *Trust in Electronic Commerce*, p. 19.

61 R.H. Pelletreau, *Information Technology and the Arab World*, available on: www.georgetown.edu/research/arabtech/pelletreau.htm. See also G.A. Guerra, D.J. Zizzo, W. Dutton, M. Peltu, *Economics of trust in the information economy: issue of identity, privacy and security*, 2003, OECD Information Security and Privacy Working Paper No. JT00142557, p. 4. Also available on: <http://ssrn.com/abstract=723201>. 'The reduced channel of communication available in electronic interactions is likely to make it more difficult to detect facial expressions, eye movement, gestures and other non verbal manifesta that are important in establishing trust'.

62 On this point see M. Fandy, *Information Technology, Trust and Social Change in the Arab World*, in *Middle East Journal*, vol. 54, 2000, n. 3, pp. 378-394; G. Rose, D. Straub, *Predicting General IT Use: Applying TAM to the Arabic World*, in *Journal of Global Information Management*, vol. 6, n. 3, 1998, pp. 39-46, also available on: <http://members.aol.com/grose00000/jgim.html>; A. Tucker, S.F. Younis, T. Shalaby, *Cross cultural perceptions of the Internet and Virtual reality*, in *Proceedings of the Eleventh International World Wide Web Conference*, Honolulu, 2002, available on: <http://www2002.org>; E. Zureik, *Conceptual Framework for the Study of ICT in the Arab World with Special Reference to Palestine*, Paper presented at the Fifth Mediterranean Social and Political Research Meeting, Florence & Montecatini Terme 24-28 March 2004, organised by the Mediterranean Programme of the Robert Schuman Centre for Advanced Studies at the European University Institute.

the issue of development of e-commerce in that region, the role of Arab culture, intended as a whole way of life, should be taken into account.⁶³

Most specifically, a general mistrust in ICT (together with a general attitude of resistance to changes, generation gap and language barrier) and above all, lack of trust in electronic means of payment, represent a strong deterrent to e-commerce in several Arab countries.⁶⁴ As a consequence, the only way to overcome this situation is increasing education⁶⁵ and improving user friendly, secured means of payment.⁶⁶

If lack of trust represents an important obstacle to the diffusion of ICT and e-commerce, the main issues involved, calling for regulation (or self-regulation), consists mainly in the shift from a paper and cash-based economy to a paper and cash-less society. It means that there is the need for an adequate discipline (either soft or hard law) first of all giving legal value to the e-document and the e-signature, and then regulating other issues as for instance means of e-payment, privacy, consumer protection, security measures, cybercrime, custom and taxes.

The Jordan Electronic Transactions Law (ETL)

Jordan has recently enacted an Electronic Transactions Law (85/2001), which should foster the development of a real e-commerce activity, considering that an important step towards the building of a widespread trust in information society is an adequate regulatory framework, guaranteeing legal certainty.

Even if law 85/2001 concentrates only on specific aspects, its importance consists primarily in having paved the way for the regulations of Internet related issues. Before this law in Jordan there was no relevant legislation and, as already pointed out, legal void creates mistrust and as a consequence it hinders the development of ICT in general, and of e-commerce in particular. In the field of contract law, legal void means that lacking any regulation, the general rule applies: all actions are permitted, unless specifically prohibited by the Law.

This rule is generally acknowledged in every legal system, and it applies to every field of law, such as contract law.⁶⁷ According to Islamic law,⁶⁸ the concept of freedom of contract comes from the

63 As it has been pointed out, 'there is no single universal culture, but the underlying globality supports the notion of the boundlessness of cultures and the diversification of culture rather than homogenisation'; therefore, considering that each culture has its own point of view, the significance varies across societies and civilizations. M. Farooq Haq, S. Smithson, *The Role of IS in Islamic Banking: A Cultural Perspective*, available on: <http://is2.lse.ac.uk/asp/aspecis/20030058.pdf>, p. 4.

64 For the Egyptian case see M.A. El-Nawawy, M.M. Ismail, *Overcoming Deterrents and Impediments to Electronic Commerce in Light of Globalization: the Case of Egypt*, available on: http://www.isoc.org/inet99-/proceedings/1g/1g_3.htm#s33; G.R. El-Said, K.S. Hone, *Culture and E-commerce: an exploration of the Perceptions and Attitudes of Egyptian Internet Users*, in *Journal of Computing and Information Technology*, vol. 13, n. 2, 2005, pp. 107–122.

65 Apart from the linguistic problem represented by the prevalence of English content on the Internet, adult illiteracy remains high in the Arab world and it represents a serious threat due to its detrimental effect on the development of an Arab information society and a knowledge based economy. See the *Arab Knowledge Economy – Newsletter*, vol. 1, 2006, issue 2. According to this research Jordan has one of the best Arab literacy rate (90%) together with Palestine (92%), followed by GCC countries such as Bahrain and Qatar.

66 According to a survey developed among Arab-American business people, reluctance to ICT depends mainly on financial costs, time costs in learning systems and programs, lack of knowledge about computer use, and a general fear concerning mostly the risks of sabotage and interference, but it has also been drawn attention to the threat that computers may have on way of life and family, stating that 'Arabs prefer direct human contact'. E.C. Hill, K.D. Losch, D.W. Straub, K. El-Sheshai, *A Qualitative Assessment of Arab Culture and Information Technology Transfer*, in *Journal of Global Information Management*, vol. 6, n. 3, 1998, pp. 29-38, also available on: <http://www.cis.gsu.edu/~dstraub/Papers/Resume/Hilletal1998.doc>.

67 For the application of this principle in the Islamic and contemporary Arab law see: A. El-Hassan, *Freedom of Contract, the Doctrine of Frustration, and Sanctity of Contracts in Sudan Law and Islamic Law*, in *Arab Law Quarterly*, vol. 1, n.

theory of *'ibaha*, tolerance, a kind of original freedom granted from God to mankind, finding the sole limit (*hadd*) of law.⁶⁹ A more restrictive approach, however, argues that whatever is not expressly foreseen by *shari'a* is not allowed. This theory makes reference both to Qur'an (see for instance II, 299: Those who transgress the limits of Allah are evil doers') and Sunna (for instance a tradition stating: 'How can men stipulate conditions which are not in the book of Allah? All stipulations, which are not in the book of Allah, are invalid, be they a hundred in number. Allah's judgment alone is true and His stipulations alone are binding').⁷⁰

Law 85/2001 represents a gradual shift from a complete legal void to a regulatory framework, aiming at facilitating the use of electronic means in concluding transactions. It came into force on 31 March 2002, and it is one of the early e-law in the Arab world, but not the first: Tunisia in fact had already enacted a complete e-commerce law in 2000 (law 83/2000). Both Tunisian and Jordan laws are under uniform law influences, being an interesting combination of the UNCITRAL Model laws on e-commerce (1996) and e-signature (2001), with local specifications.

ETL is composed of 41 articles, divided into six parts:⁷¹ general provisions (arts. 3-6); Electronic Records, Contracts, Messages and Signatures (arts. 7-18); Transferable Electronic Note (arts. 19- 24); Electronic Transfer of Funds (arts. 25-29); Securing the Electronic Records and Electronic Signature (arts. 30-34); Penalties (arts. 35-38) and Final Provisions (arts. 39-41).

Definitions

In order to avoid doubts, gaps or vagueness, art. 2 offers a sort of glossary of the expressions used in the law, specifying that those 'words and expressions shall have the meaning ascribed thereto hereunder, unless the context indicates otherwise'. Providing definitions in the first articles of a law is a typical approach followed by modern legislation, especially when relevant to the developments of new technologies,⁷² as provided also by art. 2 of both UNCITRAL Model laws.

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1, 1986, p. 51-59; R. Lohlker, *Der Handel im Malikitischen Recht*, Berlin, 1991; S. Mahmasani, *Transactions in the shari'a*, in M. Khadduri, H.J. Liebesny, *Law in the Middle East*, Washington, 1955, p. 185; M. Papa, *La definizione di contratto e l'autonomia contrattuale in diritto musulmano: dai principi della Shari'a alle legislazioni contemporanee*, in *Roma e America Latina*, vol. 7, 1999, pp. 277-297; M. Zahraa, *Negotiating Contracts in Islamic and Middle Eastern Laws*, in *Arab Law Quarterly*, vol. 13, n. 3, 1998, pp. 265-277.

68 This is just an historical comparison, considering that Islamic law nowadays has been replaced in almost the whole Arab world by modern codes, which mostly reproduce the Western models, more specifically the French one. For the circulation of legal models in the Mediterranean, see F. Castro, *La codificazione del diritto privato negli stati arabi contemporanei*, in *Rivista di diritto civile*, vol. XXXI, n. 1, 1985, pp. 387-447.

69 See F. Castro, *al-Ahkam al-khamsa*, in *Digesto delle discipline privatistiche, Sez. Civile Digesto IV*, pp. 245-246.

70 Quoted in A. El-Hassan, p. 57.

71 As to the Tunisian law, it consists of 53 articles, divided into 7 chapters: general provisions, electronic document and digital signature, National Certification Authority, Electronic Certification Services, Electronic Commerce Transactions, protection of personal data, Infractions and penalties. For a comment on Tunisian law, see V.M. Donini, *Il commercio elettronico in Tunisia*, in *Globalizzazione e diritto: l'Europa verso il Mediterraneo*, Quaderni di diritto musulmano e dei paesi islamici, n. 5, Università degli studi di Roma 'Tor Vergata', n. 5, 2003, pp. 53-90.

72 For instance, art. 2 of the European Directive 2000/31, on certain legal aspects of information society services, in particular electronic commerce in the Internal Market (directive on e-commerce). See also Tunisian Law 83/2000, whose art. 2 provides detailed definitions, which do not correspond to the provisions of art. 2 ETL. It must be kept in mind, in fact, that Tunisian law presents a more far-reaching approach, trying to regulate every aspect of e-commerce, from the electronic contract to the protection of personal data, from electronic means of payment to server provider's liability. Also the Egyptian law on e-signature contains definitions at its art. 1. For instance, *Electronic Writing*: all letters, digits, symbols or any other signs on an electronic, digital, photographic support or any other similar means that gives perceptible indication. *Electronically written messages*: a data message that includes information created, combined, stored, transmitted or received totally or partially by use of an electronic, digital, photographic means or any other similar means. As to Dubai Electronic Transactions and Commerce Law 2/2002, it goes even further, providing at art. 2 a definition for computer: an electronic device that deals with information and data by analyzing, programming, presenting,

The ETL, in fact, partially reproduces the definitions contained in art. 2 of the UNCITRAL Model Law on e-commerce. For instance, a *data message* is an information generated, sent, received or stored by electronic or similar means, including Electronic Data Interchange (EDI), electronic mail, telegram, telex or teletype. *Electronic Data Interchange* means electronic transfer of information from one person to another using information processing systems. *Information Processing System* is an electronic system used for generating, sending, receiving, processing or storing data messages or for handling data messages in any other respect. *Originator* of a data message means a person by whom, or on whose behalf, a data message is generated or sent prior to its receipt or storage by the *addressee*, i.e. the person who is intended by the originator to receive the data message.

Art. 2 ETL, however, does not always follow the uniform model, since it does not provide certain definitions contained in the UNCITRAL model laws,⁷³ and it also presents detailed definitions, which find no correspondence in the UNCITRAL model laws. The ETL in fact leaves no room for interpretation or vagueness, by defining also concepts that could be easily understood. For instance, it offers a definition for *electronic transaction*, i.e. a transaction conducted by electronic means,⁷⁴ and for *transaction* as well. According to the ETL, a transaction is an action, or set of actions occurring between two parties or more for establishing obligations upon one party, or mutual obligations between more than one party relating to the conduct of business, a civil obligation or any government department.

The ETL also defines the *electronic contract*, an agreement concluded in whole or in part by electronic means, stressing in this way a semantic and conceptual difference between transaction (*mu'amalât*) and contract (*'aqd*).

Moreover, the law explains what is meant by *electronic*, that is the technology utilizing electrical, magnetic, optical or electro-magnetic means or any other similar means in the interchange and storage of information, and by *information*, i.e., every data, texts, images, forms, sounds, codes, databases, computer software.⁷⁵

Consistency with the existing legal system

ETL presents a peculiar provision at art. 3: admitting that this law aims at facilitating the use of electronic means in conducting transactions, it specifies that it is subject to the provisions of any other law, and without amending or annulling any of these provisions.

The peculiarity of this provision lies in the fact that consistency of law with the existing legal framework should be taken for granted, even considering the generally acknowledged principle

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storing, sending, or otherwise receiving them through electronic information programs and systems; which might function separately or in conjunction with other electronic devices or systems'.

73 As it happens for *intermediary*, which is defined by the UNCITRAL model law on e-commerce as a person who, on behalf of another person, sends, receives or stores that data message or provides other services with respect to that data message.

74 It is interesting to stress that if on one side Tunisian Law 83/2000 as well provides a definition of *Commerce électronique*, i.e. 'les opérations commerciales qui s'effectuent à travers les échanges électroniques', on the other side the UNCITRAL model laws, following the principle of media neutrality, do not provide any definition of e-commerce, in order not to fix abstract parameters which could be easily overcome by further developments in technologies.

75 Other terms covered by art. 2 ETL, but not defined by the UNCITRAL model laws are: *electronic agent* (a computer program or other electronic means used independently to implement an action or respond thereto for the purpose of generating, sending, or receiving a data message without review or action by an individual), *security procedures* (procedures employed for the purpose of verifying that an electronic signature or record is that of a specific person, or for detecting changes and errors in an electronic record after its generation), *identification code* (the code assigned by a licensed or competent entity for the purpose of securing the electronic contracts of a certain person, and used by the addressee in order to distinguish the records of such persons from other records), *financial institution* (any bank authorized to make financial transfers in conformity with the provisions of Law) and *illegal entry* (any financial entry in the client's account resulting from an electronic message sent in the client's name without the client's knowledge, approval or authorization).

according to which a new law conflicting with an existing law implicitly abrogates it. The same should happen in the case of a special law with respect to a more general law, and this should be the case of a law like the ETL. In fact, Tunisian Law 83/2000, considering itself *lex specialis*, specifically admits the possibility of derogating to the existing legal framework. According to art. 1, the law lays down general provisions concerning electronic exchanges and electronic commerce, which are normally subject to legislation and regulations in use as long as they are not in contradiction with this law. The same for electronic contracts, governed by written contract procedures concerning the expression of will, its legal power, its validity and its execution liability as long as they are not in contradiction with law 83/2000.

Moreover, it should be considered that a law directed to introduce ICT in the fields of transactions and trade, should necessarily foresee some amendments to the existing legal system, as far as the legal acknowledgment of electronic documents and electronic signature is concerned. As in the Tunisian case, even before the promulgation of law 83/2000, an intense program of reform and transformation of the existing system had been undertaken, in order to foster the development of e-commerce. In 2000 the Civil Code had been modified (law 57/2000) in order to regulate the new challenges of e-commerce, allowing a legal acknowledgment of the electronic document and the digital signature.⁷⁶ The Criminal Code had also been reformed (Law 89/1999), with the insertion of an article regulating Computer crimes in the field of the electronic processing of data. Moreover, after the promulgation of Law 83/2000, a new Code of Telecommunications (law 1/2001) further modified the existing legislation, and a number of decrees have followed, regulating the activity of the service providers,⁷⁷ the electronic certificate, conditions for cryptography etc. The effects of a detailed and organic regulation such as law 83/2000 can be fully achieved only if the legal environment allows a real 'digital revolution', which cannot take place if the existing legal infrastructures are still bound to a traditional concept of law.

As to the interpretation and application of Jordan law, the second paragraph of art. 3 ETL, states that: '*In the application of this Law, due regard shall be had to international commercial custom and technological advances pertaining to electronic transactions.*'

In recalling international commercial custom, this article expresses the will of considering the international and even a-national dimension of Internet in order to approach to the relevant international models. Nonetheless, as far as e-commerce is concerned, there are no substantial differences between Jordan national law and recent trends in international commercial praxis, as it can be inferred by the comparison with the two UNCITRAL laws, considered an instrument for preventive harmonization of laws.⁷⁸

In this way, the Jordanian legislator, by requiring an international interpretation and application of the law, has receipt a normal practice in uniform law, i.e. the need of imparting a way of interpretation

76 The Egyptian law on e-signature at its art. 17 provides the same principle, stating that unless stipulated in this Law or the executive regulations thereof, the provisions of the Evidence Law in the civil and commercial articles shall prevail in relation to proving the validity of the official and unofficial electronically written messages, e-signatures and e-writings.

77 As far as tariffs and authorizations are concerned.

78 The consistency of Jordan law with international model laws represents an important step towards a sort of substantial unification of laws in the field of e-commerce. In turn, this should lead to a minor reluctance in applying a foreign (similar!) law in case of international disputes. On this regards, special attention should be placed to the shift from traditional *alternative dispute resolution* (ADR), to the new models of *online dispute resolution* (ODR), which should radically change the way disputes are solved. This phenomenon remains however inherent to the United States, and, to a lesser extent, to Europe, while Arab countries are totally far behind. For e-commerce and arbitration mechanisms see R. Sali, *Online Dispute Resolution (ODR): Crossing Technology and Disputes. The RisolviOnline Project of the Chamber of Arbitration of Milan*, in A. Schulz, *op. cit.*, pp. 249-259. See also R. Naimark, *The Potential Effect on E-Commerce: Developments on International Treaties*, in The International Bureau of the Permanent Court of Arbitration (ed.), *Strengthening Relations with Arab and Islamic Countries through International Law. E-commerce, the WTO Dispute Settlement Mechanism and Foreign Investment*, The Hague, London, New York, 2002.

that does not belong to any national legal system, but it is autonomous,⁷⁹ taking into consideration the international trends. The ETL, however, goes even further, recommending not only regard to the international character of the matters involved, but also to the technological developments.⁸⁰

Scope of application

As to the scope of the Jordanian law, art. 4 makes clear that it applies to electronic transactions,⁸¹ electronic records, electronic signatures and any electronic data messages. The same scope of application is provided by Dubai Electronic Transactions and Commerce Law, which reproduces mainly the Jordan approach.

However art. 5 of Jordan ETL contains a specification, representing a functional application of the party autonomy principle: 'Unless otherwise provided for in this Law, the provisions of this Law shall apply to transactions between parties which have agreed to conduct their transactions by electronic means.'⁸²

The concepts of party autonomy and freedom of contract - the right of the parties to agree between themselves as to the rules that govern their transactions - are a core premise of the UNCITRAL model laws,⁸³ and Jordan ETL has receipt this approach. Moreover, art. 5(2) ETL contains a further specification, whose goal is to corroborate what explained in the first paragraph. According to art. 5(2), an agreement to conclude a specific transaction by electronic means shall not oblige any of the parties to conclude other transactions by such means. Also this case represents an application of the general principle of party autonomy, according to which the will of the parties must always prevail.

Finally, art. 6 contains some exceptions to the scope of the law, stating that it does not apply to contracts, instruments or documents that are governed by special legislation and prepared in a certain form, or in accordance with specific procedures,⁸⁴ and to securities.⁸⁵

79 See for instance art. 3 and 4 of the UNCITRAL model laws on e-commerce and e-signature, and art. 5(1) of the UN Convention on the Use of Electronic Communications in International Contracts, stating that 'In the interpretation of this Convention, regard is to be had to its international character and to the need to promote uniformity in its application and the observance of good faith in international trade.' Note that all these articles reproduce art. 7 of the Vienna Convention on the International Sale of Goods (1980).

80 A similar provision is contained in art. 4 of the Dubai Electronic Transactions and Commerce law, according to which in applying the law regard should be had to the rules of international commercial custom that relate to Electronic transactions and commerce and to the level of development in technological communication. Furthermore, art. 3 of Dubai law, provides that 'this Law shall be construed consistently with what is commercially reasonable in Electronic Transactions and Commerce'.

81 Transactions may be concluded either by private parties or by governmental department or public institutions, as specified by art. 4, par. B.

82 See also art. 6 of Dubai law: 'Nothing in the Law requires a person to use or accept information in electronic form, but a person's consent to do so may be inferred from the person's affirmative conduct. As between parties involved in generating, sending, receiving, storing or otherwise processing electronic records, any of the rules provided in Chapters II to IV of this Law may be varied by agreement.' Both Tunisian and Egyptian laws do not contain a similar provision.

83 Art. 4 of the UNCITRAL model law on e-commerce states that: As between parties involved in generating, sending, receiving, storing or otherwise processing data messages, and except as otherwise provided, the provisions of chapter III may be varied by agreement. Paragraph (1) does not affect any right that may exist to modify by agreement any rule of law referred to in chapter II. See also art. 3 of the UN Convention, granting the rights of the parties to exclude the application of this Convention or derogate from or vary the effect of any of its provisions.

84 The text provides a detailed list including: wills and amendments thereto; *waqfs* and amending conditions thereof; transactions disposing of immovable property, including related powers of attorney, title deeds, and transactions creating real rights in respect thereof, with the exception of lease contracts; power of attorney instruments and transactions relating to personal status; contract termination or revocation notices relating to water or electrical services, health insurance or life insurance; bills of statements, court proceedings, judicial notification and courts decisions.

85 Except for cases provided for in special instructions issues by the competent authorities pursuant to the Securities Law in force.

Functional equivalence

One of the most difficult questions posed by the advent of e-commerce is whether the legal consequences usually attached to traditional concepts such as ‘writing’, ‘signed documents’, ‘original and copy’ may continue to find application also when information and data circulate in a form that lacks an intrinsic link with a stable support such as paper.⁸⁶

The easiest way to solve this problem would consist in totally equating e-documents with paper-based documents by simply redefining what constitutes a written text. The prevailing solution however is the functional equivalence approach, embedded in the UNCITRAL model laws, which takes into consideration what underlying functions were served by paper-based requirements, and then determines how these objectives could be satisfied in an electronic environment. The result is represented by arts. 5-7 of the Model law on e-commerce, granting legal acknowledgment to the dematerialized documents and signatures. For instance, art. 5 of the UNCITRAL model law on e-commerce,⁸⁷ gives legal recognition to data messages, stating: ‘Information shall not be denied legal effect, validity or enforceability solely on the grounds that it is in the form of a data message’.

Jordan law shares this approach at art. 7 ETL, which expressly declares:

(A) Electronic records, contracts, messages and signatures shall be deemed to produce the same legal effect as written documents, instruments and signatures pursuant to the provisions of legislation in force and with respect to enforceability and admissibility as evidence.

(B) None of the items mentioned in paragraph (A) of this article shall be denied legal effect solely on the ground of being conducted by electronic means, provided they are compliant with the provisions of this Law.

As for the other countries of the Mediterranean, Tunisian Law 83/2000 presents a similar solution, affirming in its art. 4 that an electronic document shall have legal validity equal to the validity of a written document, when the requirements provided by the following paragraphs are satisfied. But most interestingly, this article is inserted in an updated and modified legal system, given that, in order to give formal recognition to the electronic document, the civil code has been amended as well. The new art. 453bis in fact states that:

Le document électronique est l’écrit composé d’un ensemble de lettres et chiffres ou autres signes numériques y compris celui qui est échangé par les moyens de communication à condition qu’il soit d’un contenu intelligible, et archivé sur un support électronique qui garantit sa lecture et sa consultation en cas de besoin.⁸⁸

In Egypt, even if there has been no modification of the civil code, Law 15/2004 contains a similar discipline at its art. 15, asserting the equivalence between e-document and traditional paper-based document, if some technical requirements laid down by further executive regulations are satisfied. Dubai Law 2/2002 shares the same approach, affirming at art. 7 that an electronic communication shall not be denied legal effect or enforceability, solely on the ground that it is electronic in form.

However, the functional equivalence cannot overcome both other applicable laws and the party autonomy principle. According to art. 12 ETL, the equivalence cannot be granted if there is a law not

86 R. Sorieul, J.R. Clift, J.A. Estrella-Faria, *Establishing a Legal Framework for Electronic Commerce: The Work of the United Nations Commission on International Trade Law (UNCITRAL)*, in *The International Lawyer*, vol. 35, 2001, p. 111.

87 See also art. 8(1) of the UN Convention on the Use of Electronic Communications in International Contracts, stating that ‘A communication or a contract shall not be denied validity or enforceability on the sole ground that it is in the form of an electronic communication.’

88 The same approach is shared by the new art. 470, which has been amended, in order to give legal recognition to electronic copies: ‘Les copies faites sur les originaux des actes authentiques ou des écritures privées ont la même valeur que les originaux lorsqu’elles sont réalisées selon des procédés techniques qui procurent toutes les garanties de leur conformité à l’original’.

allowing it, for instance because it requires sending or providing certain information to a related person in writing, or if there is a contrary parties' agreement.⁸⁹

As specified also by the UNCITRAL model laws, the functional equivalence to written form depends on the satisfaction of certain conditions: Jordan law has receipt this rule in its art. 8, stating that an electronic record shall have the same legal effect as an original form, and be deemed equivalent thereto, subject to all of the following conditions:

1. *The information set forth therein is capable of being retained and stored whereby it is accessible for later reference at any time.*
2. *The record is capable of being retained in the form in which it had been generated, sent, received or in any other form whereby the accuracy of information set forth therein when it was generated, sent or received can be readily established.*
3. *The information set forth in the record is indicative of the originator, addressee and the date and time of sending and receipt*

These conditions are required in order to achieve a suitable degree of certainty, obtainable through the possibility of storing and printing the information. In fact, if the parties have agreed to conduct a transaction by electronic means, even if the applicable law requires providing, sending or delivering the related information to others in writing, this requirement may be deemed satisfied if the recipient is capable of printing and storing this information and referring back to it subsequently through accessible means.⁹⁰ This is not allowed if the sender inhibits the addressee's ability to print, store or maintain an electronic record, which will not be binding.

As for the validity of the digital record, art. 11 ETL states that if legislation requires that a certain document shall be maintained for documentation, evidentiary, or auditing purposes or other like purposes, the electronic record shall be deemed to fulfil this requirement, unless a subsequent legislation stipulates that the record must be maintained in writing.

As set forth by art. 30, for the purposes of verifying that an electronic record has not been altered as of a specific date, the record shall be considered a secure electronic record as of the date of its verification, provided such verification is conducted according to security procedures that are accredited, or commercially acceptable, or mutually agreed upon by the pertinent parties. The security procedures shall be deemed commercially acceptable, if they are applied with due regard to the commercial circumstances pertaining to the transacting parties, including: the nature of transaction, the level of sophistication of each party to the transaction, the volume of similar commercial transactions concluded by either party; the availability of alternative procedures rejected by any party; the cost of the alternative procedures; the procedures in general use for such a transaction.

Finally, unless otherwise proven it shall be presumed that a secure electronic record has not been altered or modified as of the date of applying the security procedures. An electronic record, which is not secure, does not have any trustfulness.⁹¹

Digital signature

The same approach governs the issue of signature, and also in this case it is apparent how Jordan law has followed the indications contained in the UNCITRAL Models on e-commerce and e-signature.⁹²

89 The law specifies the non-applicability of articles 7-11, when it was agreed to 'send or communicate certain information by first class mail, express mail or regular mail'.

90 Art. 9 ETL.

91 Art. 32 ETL.

92 See for instance art. 7 of the Model Law on e-commerce, stating that where the law requires a signature of a person, that requirement is met in relation to a data message if a method is used to identify that person and to indicate that person's

ETL, in fact, has conferred legal recognition to electronic signature,⁹³ granting an equal treatment between electronic signature and hand-written signature. According to art. 10 ETL, if the law requires a document to be signed, or stipulates consequences for non-signature, an electronic signature on an electronic record shall satisfy this requirement.⁹⁴ However, granting functional equivalence to electronic signature makes necessary some technical devices, in order to ensure the authenticity of the signature. The second paragraph of art. 10 states that the validity of an electronic signature and its attribution to the signatory may be proved by a method which identifies the signatory and indicates its consent about the information set forth in the electronic record that bears the signature. Obviously such a method must be considered reliable for this purpose, in context of the circumstances of the transaction, including the parties' agreement to using it.

Otherwise, as specified by art. 32(B), if the electronic signature has not been authenticated, it shall not have any legal effect, because it is not secure and consequently it does not have any trustworthiness. Authentication is an important step in the security procedures: an e-signature is deemed secure if it is unique to the person using it, it is capable of identifying its holder, it is generated by means of that person and under his/her control, it is affixed to the electronic record in a manner which does not allow alteration of the record after its signature without alteration of the signature.⁹⁵ Moreover, unless otherwise proven, it shall be presumed that the secured electronic signature is affixed by the person to whom it is attributed, with the intention of indicating his approval of the document's content.⁹⁶

The need of guaranteeing reliability and security is shared also by art. 5 of Tunisian law 83/2000, which makes reference to a 'secure system' decided by a decree from the Minister of Communication.⁹⁷ More specifically, art. 6 states that any person who uses an electronic signature solution should take the minimum precautions that are laid down in the decree in order to avoid any unauthorized use of the encryption elements or the personal device associated with his signature, and strive for the authenticity of all information that he presents to the certification service provider and to all parties he asked to put trust in his signature.

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approval of the information contained in the data message; and that method is as reliable as was appropriate for the purpose for which the data message was generated or communicated, in the light of all the circumstances, including any relevant agreement. The same rule is contained in art. 6(3) of the Model law on e-signature. See also art. 3 of the UNCITRAL model law on e-signature, stating that 'Nothing in this Law, except art. 5, shall be applied so as to exclude, restrict or deprive of legal effect any method of creating an electronic signature that satisfies the requirements referred to in article 6, paragraph 1, or otherwise meets the requirements of applicable law.' The UN Convention as well contains a similar norm at its art. 9(3).

93 As to definition, art. 2 ETL states that a digital signature consists in 'Data in the form of letters, numbers, codes, characters or in other forms, incorporated in, attached to or logically associated with a data message, in electronic, numeric, optical, or other similar means, whereby it enables [authentication] identifying the signatory and distinguishing such from others by virtue of the signature, and for the purpose of indicating the signatory's approval of the content of the data message. See also the definition contained in art. 2 of the EU directive 1999/93, according to which electronic signature means data in electronic form which are attached to or logically associated with other electronic data and which serve as a method of authentication. As to Egyptian law, see the definition of *E-signature*, contained in art. 1, as what is on an electronically written message in the form of letters, digits, codes, signals or others and has a unique identity that identifies the signer and uniquely distinguishes him/her from others.

94 The same provision is contained in art. 10 of Dubai ETCL.

95 Art. 31 ETL.

96 Art. 32 ETL.

97 Actually several decree are applicable such as the *Décret* n. 2001-1668, fixing the procedures for obtaining the authorization to exercise the activity of certification service provider, but see also the *Arrêté* by the Ministry of Communication Technologies (19-7-2001), fixing the technical procedures for the electronic certificates and the digital signature. As far as encryption is concerned, see the *Décret* n. 2001-2727.

However, the Tunisian legal system has gone further, having amended the civil code⁹⁸ in order to give legal recognition to the digital signature. Actually, the second paragraph of the new art. 453 expressly states that:

La signature consiste à opposer de la propre main du contractant un nom ou un signe spécial intégré à l'écrit auquel il se rapporte. Lorsqu'elle est électronique, elle consiste en l'usage d'un procédé fiable d'identification garantissant son lien avec l'acte auquel elle s'attache.

In this way any problem concerning the equivalence between handwritten signature and e-signature is overcome, not only by a special legislation, but by the whole legal system.

The e-contract

The importance both of the electronic record and of the electronic signature depends mostly on the use of these instruments in the electronic contracting. The transmission of data through the Internet, in fact, is an important step in the formation of contract between two parties, when they are not physically close to each other.

The problem is how to qualify the contract concluded through the Internet, whether it differs from a contract in the traditional sense, and whether the paper-based concepts may still be applied.

Irrespective of the dispute on the adaptability of traditional law to cyberspace, it may be argued that a contract, even if concluded through the Net, is always stipulated by real persons, not virtual ones, and the technical means used for data exchanges are located in real places. Therefore it falls under the relevant discipline provided by national civil codes,⁹⁹ as long as special and different provisions do not apply.

In this regard, art. 13 ETL states that for contractual purposes, conforming to the principle that a contract is concluded when the parties exchange an offer with an acceptance, an electronic message shall be a valid mean of declaration of will regarding offer or acceptance. In traditional Islamic law this coincidence of *ijab* and *qabul* should take place simultaneously, during the contractual session, the so-called *majlis*. The evolution of legal doctrine, however, has allowed the conclusion of contracts by letter, and nowadays modern codifications expressly regulate distance contracts, therefore, nothing would hinder the application of the doctrine of *majlis* also to contracts concluded through the Net.¹⁰⁰ In this way, civil code provisions concerning contracts shall be applicable also to the e-contracts, unless otherwise agreed.

Art. 13 ETL represents another example of reception of the UNCITRAL model law on e-commerce, even if the latter (art. 11) provides a more detailed discipline,¹⁰¹ stressing the concept that: 'Where a data message is used in the formation of a contract, that contract shall not be denied validity or enforceability on the sole ground that a data message was used for that purpose'. On the other hand,

98 Law 57/2000.

99 Once the problem of jurisdiction has been solved, of course. Considering the difficulties in identifying the applicable law and the jurisdictional competence, a transnational legal framework would be much more useful. See A. Zanobetti, *Contract Law in International Electronic Commerce*, in *Revue des Affaires Internationales*, n. 2, 2000, pp. 533-562.

100 See for instance the discussion concerning Internet banking. According to S. Jawahitha, N. Raihan Ab Hamid, M. Mazahir Mohamed Ishak, *Internet Banking: A Comparative Analysis of Legal and Regulatory Framework in Malaysia*, in *Arab Law Quarterly*, vol. 18, n. 3-4, 2003, p. 304: 'in Internet based contracts a binding contract can come to being without the parties (the offeror and the offeree) being present in the same *majlis*'.

101 However the UN Convention on the Use of Electronic Communications in International Contracts is even more significant: after asserting at its art. 9(1) that 'Nothing in this Convention requires a communication or a contract to be made or evidenced in any particular form', it regulates the determination of a party's location in an electronic environment; the time and place of dispatch and receipt of electronic communications; the use of automated message systems for contract formation; and the criteria to be used for establishing functional equivalence between electronic communications and paper documents - including 'original' paper documents - as well as between electronic authentication methods and hand-written signatures.

however, art. 11 limits the functional equivalence of data messages, in favour of the party autonomy principle, by stating: ‘In the context of contract formation, *unless otherwise agreed by the parties*, an offer and the acceptance of an offer may be expressed by means of data messages’.

This reference to the party autonomy principle however, even if not express in the ETL, may be extracted from the above quoted art. 5.

The Jordan law then regulates also time and place of dispatch and receipt of electronic communications.¹⁰² As to time, Jordan ETL provides the general rule according to which unless otherwise agreed between the originator and the addressee, the sending of a data message shall occur when it enters an information processing system outside the control of the originator or the person who sent the data message on behalf of the originator (art. 17, which is literally reproduced by art. 17 of Dubai ECTL). Moreover, if the addressee has designated an information processing system for the purpose of receiving data messages, the message shall be deemed to have been actually received upon its entry into such a system. However, if the message is sent to a system other than the designated system, the message shall be deemed to have been received upon the addressee’s retrieval of the message for the first time. If the addressee has not designated an information processing system for the purpose of receiving data messages, the message shall be deemed to have been received at the time of its entry into any information processing system of the addressee.

As to the place of dispatch and receipt, art. 18 of Jordan ETL (reproduced by art. 17(3) of Dubai ECTL) states that unless otherwise agreed, the data message shall be deemed to be dispatched at the place where the originator has its place of business, and shall be deemed to be received at the place where the addressee has its place of business. If the originator or the addressee does not have a place of business, reference is to be made to the habitual residence. Where the originator or the addressee has more than one place of business, the place of business is that which has the closest relationship to the underlying transaction. Where this may not be determined, the principal place of business shall be deemed to be the place of dispatch or receipt.

The relevant Tunisian discipline on e-contract is also very interesting, first of all because it lays down a general principle, according to which the rules governing ‘written’ contracts apply also to e-contracts, as to the expression of will, legal effects, validity and execution.¹⁰³ Furthermore, the Tunisian law dedicates to this subject an entire chapter, even if it deals mostly with consumer protection issues. However, art. 28 is particularly interesting, since it solves the problem of identifying the place and time of conclusion of a contract concluded through the Internet.¹⁰⁴ According to art. 28, unless otherwise agreed, the contract is concluded at the seller’s place of business, on the date of acceptance of the offer, through an electronically signed document addressed to the consumer.

Where do we go from here?

Even if ETL is an important step forward, it is just a procedural law aiming at facilitating e-transactions, but it does not provide a comprehensive regulation, especially considering the lack of a global reform of the existing legislation. At this point, a choice should be made between soft and hard law. If the Jordan legislator goes for the second alternative, further legislation need to be enacted to

102 In this respect the Jordan ETL is more detailed than the UN Convention, which simply provides (art. 10) that the time of dispatch of an electronic communication is the time when it leaves an information system under the control of the originator, while the time of receipt of an electronic communication is the time when it becomes capable of being retrieved by the addressee at an electronic address designated by the addressee.

103 Art. 1, according to which e-commerce and e-transactions are subject to the legislation in force, unless otherwise prescribed by the provisions of this law.

104 On this point see V.M. Donini, *La formazione del contratto nel diritto islamico e nel diritto dei paesi arabi del Mediterraneo*, in C. Amato, G. Ponzanelli (eds.) *Global law vs Local law*, Torino, 2006, pp. 108-119.

cover other aspects of on line activities, for instance privacy, jurisdiction, data protection, cyber crimes, consumer protection and so on.

On the other hand, if a soft law approach should prevail, this would mean giving up the idea of regulating every single aspect of Internet related issues, and providing a wider and more flexible framework of general principles. In this case, the implementation of these principles should be left to codes of conduct or self-regulation¹⁰⁵ in order to finally reach the goal of enhancing secure digital transactions and foster the development of e-commerce in general.

Otherwise, other set of rules may be of some use, such as the UNIDROIT Principles of international commercial contracts, an important example of soft law, in the field of international trade, published in 1994, by the International Institute for the Unification of Private Law. The success of these Principles is demonstrated by the number of decisions applying them as rules of law governing contracts.¹⁰⁶ As a matter of fact, the UNIDROIT Principles may be applied in case of express choice by the parties, as a manifestation of general principles of law or *lex mercatoria*, and even in the absence of any choice of law by the parties. Moreover, the new edition of 2004 takes into special consideration the developments of ICT, and it has been amended in order to adapt to the increasingly important practice of electronic contracting.¹⁰⁷ The 2004 edition, therefore, could become a fundamental tool also for contracts concluded through the Internet.

The problem is to ascertain whether these Principles are known and effectively used in Jordan. As to the first question, there is an Arabic translation of the UNIDROIT Principles, made by an Egyptian Law Firm,¹⁰⁸ and these Principles have been studied and discussed, but as to their application, so far Arab case law in general, and Jordan jurisprudence in particular, have nearly ignored them.

For this reason, it is easy to forecast that notwithstanding the unquestionable success of soft law in the field of unification of law, in Jordan it is likely that for e-commerce the traditional hard law will prevail.¹⁰⁹

Concluding remarks

Taking for granted the unquestionable benefits of e-commerce and the need of bridging the digital divide by spreading ICT technologies all over the world, a last question remains open.

Is it possible that the desired presence of foreign investments and the subsequent development of a commercial culture that facilitates participation in the global marketplace could have an adverse impact on local culture?

105 See for instance the GUIDEC (General Usage for International Digitally Ensured Commerce) rules. These rules have been set forth by the International Chamber of Commerce, in 1997, in order to 'establish a general framework for the ensuring and certification of digital messages, based upon existing law and practice in different legal systems (...) and allocate risk and liability equitably between transacting parties in accordance with existing business practice'. Available on: <http://www.iccwbo.org/home/guidec/guidec.asp>.

106 See the UNILEX database, collecting every decision or arbitral award making reference to the UNIDROIT Principles. The database is available on line, at the website: www.unilex.info.

107 See M.J. Bonell, *Unidroit Principles 2004 – The New Edition of the Principles of International Commercial Contracts adopted by the International Institute for the Unification of Private Law*, in *Uniform Law Review*, 2004, pp. 5-40. See also M.J. Bonell, *Unidroit Principles and E-commerce*, in A. Schulz, *op. cit.*, pp. 149-158.

108 The Shalakany law firm has edited the translation of the 1994 edition of the Unidroit Principles. The 2004 version however has not been translated yet.

109 It would be interesting to ascertain what could happen when or if Jordan will sign the UN Convention on electronic communications in international contracts. However, considering that Jordan has not yet adopted the UN Convention on the International Sales of Goods which is strictly connected to the newly born Convention, it is easy to expect that it will not happen in the short period.

The risk of a 'Coca-colonization' of non-Western societies has been envisaged with reference to intellectual property issues,¹¹⁰ but nothing prevents that this new economic imperialism could apply also to ICT and e-commerce related matters. The threat is that in this attempt of participating in the global market and exploiting its full potential, the global consumer culture of the more powerful developed countries could prevail on the culture and heritage of developing countries. In this pessimistic scenario, e-commerce would be no longer a way of bridging the divide, but a way of both making the divide even bigger and homologating local cultures.

Opting for a more confident point of view, perhaps this result could be avoided, if the potential of the Internet is used also as an opportunity to promote cultural diversity,¹¹¹ taking into consideration regional peculiarities.

110 D. Estelle Long, *The Impact of Foreign Investment on Indigenous Culture: an Intellectual Property Perspective*, in *North Carolina Journal of International Law and Commercial Regulation*, vol. 23, 1998, p. 279.

111 The US-Jordan joint statement on e-commerce shares this position. The hope is that it will not remain a dead letter.

References

- Aita S., *Internet en Langue Arabe: espace de liberté ou fracture sociale?*, in *Maghreb-Machrek*, n. 178, 2003-2004, pp. 29-44.
- Al-Kandari F., *Internet et la volonté contractuelle: étude comparative*, in *Arab Law Quarterly*, vol. 17, n. 4, 2002, pp. 411-427.
- Anderson J., *Technology Media and the Next Generation in the Middle East*, The Middle East Institute, Columbia University, September 1999, available on: <http://nmit.georgetown.edu/papers-jwanderson.htm>.
- Anderson J., *The Internet and the Middle East: Commerce Brings Region On-Line*, in *Arab Information Project*, available on: www.georgetown.edu/research/arabtech/meer97.htm.
- Azmi A.G., Madieha I., *The Philosophy of Intellectual Property Rights over Ideas in Cyberspace: a Comparative Analysis between the Western Jurisprudence and the Shari'ah*, in *Arab Law Quarterly*, vol. 19, n. 1-4, 2004, pp. 191-208.
- Badie B., *La fin des territoires*, Paris, 1995.
- Badrinath R., *Playing the Digital Game*, in *International Trade Forum*, n. 1, 2001, pp. 4-5.
- Biad A., *Code of Conduct for Good-neighbourly Relations*, in Marquina A., *Mutual perceptions in the Mediterranean unity and diversity*, Madrid, Paris, Mosbach, 1998.
- Bonell M.J., *Unidroit Principles and E-Commerce*, in Schulz A., *Legal Aspects of an E-Commerce transaction. International Conference in The Hague, 26 and 27 October 2004*, Munich, 2006, pp. 148-158.
- Bonell M.J., *Unidroit Principles 2004 – The New Edition of the Principles of International Commercial Contracts adopted by the International Institute for the Unification of Private Law*, in *Uniform Law Review*, 2004, pp. 5-40.
- Caïmed, Centre for Administrative Innovation in the Eur-Mediterranean Region, *Giordania. Manutenzione, innovazione e riforma amministrativa*, April 2004, available on: www.caïmed.org.
- Cairncross F., *The Death of Distance: How the Communication Revolution will change our lives*, Harvard Business School Press, Boston, 2001.
- Castro F., *al-Ahkam al-khamsa*, in *Digesto delle discipline privatistiche*, Sez. Civile Digesto IV, pp. 245-246.
- Castro F., *La codificazione del diritto privato negli stati arabi contemporanei*, in *Rivista di diritto civile*, vol. 31, n. 1, 1985, pp. 387-447.
- Digital Opportunities for All: Meeting the Challenge*, Report of the Digital Opportunity Task Force (DOT Force), 2001, available on: www.dotforce.org/reports/DOT_Force_Report_V5.0h.doc.
- Donini V.M., *Il commercio elettronico in Tunisia*, in *Globalizzazione e diritto: l'Europa verso il Mediterraneo*, Quaderni di diritto musulmano e dei paesi islamici, n. 5, Università degli studi di Roma 'Tor Vergata', n. 5, 2003, pp. 53-90.
- Donini V.M., *La formazione del contratto nel diritto islamico e nel diritto dei paesi arabi del Mediterraneo*, in Amato C., Ponzanelli G. (eds.), *Global law vs. Local law*, Torino, 2006, pp. 108-119.
- Egger F., *Consumer Trust in E-Commerce: From Psychology to Interaction Design*, in C. Prins et al., *Trust in Electronic Commerce*, The Hague, London, New York, 2002, pp. 11-44.

- Estelle Long D., *The Impact of Foreign Investment on Indigenous Culture: an Intellectual Property Perspective*, in *North Carolina Journal of International Law and Commercial Regulation*, n. 23, 1998, pp. 239-280.
- Estrella-Faria J.A., *Legal Certainty for Electronic Transactions: the Role of the UNCITRAL Model Law on Electronic Commerce (1996)*, in Schulz A., *op. cit.*, pp. 159-169.
- Ezrahi A.M., *Opting Out of Opt-out clauses: Removing Obstacles to International Trade and International Peace*, in *Law and Policy in International Business*, n. 31, 1999, pp. 123-155.
- Farooq Haq M., Smithson S., *The Role of IS in Islamic Banking: A Cultural Perspective*, available on: <http://is2.lse.ac.uk/asp/aspecis/20030058.pdf>.
- Goldsmith J., *Against Cyberanarchy*, in *The University of Chicago Law Review*, vol. 65, n. 4, 1998, pp. 1199-1240.
- Guerra G.A., Zizzo D.J., Dutton W., Peltu M., *Economics of Trust in the Information Economy: Issue of Identity, Privacy and Security*, 2003, OECD Information Security and Privacy Working Paper No. JT00142557, available on: <http://ssrn.com/abstract=723201>.
- El-Hassan A., *Freedom of Contract, the Doctrine of Frustration, and Sanctity of Contracts in Sudan Law and Islamic Law*, in *Arab Law Quarterly*, vol. 1, n. 1, 1986, pp. 51-59.
- Hill E.C., Losch K.D., Straub D.W., El-Sheshai K., *A Qualitative Assessment of Arab Culture and Information Technology Transfer*, in *Journal of Global Information Management*, vol. 6, n. 3, 1998, pp. 29-38, also available on: <http://www.cis.gsu.edu/~dstraub/Papers/Resume/Hilletal1998.doc>.
- Jawahitha S., Raihan Ab Hamid N., Mazahir Mohamed Ishak M., *Internet Banking: A Comparative Analysis of Legal and Regulatory Framework in Malaysia*, in *Arab Law Quarterly*, vol. 18, n. 3-4, 2003, pp. 291-308.
- Johnson D.R., Post D., *Law and Borders – The Rise of Law in Cyberspace*, in *Stanford Law Review*, vol. 48, 1996, pp. 1367-1402.
- Johnston A., Powles E., *The Kings of the World and their Dukes' Dilemma: Globalisation, Jurisdiction and the Rule of Law*, in *Globalisation and Jurisdiction*, Leiden, 2004.
- Ilarda G., Marullo G., *Cybercrime. Conferenza internazionale. La Convenzione del Consiglio d'Europa sulla criminalità informatica*, Milano, 2004.
- Keramane R., *Telecentres and Development: Application to the Algerian Context*, Paper presented at the Seventh Mediterranean Social and Political Research Meeting, Florence & Montecatini Terme 22–26 March 2006, organised by the Mediterranean Programme of the Robert Schuman Centre for Advanced Studies at the European University Institute.
- Kono T., Paulus C.G., Rajak H., *Selected Legal Issues of E-commerce*, The Hague, London, New York, 2002.
- Korpela J., *English, the Universal Language of the Internet*, available on: <http://www.cs.tut.fi/~jkorpela/lingua-franca.html>.
- Lessig L. *The zones of Cyberspace*, in *Stanford Law Review*, vol. 48, 1996, pp. 1403-1411.
- Lohlker R., *Der Handel im Malikitischen Recht*, Berlin, 1991.
- Mahmasani S., *Transactions in the shari'a*, in Khadduri M., Liebesny H.J., *Law in the Middle East*, Washington, 1955.
- MCCONNELL INTERNATIONAL, *Ready?Net.Go! Partnership leading the Global Economy*, 2001, available on: <http://www.mcconnellinternational.com/ereadiness /ereadinessreport2.htm>.
- MCCONNELL INTERNATIONAL, *The National E-Readiness of the Hashemite Kingdom of Jordan. A Global View of Jordan's Competitive Advantages*, McConnell International, 2002, available on:

- http://www.mcconnellinternational.com/ereadiness_Government_of_Jordan_EReadiness_Report_McConnell_International.pdf.
- Minwer al-Rimawi L., *A Brief Overview of Underlying Macroeconomic Conditions of Arab Capital Markets*, in *European Business Law Review*, September/October 2001, pp. 241-243.
- Muasher M., *Impacts of the Internet in Jordan*, available on: www.georgetown.edu/research/arabtech/Muasher.htm.
- Naimark R., *The Potential Effect on E-Commerce: Developments on International Treaties*, in The International Bureau of the Permanent Court of Arbitration (ed.), *Strengthening Relations with Arab and Islamic Countries through International Law. E-commerce, the WTO Dispute Settlement Mechanism and Foreign Investment*, The Hague, London, New York, 2002.
- El-Nawawy M.A., Ismail M.M., *Overcoming Deterrents and Impediments to Electronic Commerce in Light of Globalization: the Case of Egypt*, available on: http://www.isoc.org/inet99/proceedings/1g/1g_3.htm#s33
- Nunberg G., *Will the Internet Always Speak English?*, in *The American Prospect*, vol. 11, n. 10, 2000, available on: www.prospect.org.
- OECD, *Understanding the Digital Divide*, 2001, p. 23, available on: <http://www.oecd.org/dataoecd/38/57/1888451.pdf>.
- Papa M., *La definizione di contratto e l'autonomia contrattuale in diritto musulmano: dai principi della Shari'a alle legislazioni contemporanee*, in *Roma e America Latina*, vol. 7, 1999, pp. 277-297.
- Pelletreau R.H., *Information Technology and the Arab World*, available on: www.georgetown.edu/research/arabtech/pelletreau.htm.
- Piccinelli G.M., *La dimensione etica nel diritto musulmano dei contratti*, in *Roma e America Latina*, vol. 7, 1999, pp. 249-276.
- Post D., *Against 'Against Cyberanarchy'*, in *Berkley Technology Law Journal*, vol. 17, n. 1, 2002, pp. 1363-1390.
- Price M.E., Verhulst S.G., *Self-Regulation and the Internet*, The Hague, 2005.
- Prins C., van der Wees L., *E-commerce and Trust: A Variety in Challenges*, in C. Prins et al., *Trust in Electronic Commerce*, The Hague, London, New York, 2002.
- Rose G., Straub D., *Predicting General IT Use: Applying TAM to the Arabic World*, in *Journal of Global Information Management*, vol. 6, n. 3, 1998, pp. 39-46, also available on: <http://members.aol.com/grose00000/jgim.html>.
- Saadat M., *Jurisdiction and the Internet after Gutnick and Yahoo!*, in *The Journal of Information, Law and Technology (JILT)*, 2005, 1, available on: http://www2.warwick.ac.uk/fac/soc/law2/elj/jilt/2005_1/saadat/.
- Saad Zaghoul K.H., *Towards Communicational Strategy for Activation of Economic Development in the Light of Contemporary Changes*, in *Arab Law Quarterly*, vol. 19, n. 1-4, 2004, pp. 209-226.
- El-Said G.R., Hone K.S., *Culture and E-commerce: an exploration of the Perceptions and Attitudes of Egyptian Internet Users*, in *Journal of Computing and Information Technology*, vol. 13, n. 2, 2005, pp. 107-122.
- Sali R., *Online Dispute Resolution (ODR): Crossing Technology and Disputes. The RisolviOnline Project of the Chamber of Arbitration of Milan*, in A. Schulz, *op. cit.*, pp. 249-259.
- Schjolberg S., Hubbard A.M., *Harmonizing National Legal Approaches on Cybercrime*, ITU, 2005, available on: http://www.itu.int/osg/spu/cybersecurity/docs/Background_Paper_Harmonizing_National_and_Legal_Approaches_on_Cybercrime.pdf.

- Schulz A., *Legal Aspects of an E-Commerce transaction. International Conference in The Hague, 26 and 27 October 2004*, Munich, 2006.
- Sorieul R., Clift J.R, Estrella-Faria J.A., *Establishing a Legal Framework for Electronic Commerce: the Work of the United Nations Commission on International Trade Law (UNCITRAL)*, in *The International Lawyer*, vol. 35, 2001, pp. 107-122.
- Snijders H., Weatherill S., *National and Transnational Topics and Perspectives*, The Hague, London, New York, 2003.
- Spectar J.M, *Bridging the Global Digital Divide: Frameworks for Access and the World Wireless Web*, in *North Carolina Journal of International Law and Commercial Regulation*, vol. 26, 2000, pp. 57-103.
- Stovall H.L., Tinawi E., Katz Y., Ullman H., *Middle East Commercial Law Developments*, in *The International Lawyer*, vol. 32, 1998, pp. 411-422.
- UNCTAD, *Capacity-building in electronic commerce*, UNCTAD (TD/B/COM.3/L.17).
- Warschauer M., *Reconceptualizing the digital divide*, in *First Monday – Peer Reviewed Journal on the Internet*, available on: http://www.firstmonday.org/issues/issue7_7/warschauer/.
- Wheeler D., *The Internet in the Arab World: Digital Divides and Cultural Connections*, paper presented at the *Jordan Royal Institute for Inter-Faith Studies*, in June 2004, available on: http://www.riifs.org/guest/kecture_text/internet_n_arabworld_all_txt.htm.
- Zahraa M., *Negotiating Contracts in Islamic and Middle Eastern Laws*, in *Arab Law Quarterly*, vol. 13, n. 3, 1998, pp. 252-265.
- Zanelli P. (a cura di), *Scritti arabi sulla globalizzazione*, Quaderni di diritto musulmano e dei paesi islamici, Roma, 2003.
- Zanobetti A., *Contract Law in International Electronic Commerce*, in *Revue des Affaires Internationales*, n. 2, 2000, pp. 533-562.
- Zarrouk J., Zallio F., *Integrating Free Trade Agreements in the Middle East and Africa*, in *The Journal of World Investment*, n. 2, 2001, pp. 403-423.
- Zureik E., *Conceptual Framework for the Study of ICT in the Arab World with Special Reference to Palestine*, Paper presented at the Fifth Mediterranean Social and Political Research Meeting, Florence & Montecatini Terme 24–28 March 2004, organised by the Mediterranean Programme of the Robert Schuman Centre for Advanced Studies at the European University Institute.

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