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E-Commerce Regulation: Necessity, Futility, Disconnect

Dr Eliza Mik¹

[I]t's much easier to proclaim yet another digital revolution – and to coin a requisite buzzword – than to wait and see if the observed change, instead of being a complete overthrow of established practices and principles, is just a shift in order and magnitude.²

ABSTRACT

Existing e-commerce regulations constitute a *premature* and *unnecessary* interference in the natural evolution of commercial practices and technologies. I question not just their quality, mainly attributable to the technological ignorance of the regulator, but their very necessity. I observe the practical futility of drafting effective regulatory instruments in areas subject to continuous and unpredictable technological change. I criticize the overly homogenous approach to “everything Internet” (i.e. everything involving the Internet requires new law) as well as the creation of new regulatory spheres and legal categories. Some might claim that it is too early for a critical retrospective of this subject. Despite its relative “youth,” however, the “law of e-commerce” has developed a set of orthodox approaches. It is therefore not too early to present some heterodox views, especially given the largely unsuccessful regulatory activity in the European Union. Not just technologies but also theories about the Internet can become obsolete within a short period of time and should therefore be subject to constant revision.

Introduction

Within a few years from its inception, e-commerce has become a heavily regulated area of commercial activity. From the mid-90's regulators went into a drafting frenzy, which resulted in a multitude of legal instruments designed to “facilitate” or “enable” e-commerce. Allegedly, too much uncertainty was present in this “initial phase” and the law was unable to accommodate the changed communication landscape. The feeling of urgency was accompanied by sensationalistic statements regarding the indispensability of digital cash and strong encryption technologies. Without them, e-commerce could not exist. Neither prediction proved accurate. Although e-commerce is almost 20 years old, we still live with the legacy of a regulatory overreaction, a thicket of regulations drafted in an era when e-commerce was in the early stages of development, the underlying technologies were generally misunderstood³ and the business models were yet to crystallize. The dot.com era came and went. Conceptually, however, e-commerce regulation remains stuck in the 90's. A critical look at the regulatory output to date seems apposite. Below, I question not just the quality but the very necessity of regulating e-commerce – at least to the extent it concerns the transactional aspect of value exchange. I criticize the overly homogenous approach to “everything Internet” and the creation of new legal categories. I also observe how existing e-commerce regulations create (or at least contribute to) legal uncertainty by remaining disconnected from the relevant technologies. My vantage point is the English common law of contract, an area of law that remains the foundation of many market economies and underpins virtually every e-commerce transaction.⁴

Definitions and Divisions

Every regulatory endeavor requires a clear delineation of the regulatory target.⁵ The definition of “e-commerce” has normative overtones. We must not intermingle regulatory spheres and areas of law. We must also understand the technologies and their legal implications, if any. As I associate “regulation” with external

¹ Assistant Professor, School of Law, Singapore Management University. This work is an extended version of a paper of the same name, presented at the First International Conference on Technologies and Law, 8 & 9 November 2013 in Porto, Portugal; published in the conference proceedings; I. Portela, *et al* eds., 2013 Polytechnic Institute of Cávado and Ave, Barcelos. Research on this project was funded by an internal SMU research grant.

² E Morozov, *To Save Everything Click Here* (Allen Lane, London 2013) 36

³ In the words of Prof A Boss commenting on the preparation of the UNCITRAL Model Law: “Electronic commerce was so sufficiently new and unfamiliar to people that substantial time was spent in the negotiating sessions understanding the technologies and their use, as well as attempting to ascertain the manner in which existing law did or did not apply, or how it applied, to electronic transactions” at 887 in A. Boss, 2009 ‘The Evolution Of Commercial Law Norms: Lessons To Be Learned From Electronic Commerce’ *Brook J Int'l L* 34, 673

⁴ A Murray, *Information Technology Law* (Oxford University Press, Oxford 2010) 413

⁵ J Black ‘What is Regulatory Innovation?’ in *Regulatory Innovation: A Comparative Analysis* (Edward Elgar 2005) 12

intervention, I use the term to denote legal instruments enacted by legislatures or state agencies, including implementations of directives, model laws and conventions.⁶ The most important definition, however, is that of “e-commerce.” In its narrow meaning, “e-commerce” is the use of Internet-based methods of communication to enter and perform transactions.⁷ Such “transactional approach” is also implicit in the term “commerce” which, in its dictionary meaning, refers to the activity of buying and selling. This implies that most legal questions in e-commerce are governed by contract law. Accordingly, e-commerce concerns two parties agreeing on an exchange of value by means of Internet-based methods of communication. The latter constitute the main justification for regulation. The popular association of e-commerce with the Internet has, however, some undesired side effects. As practically all communication methods use the Internet as a transmission mechanism, most transactions at a distance can be classified as e-commerce. This technical detail (i.e. the *intermediation* of the Internet) has important legal implications. Once we create the *legal* category and a bespoke regime for e-commerce, a fuzzy definition of the term will result in an unclear scope of this regime. The special rules may inadvertently govern transactions normally not regarded as e-commerce, e.g. parties contracting by phone. It may thus be impossible to ensure a clear-cut, *separate* co-existence of traditional and e-commerce-specific rules. We must also ask the broader question whether having two regimes contributes to legal certainty. The latter is usually brandished as the reason for e-commerce regulation. Is it desirable to have different rules depending on whether an order is placed on a website or at a counter? Should we distinguish between contracts made on a mobile phone and those made on a landline? The UNCITRAL Model Law on Electronic Commerce (“MLEC”) is of little assistance as it associates e-commerce with Electronic Data Interchange (“EDI”) and paperless methods of communication.⁸ References to EDI are, however, misconceived as EDI relates to the automated exchange of structured data on the basis of prior agreement on a closed network.⁹ E-commerce, on the other hand, involves transactions between strangers, absent agreement, over open unsecured networks, such as the Internet.¹⁰ The MLEC also indicates that e-commerce includes transactions concluded by telex and telegram.¹¹ Why, however, would we need new regulations given that both telex and telegram have been in commercial usage long before the emergence of the Internet?¹² After all, contract law has “neatly accommodated the telegraph, telephone, television, and fax.”¹³ It is also unclear which aspect of Internet-based communications constitutes the “trigger” for regulatory activity. It cannot be the mere fact that parties transact at a distance at faster speeds than before...

Additional complications arise when a border meaning of e-commerce is adopted, one encompassing areas ancillary to the commercial exchange, e.g. data protection or domain name ownership. Contributing to this confusion is the E-Commerce Directive¹⁴ (“ECD”) which, being horizontal in nature, concerns not only online transactions but also search engines, spam and intermediary liability. The latter, however, are not *commerce* strictly speaking. Neither the Internet service provider nor the search engine participates in the transaction. The regulatory reach of the ECD is further blurred by the definition of “information society services” and its overlap with the concept of “coordinated filed.”¹⁵ Despite the multitude of instruments enacted with e-commerce in mind, it remains unclear what e-commerce is. At least from a purely legal perspective. This may also be partially attributable to an association of e-commerce with the commercial utilization of the Internet *in general*: e.g. selling connectivity and server space. Commercial exchanges occurring by means of Internet-based technologies must, however, be distinguished from questions of Internet access. The network as the *object* of commerce must be distinguished from the network as a *platform* for commerce. The former combines aspects of common carriers, broadcasting, and print transactions, areas historically subject to heavy regulation.¹⁶ The latter, on the other hand, remains generally transparent. This conflation of network-uses and regulatory spheres may have contributed to a regulatory spill-over and created inroads into an area that has been regulated only minimally: contract law.

I must pause here. Our consciousness is filled with heated debates regarding government surveillance, file sharing and cyber-attacks. Unquestionably, the technological challenges in some areas are unprecedented. An

⁶ R Baldwin, M Cave, M Lodge, *Understanding Regulation – Theory, Strategy, Practice* (2nd ed, Oxford University Press 2012) 3

⁷ See generally: K C Laudon, C G Traver *E-commerce: Business, Technology, Society* (9th ed, Prentice Hall 2013)

⁸ MLEC Guide to Enactment p 1

⁹ The Electronic Messaging Services Task Force, ‘The Commercial Use of Electronic Data Interchange – A Report and Model Trading Partner Agreement’ (1990) 45 Bus Law 1645; W Hauser RFC 1865 ‘EDI Meets the Internet’ (1996)

¹⁰ J B Ritter, J Y Gliniecki ‘Electronic Communications and Legal Change: International Electronic Commerce and Administrative Law: The Need for Harmonized National Reforms’ (1993) 6 Harv J Law & Tech 263, 266

¹¹ MLEC Art 2, definition of “data message”

¹² D Rowland, U Kohl, A Charlesworth, *Information Technology Law* (Routledge 4th ed. 2012) (“*Information Technology Law*”) 233 see also J H Sommer, *Against Cyberlaw* (2000) 15 Berkeley Tech L J 1145 “The law of electronic commerce has also been around since at least the 1860s and has been the topic of legal analysis since at least the 1920s.” 1188

¹³ J D Bick, ‘Why Should the Internet Be Any Different?’ (1998) 19 Pace L Rev 41, 61

¹⁴ Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular, electronic commerce, in the Internal Market

¹⁵ See generally *Information Technology Law* 268-270

¹⁶ L B Solum, M Chung, ‘The Layers Principle: Internet Architecture and the Law’ (2004) 79 Notre Dame L Rev 815

example is the law of copyright, which confronts the digitization of protected content *and* the distribution capabilities of peering technologies. These challenges create an intellectual climate that *all* legal areas somehow affected by the Internet require regulatory intervention to “make law compatible with technological progress.” It is overlooked, however, that some areas are affected less than others. The assumption that the legal system *as a whole* is conceptually unprepared for the “Internet revolution” is incorrect. Law in its present state is capable of addressing most problems pertaining to technological change.¹⁷ In particular, this applies to contract law. I suspect that as we are less inclined to regulate traditional legal areas, we re-categorize them as something new. To justify “regulatory creativity,” aspects of contract law are re-packaged as “cyberlaw.”¹⁸ Even the latter, however, concerns the application of existing legal norms!¹⁹ In other words, irrespective of whether we examine contract law in isolation or whether we treat some of its features as part of a different legal category – its rules can be applied in their present state with little modification. As discussed below, such modification, or “fine-tuning” can be achieved by a careful *post factum* interpretation of *existing* rules in light of actual transacting scenarios, as performed by the courts. There is, however, no need for a general reform of contract law. Such impression might have been created by the popular rhetoric of the “Internet revolution” and pervasive references to “disruptive change” and “innovation.”²⁰

I do not, however, deny that there are differences between on-line and off-line transactions. I only question whether they warrant a separate legal category or the creation of new law.²¹ I also doubt whether such differences create problems that are truly new and unprecedented. The common law of contract is formulated in broad terms that provide the flexibility to absorb technological change.²² To illustrate: the tenet of contract law is intention, which must be communicated. Contracts are, after all, the product of communication²³ and Internet-based interactions affect the manner in which this intention is conveyed. Neither the performance of the contract nor the remedial regime upon breach, are significantly changed by the new technologies. Interesting questions may arise when we analyze risk transfer in the case of digital products that are downloaded. Similarly, some uncertainty surrounds the moment of effectiveness of acceptances communicated by electronic means. In principle, however, the fact that some contractual subject matter is digital or that transactions occur faster and have a wider geographical reach can hardly justify regulation or necessitate new legal principles. The broad term “communication” can be interpreted to accommodate new technologies of manifesting intention. It has even been observed that “when electronic transactions are treated the same as comparable offline transactions, there is no need to define electronic commerce.”²⁴ E-commerce is commerce. It did not “emerge” into a legal vacuum and does not deserve its own legal category. If we regulate contract law, we risk not only duplicating but also interfering with existing rules.

Contract law is regulated sparingly. The legislative history of every statute affecting private agreement is based on generations of observation and the court’s inability to address systemic deficiencies.²⁵ Other examples concern statutes consolidating existing practices, e.g. the Sale of Goods Act 1979, or simplifying existing principles to ensure a better remedial regime, e.g. the Misrepresentation Act 1967. Regulation also occurs “at the edges of contract law” and concerns specific industries that may require additional safeguards, e.g. pharmaceuticals. The substance of contract law remains generally unaffected: neither the manner of forming a contract nor its terms are prescribed. Although most e-commerce instruments claim to address exclusively the electronic form of online transactions, they often affect substantive contract law. Some of this is done in the name of consumer protection and must be regarded as part of a broader trend unrelated to technological change.²⁶ Some provisions, however, directly interfere with the contracting sequence²⁷ or alter established rules pertaining to the objective evaluation of intention.²⁸ To illustrate: Article 11 of the E-commerce Directive (“ECD”) prescribes that all website orders be immediately acknowledged. The legal character of such acknowledgment is, however, unclear. While it does not constitute acceptance, it extends the contracting sequence by an additional step. Lloyd calls this an “unnecessary complication.”²⁹ The obligation to acknowledge receipt also clashes with the requirement to provide a mechanism to correct errors, contained in the same article. Which should come first? What is the status of an erroneous order that has been

¹⁷ L Bennet Moses, ‘Recurring Dilemmas: The Law’s Race To Keep Up With Technological Change’ (2007) U Ill J L Tech. & Pol’y 239

¹⁸ For an interesting debate: L Lessig ‘The Law of the Horse: What Cyberlaw Might Teach Us’ (1999) 113 Harv L Rev 501

¹⁹ V Mayer-Schönberger, *The Shape Of Governance: Analyzing The World Of Internet Regulation* (2003) 43 Va. J. Int’l L. 605, 609; U Kohl, ‘Legal Reasoning and Legal Change in the Age of the Internet – Why the ground rules still are still valid’ (1999) 7 Int J L&IT 123

²⁰ e.g. L Downes, *The Laws of Disruption* (Basic Books, New York 2009)

²¹ Ch Reed, *Making Laws for Cyberspace* (Oxford University Press, Oxford 2012) 106

²² H Collins, *Regulating Contracts* (Oxford University Press, Oxford 1999) 47

²³ S Smith, P Atiyah, *An Introduction to the Law of Contract* (6th ed, Clarendon Press, Oxford) 182

²⁴ *Information Technology Law* at 233

²⁵ e.g.: Contracts (Rights of Third Parties) Act 1999, addressing the inability of third parties to enforce contracts made for their benefit.

²⁶ e.g. Unfair Terms in Consumer Contracts Regulations 1994, S.I. 1994/3159 (U.K.) amended by the 1999 Regulations of the same name (S.I. 1999/2083)

²⁷ See: ECD Article 10, Art 11, MLEC Art 14, Art 15

²⁸ UNCITRAL Convention on the Use of Electronic Communications in International Contracts, Art 11

²⁹ I J Lloyd, *Information Technology Law* (6th ed. Oxford University Press, Oxford 2011) 455

acknowledged? Once we add the right to withdraw from a contract,³⁰ the entire transacting process becomes distorted. Determining the moment of contract formation as well as the respective legal positions of the parties becomes more difficult. Regulators often forget that contract law forms a fine-tuned ecosystem of rules that developed during centuries of actual usage. It is impossible to “just add things” without thoroughly examining how such “additions” work within this ecosystem - especially if the aim is ensuring legal certainty.

A Technological Disconnect

If the regulator decided to regulate e-commerce, one would assume that the resulting instruments should allow for the technological characteristics of online transactions.³¹ After all, these characteristics are the *raison d'être* for regulation! Existing e-commerce instruments are, however, frequently tainted by a misunderstanding of the relevant technologies and, consequently, by a frequent disconnect between what the law can prescribe and what is technologically feasible. Some technologies, or technological features, are overlooked; in other instances the regulator seems to misjudge their legal implications. The Internet is still perceived as a homogenous system, with too much emphasis being placed on the meaningless term “electronic.”³² Regulatory approaches generally lack technological granularity: regulators fixate on the metanarrative of the Internet instead of analyzing the impact of individual technologies and applications.³³ The resulting disconnect is partially attributable to a nebulous concept underlying virtually all e-commerce regulations: “technology neutrality.”³⁴ Interestingly, “technology neutrality” gained prominence at a time when new technologies proliferated. The contradiction is obvious: if problems are technology *specific*, why should legal instruments addressing them be technology *neutral*?³⁵ It also appears questionable to use “technology neutrality” as a guiding principle in legal reform, if the law has never been technology neutral. If it was – adaptations would not be necessary and we would not be regulating in the first place. Technology neutrality can easily turn into technology ignorance and misplaced regulatory focus.

E-commerce regulation traditionally aims at “facilitating” or “removing obstacles.” The main “obstacles” are usually described as the absence of “writing” and “signatures.” Consequently, most e-commerce instruments prohibit discrimination on the basis that a contract originated in electronic form³⁶ and establish electronic equivalents of “writing” and “signatures.” Two points arise. First, in English common law, the means of communicating agreement are irrelevant.³⁷ Formalities, such as writing, may be required by laws other than contract law, e.g. statutes pertaining to land law. Moreover, transactions requiring formalities are frequently excluded from the reach of e-commerce regulations.³⁸ Statements implying that “the success of e-commerce depends on the creation of equivalents of signatures and writing” are false. As contractual intention can be expressed in any manner, provisions that contracts can be formed electronically only state the obvious. Questions of evidence are conflated with questions of enforceability. Second, stating that the “electronic form” must not be a reason for discrimination ignores the fact that the form (i.e. the manner of expression) may affect the content and thus the legal effect of a statement. Interestingly, the term “discrimination” can be interpreted without its negative connotations of unjust or prejudicial treatment. “Discrimination” also means the recognition and *understanding* of differences. Negative effects can follow if such differences are not acknowledged. As discussed below, regulators have remained oblivious to the existence, not to mention the legal implications, of HTML and to the fact that the web consists of distributed, interconnected and interactive files.³⁹ The “*inter*” in the “Internet” is usually ignored - despite its crucial importance.

Writing and Disclosure

While “writing” usually concerns formalities and disclosure obligations pertain to transparency in consumer dealings, their regulatory implementations have something in common: a disregard for practically all main protocols and formats of presenting information in distributed networked environments. “Writing” is associated with “accessibility for subsequent reference.”⁴⁰ The length of such “accessibility” is not prescribed, however. As every website remains, by definition, accessible on a webserver – is it “in writing”? If so, do the

³⁰ Directive 97/7/EC of the European Parliament and of the Council of 20 May 1997 on the protection of consumers in respect of distance contracts, Art 6

³¹ D R Johnson and D Post, Law and Borders – The Raise of Law in Cyberspace (1996) 48 Stan L Rev 1367 at 1385

³² E Mik, ‘The Unimportance of Being Electronic or - Popular Misconceptions About “Internet Contracting”’ (2011) 19 Int J Law Info Tech 324

³³ T Wu, Application Centered Analysis (1999) 85 Va L. Rev 1163

³⁴ B Koops, “Should Regulation be Technology Neutral?” in *Starting Points for ICT Regulation, Deconstructing Prevalent Policy One-Liners* (ITeR 2006); U Kamecke, T Korber, Technological neutrality in the EC regulatory framework for electronic communications: a good principle widely misunderstood (2008) E.C.L.R. 2008, 29(5) 330

³⁵ A Heinrich, K Manheim, D. J. Steele, At the Crossroads of Law and Technology (2000) 33 Loy. L.A. L.Rev. 1035 at 1042.

³⁶ MLEC Art 5; CUECIC Art 8

³⁷ Ch Reed, “Online and Offline Equivalence: Aspiration and Achievement” (2010) 18 (3) Int J Law Info Tech at 255

³⁸ See, e.g. CUECIC Art 2, ECD Art 1 (5)

³⁹ The only time HTML is acknowledged is in MLEC Art 5 *bis*, which deals with incorporation by reference. This provision, however, was not incorporated into the Convention

⁴⁰ See MLEC Art 6; CUECIC Art 9 (2)

files it links to form part of its contents? What if the website remains minimized on the user's screen? More importantly, should the "subsequent reference" display the same content as originally viewed? Which version of the website is decisive: the source file residing on the web-server or the version rendered by the browser? Needless to say, the type and version of the browser will determine which contents of the original file are displayed. Complications abound. The disconnect between law and technology becomes even more prominent when we examine disclosure requirements. The latter form the core of EU consumer protection regulations and usually dictate the provision of information regarding the online business, the contracting process and the contractual subject matter.⁴¹ They are designed to remedy the information asymmetries between online businesses and consumers.⁴² Some disclosure requirements are stated broadly: terms are regarded as unfair if, amongst others, the consumer had "no real *opportunity of becoming acquainted* before the conclusion of the contract."⁴³ A term is in good faith if it is "*expressed fully, clearly and legibly*."⁴⁴ Problems arise when disclosure obligations are prescribed in more detail. Article 5(1) of the Distance Selling Directive ("DSD") requires that an order confirmation be provided "in writing" or another "durable medium." The latter refers to instruments enabling the user to "store information addressed personally to him in a way accessible for future reference for a period of time adequate to the purposes of the information and which allows the unchanged reproduction of the information stored."⁴⁵ Examples given are printouts, disks and hard drives. Similarly, the ECD requires that certain information be available in a way allowing storage and reproduction.⁴⁶ Both "writing" and "disclosure" are thus tied to concepts that are inherently difficult to replicate online: persistent accessibility and durability. While durability implies physical storage and "accessibility for subsequent reference" may be fulfilled without producing a physical copy, both concepts require the capture and retention of the *original* contents displayed during the transaction. This, however, effectively precludes the use of interactive websites, which dynamically change their contents in response to external events, e.g. user input. The disconnect between law and technology is glaring. By disregarding the practical difficulties of preserving the content of websites, the regulations impose a very high level of IT literacy on both parties. In some instances, preservation may be plainly impossible. Provisions concerning "writing" and "durability" work well with PDF files and word documents, not with any actual website technology, such as HTML and AJAX.⁴⁷

The "durability" requirement was taken to its logical extreme, when the European Court of Justice debated whether it was met if information was provided via a link.⁴⁸ The case concerned a popular transacting interface where the relevant information could be viewed through a link placed on the website *or* within an email sent after order placement. The Oberlandesgericht Wien held that the email did not "contain" the information. As the website could be modified it was not "available on a lasting basis."⁴⁹ DSD Art. 5(1) also required that the information be "received" or "given" to the consumer. This, however, implied that the consumer could not be expected to take any action, even as minimal as clicking a link.⁵⁰ Moreover, information accessible via a link was neither "given" nor "received" because it was not shown directly.⁵¹ Stating that websites should be equivalent to paper, the Court emphasized that durable media must ensure "possession of the information."⁵² The website to which the link connected did not permit storage and reproduction in an unchanged form as the seller was able to amend the content unilaterally. The information, however, had to be "no longer under the control of the person giving it."⁵³ The mere possibility of printing or storing the page on the customer's side was irrelevant as in such instance the durable medium was "generated by the user and not the vendor."⁵⁴ Consequently, the linked-to information did not qualify as a durable medium within the meaning of Art 5 (1). Oblivious to the practical implications of its decision, the Court stressed that any definition of "durable medium" should be formulated in abstract terms as the imposition of rigid constraints may produce negative results.⁵⁵ The durability requirement renders the provision unworkable

⁴¹ See e.g. ECD Art 10

⁴² C Scott, Regulatory Innovation and the Online Consumer (2004) 26 Law & Policy 477; see also: B Koops, Law, Technology and Shifting Power Relations (2010) 25 Berkeley Tech. L.J. 973 at 1006

⁴³ UK Unfair Terms in Consumer Contracts Regulations 1999 SI 1999/2083, implementing Council Directive 93/13/EEC on Unfair Terms in Consumer Contracts, regs 5(1) and 8(1), Schedule 2(1)(i)

⁴⁴ *Director General of Fair Trading v First National plc* [2001] UKHL 52

⁴⁵ Directive 2007/64/EC of the European Parliament and of the Council of 13 November 2007 on payment services in the internal market, Recital 24

⁴⁶ ECD Art 10(3)

⁴⁷ Asynchronous JavaScript and XML is a protocol suite enabling Web pages to partially refresh displayed content in real time

⁴⁸ *Content Services Ltd v. Bundesarbeitskammer* Case C-49/11, July 2012

⁴⁹ *id* para 24

⁵⁰ *id* para 33, contrast Art 4(1) DSD where information has to be "provided"

⁵¹ *id* paras 35-37; for a detailed critique of this reasoning, see: C Goanta, Information Duties in the Internet Era: Case Note on *Content Services v. Bundesarbeitskammer* (2013) 2 European Review of Private Law, 643-660

⁵² *id* para 42

⁵³ Opinion of Advocate General Mengozzi, delivered 6 March 2012, referring to case C-49/11, at 42

⁵⁴ *id* at 43

⁵⁵ *Content Services Ltd v. Bundesarbeitskammer* Case C-49/11, July 2012 para 17

in practice.⁵⁶ Both Directives ignore the difficulties of preserving content of interactive, dynamic websites, whereas the Court's decision renders hyper-links virtually useless as a method of content delivery. The introduction of a physical element ("durability") borders on the absurd: why would regulations designed to promote e-commerce contain provisions effectively preventing the use of the most basic web technology – hyperlinks? Why does paperless trade require... paper? The question is not how to replicate "durability" in online transactions. The question is: why is durability required? The relevant provision epitomizes the disconnect between law and technology. It also illustrates a failure to use available technology to the consumer's advantage. Interestingly, the MLEC provided for this very situation and stated that a link *was* the information,⁵⁷ i.e. being referred to in a statement was synonymous with being contained in the statement.⁵⁸ The relevant provision was, however, never transposed into any local legislation. Given that the regulations superseding the DSD⁵⁹ maintain the "durability" requirement, the use of hyperlinks for information disclosure remains uncertain.

Signatures

A similar disconnect is exemplified by virtually all digital signature regulations, most of which create "electronic equivalents" of traditional signatures and imply their indispensability for the success of e-commerce. Several points arise. First, signatures are rarely a prerequisite of a valid transaction. Their "electronic equivalents" are thus *not* indispensable. Second, in common law jurisdictions signatures can take many forms, ranging from handwritten scribbles to "Xs." Given these liberal "form requirements" (or absence thereof), practically any technology can be used to express assent *and* to constitute a signature - including a simple click.⁶⁰ It could thus be argued that the implementation of the Electronic Signature Directive was not required in England and the resulting regulations are redundant.⁶¹ Many e-commerce laws combine a signature's ability to express assent with the fulfillment of formal requirements.⁶² This "combination" is not necessarily present in traditional regimes. More importantly, most regulations require that digital signatures identify the signatory – again, a requirement generally absent off-line and extremely difficult to accomplish in open, networked environments such as the Internet. The latter is inherently anonymous and accessible to everyone without prior authentication. The architecture of the Internet, i.e. the core TCP/IP protocol suite, permits the identification of machines, networks and resources but not the identification of users. In other words, while any technology can be used to demonstrate assent, very few technologies can ensure identification. Moreover, it is not so much "identification" that is required (as anyone can assume any identity) but the confirmation of an identity, i.e. authentication.⁶³ The latter is central to establishing legal liability and enforceability.⁶⁴ At present, the technologies capable of authenticating *persons* require prior enrollment as well as the creation of complex legal and technical infrastructures. In other words, they can operate within closed systems only. It must also be noted that despite assurances of technology neutrality, most regulations are drafted with public key cryptography in mind.⁶⁵ Digital signatures derive, after all, from the mathematical correspondence between a private and a public key.⁶⁶ The public key must be accessible to everyone, the private key exclusively to its authorized user. Furthermore, a trusted third party must guarantee the association between the public key and such user. Consequently, digital signatures require the support of Certification Authorities and the issuance of Digital Certificates.⁶⁷ Contrary to what is suggested by the regulations (and the accompanying scholarship) such "signatures" only guarantee that a specific message was transformed with a specific private key. In practice, the question "who signed the message?" boils down to establishing who used the private key. The quality or type of the encryption technology is largely irrelevant. The problem lies in securing the private key, which is often stored on an insecure networked computer and "protected" by a password. The security of the key is thus a function of the security of the password. Given the frequency and inevitability of network compromises, the technological framework for identification must be accompanied by detailed rules allocating liability for the unauthorized use of the private key.⁶⁸ Regulations

⁵⁶ C Goanta above at 51, 655

⁵⁷ MLEC Art. 5 *bis*

⁵⁸ Unfortunately the provision does not clarify what if content that was linked to also contained a link...

⁵⁹ The DSD is to be replaced as from 13 June 2014 by Directive 2011/83/EU of the European Parliament and of the Council of 25 October 2011 on consumer rights

⁶⁰ See generally: E McDonald, 'Incorporation of Standard Terms in Website Contracting – Clicking 'I Agree'' (2011) 27 JCL 198

⁶¹ The Electronic Communications Act 2000 and Electronic Signatures Regulations 2002

⁶² MLEC Art 7, MLES Art 6, CUECIC Art 9, ESD Art 2

⁶³ R Shirey RFC 2828, 'Internet Security Glossary' (2000) 13

⁶⁴ D G. Post 'Pooling Intellectual Capital: Thoughts on Anonymity, Pseudonymity, and Limited Liability in Cyberspace' (1996) U Chi Legal Forum 139

⁶⁵ Directive 1999/93/EC of 13 December 1999 on a Community Framework for Electronic Signature prohibits any discrimination on the grounds that a signature is in electronic form while requiring member states to give legal effect to "advanced electronic signatures" which are created by "secure signature creation devices."

⁶⁶ W Ford, M Baum, *Secure Electronic Commerce* (2ed. Prentice Hall, New Jersey) 109

⁶⁷ N Ferguson, B Schneier, *Practical Cryptography* (2ed. Wiley Publishing, Indianapolis 2003) 29

⁶⁸ See generally: J K Winn, *The Hedgehog and the Fox: Distinguishing Public and Private Sector Approaches to Managing Risk for Internet Transactions* (1999) 51 Admin L Rev 955

prescribing “sole control” or a “unique link” between *person* and signature ignore the technological limitations of the network as well as the virtual impossibility of ensuring such “control” and “uniqueness.” A digital signature can be produced by anyone who uses the private key. The question is not one of forgery but of unauthorized use. In an attempt to increase certainty, the Electronic Signatures Directive (“ESD”) prescribes detailed technical requirements pertaining to “qualified certificates” and “secure-signature-creation devices.”⁶⁹ In practice, given the complexity of the technologies involved, the relying party (i.e. the counterparty to the transaction with the purported signatory) needs the advice of a technical expert to establish whether such requirements have been met. Interestingly, even a detailed examination of a “qualified certificate” and the existence of a trustworthy “certification-service-provider” cannot guarantee the security of “secure-signature-creation devices.” The latter cannot (in the current state of technology) be “reliably protected by the legitimate signatory against the use of others.”⁷⁰ We are back at square one. Moreover, it is impossible to determine *who* used the private key from examining the certificate, qualified or not. Even an unauthorized use of the key produces an authentic signature. The UNCITRAL Law on Electronic Signatures (“MLES”) takes a less prescriptive approach and only requires that the electronic signature be “as reliable as appropriate for the purpose” a data message was generated or communicated. “Reliability” is, however, associated with the establishment of a unique link with the signatory and his sole control over the signature creation data.⁷¹ The relevant provision also emphasizes that “reliability” can be established “in any other way.” Interestingly, despite the lack of guidance, the latter scenario comes closest to real-life transacting scenarios, where it is always the individual decision of the relying party as to how much assurance he requires that the other person is who she claims to be. Why, however, suggest the use of digital signatures and then fall back on the default principle anyway? While the ESD can be accused of unnecessary complexity, the MLES is too vague to provide any guidance. Both seem to miss the point: the near impossibility of authenticating users in open-access environments like the Internet. Theoretically, identification could be established only if access *and use* of the private key relied on biometric access controls. Biometrics, however, raise multiple concerns if deployed on a large scale, especially regarding the process of enrolment and the subsequent management of biometric data.⁷² The disconnect between the law and the technologies capable of its fulfillment, as well as the overly prescriptive approach of some regulations, has resulted in a general lack of success of practically all digital signature laws.⁷³

Legislation or Common Law?

Despite my optimistic approach that e-commerce requires no regulation as most legal issues pertaining to online transactions can be subsumed under contract law, I cannot discard the possibility that an unprecedented problem may arise. Under English law, we must ask whether such problem should be addressed *ex ante*, by legislation, or left to *post factum* common law resolution.⁷⁴ Any attempt at answering this question must start with a thorough analysis of the existing rules. Schellekens emphasises that regulators often fail to examine their re-usability.⁷⁵ The fact that old principles become more difficult to apply, does not mean new principles are needed. In other words, we often assume that existing law cannot effectively accommodate new technologies. We also assume that new technologies are synonymous with new problems. New problems, in turn, require new law. In reality, many “old” problems that re-appear on the Internet may, at first glance seem different or unprecedented. An example is the use of standard terms, which have *always* raised concerns regarding the quality of consent, notice and availability. These concerns are addressed with new vigour, this time under the guise of “browse-wrap” and “click-wrap” agreements. Both the problem and its solution are not new and perfectly addressable by “old” legal principles. The creation of new law can thus only be debated when a new problem arises and existing rules are unable to provide a solution. Even then, however, it is important to remain close to the original so as not to interfere with the traditional legal regime. The latter can be regarded as a natural regulatory constraint. In practice, apart from (a) establishing the true novelty of a legal problem and (b) confirming the inability of existing principles to address it, the challenges faced by the regulator boil down to capturing the complexity and ever-changing nature of Internet-based technologies. Capturing the present state of the technological landscape, while allowing for future change and accommodating existing law seems like an almost impossible task.

⁶⁹ See generally: How to make bad law: lessons from Cyberspace’ (2010) 73 MLR 6, 906-907.

⁷⁰ ESD Annex 3 1 (c)

⁷¹ MLES Art. 6 (3)

⁷² A Taipale, *Technology, Security and Privacy: The Fear of Frankenstein, the Mythology of Privacy and the Lessons of King Ludd* (2004-2005) 7 Yale J L & Tech 123

⁷³ *Report on the Operation of Directive 1999/93/EC on a Community Framework for Electronic Signatures*, 5.2, COM (2006) 120 final (Mar. 15, 2006); also note that first digital signature law, the Utah Digital Signature Act UTAH CODE. ANN. §§ 46-3-101 (1999), was repealed in 2007 and there are proposals in the EU to replace the ESD, see: Proposal for a Regulation of the European Parliament and of the Council on electronic identification and trust services for electronic transactions in the internal market 2012/0146 (COD)

⁷⁴ L Bennett Moses, *Adapting the Law to Technological Change: A Comparison of Common Law and Legislation*, 26 U New S Wales L. 394 (2003)

⁷⁵ M Schellekens in *Starting Points for ICT Regulation, Deconstructing Prevalent Policy One-Liners* (ITeR 2006) 66

Futility

The difficulties of drafting e-commerce regulations are best illustrated by the provisions dealing with “dispatch” and “receipt,” found in the Convention on Electronic Contracting. Two preliminary points arise. First, Reed emphasizes that divergence from the original principle reduces the normative force of new provisions.⁷⁶ New rules must respect their offline predecessors and preserve the same allocation of risks or protection of interests.⁷⁷ Second, we must assume that regulation must allow for the technical modalities affecting the contracting process. In our case: that the Internet constitutes a multilayered transmission infrastructure underpinning a practically unlimited number of diverse communication technologies. The latter involve multiple protocols and architectures, each of them differing in the presentation of information and the ability to interact in real-time. A provision tailored to email may thus not work for wall posts on facebook, a provision tailored to websites may be unable to accommodate instant messengers. The challenge often lies in identifying the salient feature that differentiates one communication method from another or that is difficult to subsume under existing legal rules due to the lack of a suitable analogy.

These challenges are particularly visible in the context of establishing the time of contract formation and translating the offer-acceptance model onto new transacting scenarios. The basic contractual principle that intention must be communicated translates into the requirement that acceptance must be received.⁷⁸ Only if an acceptance is sent via the post, its effectiveness is tied to dispatch.⁷⁹ Although none of the e-commerce instruments answers the question whether acceptances communicated electronically are effective upon dispatch or receipt, the two terms are defined to accommodate either option. Their importance must not be underestimated: the moment of “dispatch” or “receipt” determines the time of formation, affects the incorporation of terms and the governing law. Precision is therefore of paramount importance: the existence of a contract is at stake. Unfortunately, it is the lack of precision that characterizes the relevant provisions. Article 10 of the Convention ties “dispatch” to the broad concepts of “loss of control” and “information system.” The moment the sender “loses control” of a message is, however, almost impossible to establish in *Internet*-based communications. Given the decentralized and distributed nature of the Internet - what does “control” relate to? Which part of the communication infrastructure or process is controlled by the user? The latter generally owns the client machine, the mail-server and connectivity are provided by ISPs. Mobile Internet access introduces its own set of idiosyncrasies (data roaming anyone?). “Control” can also be analyzed from a “vertical perspective,” i.e. across the layers of the TCP/IP protocol stack.⁸⁰ Which layer is relevant: the physical network (cables and routers) or the abstract, software layers (applications)? Does control cease when a message exits the LAN or the intranet? How is it to be applied to *cloud*-based services, like gmail or hotmail? What if parties communicate *within* the same platform, such as facebook (e.g. a “friend” comments on a status update)? The definition of “information system” perpetuates the confusion by not distinguishing between e.g. a network and a server. It is unclear whether “control” and “information” system are logical or physical concepts. The technological configurations are many, even if we confine the analysis to basic client-server architectures. The problems do not end here. “Receipt” requires that messages become “retrievable.”⁸¹ Both the principle of receipt and the postal acceptance rule assume the *communication* of acceptance, i.e. the *readability* of the message. Being “retrievable,” however, does not guarantee readability - mainly due to discrepancies in how email applications or browsers render content. This problem is partially addressed by the North American Uniform Electronic Transactions Act, which requires that dispatch be “proper” in terms of ensuring the ability to retrieve the message *and* the message being “processable” by the addressee’s system.⁸² In other words, senders must allow for the characteristics of the latter. It is, however, presently premature to prescribe “readability” as there are too many competing “standards” in displaying content. While only “readability” translates the requirement of *communicating* acceptance, we must accept that such translation may not be possible. Each communication method must be evaluated individually, also in light of the reasonableness of the addressee’s (i.e. offeror’s) choice of application. The provisions in the Convention are virtually unusable due to their vagueness and disconnect from the actual functioning of Internet-based communication technologies. I am not implying that the rule “acceptance must be communicated” cannot be translated. I am only pointing out that the diversity of communication methods cannot be captured by broad terms or reduced to “control” and “accessibility.” It is difficult to draft a one-size-fits-all law to govern *all* Internet-based communication methods. Such “precision drafting” is theoretically possible but would require very detailed provisions, which (a) would easily become obsolete⁸³ (b) their complexity would likely create uncertainty.⁸⁴

⁷⁶ Reed above at note 20, 105-106

⁷⁷ Schellekens above at note 74, 72

⁷⁸ *Shelde Delta Shipping BV v Astarte Shipping Ltd (The Pamela)* [1995] 2 Lloyd’s Rep 249

⁷⁹ *In re Imperial Land Co of Marseilles, Townsend’s Case* (1871) LR 13 Eq 148.

⁸⁰ For a general explanation see: C Hunt, *TCP/IP Network Administration* (3rd ed, O’Reilly, Sebastopol 2002)

⁸¹ CUECIC Art 10 (2)

⁸² UETA Section 15 (a)

⁸³ P De Vries, *The Resilience Principles: A Framework For New ICT Governance* (2011) 9 J Telecomm & High Tech L 137, 164

Complexity and speed of change

It is not just the difficulty of accommodating e-commerce technologies and balancing flexibility with precision. *Ex ante* regulatory instruments face two additional challenges: the complexity of the technological environment and the speed of its change. We can speak of a constantly evolving regulatory target. When the first e-commerce laws were drafted neither the business models nor the technologies have fully matured. Interestingly, almost 20 years later, we still cannot assume that they have. In fact, we cannot assume that the Internet has reached stasis. Feich and Werle emphasize the rapidly changing commercial usage and technical heterogeneity of the Internet.⁸⁵ Effective regulation requires that the target be moderately stable or at least predictable.⁸⁶ Predictability, however, can only be achieved with the benefit of extensive experience. In the case of e-commerce, regulators not only fail to understand the technologies and their individual significance but also the very speed of technological change. Technologies are not neutral constants.⁸⁷ Constant change and evolution are inherent characteristics of the Internet. The end-to-end principle, the relative ease of creating new applications that run on the top-layer of TCP/IP, creates a fluid unpredictable environment. We can only speculate on how the Internet will develop as a system or how specific technologies will be used. The regulator can react, not predict. The *status quo* is of limited guidance as a regulatory reference – everything is subject to change. In this context, Brownsword warns against a naïve confidence in our regulatory intelligence.⁸⁸ Complexity, change and the resulting unpredictability dictate regulatory restraint as neither the problem nor a solution is readily identifiable. According to de Vries, “the problem that regulation is intended to solve may be misidentified due to the complexity of the situation. Even if correctly identified, the problem may fix itself without intervention.”⁸⁹ Interestingly, Lloyd observes that “it might be doubted whether the [E-commerce Directive] would have been adopted in the same form had the law-makers been able to predict the ways in which technology would develop.”⁹⁰ If we subscribe to the principle that law should follow commercial practice, we must let commercial practice crystallize first. We may have to resign ourselves to the fact that the Internet, or e-commerce, will remain in a permanent state of development. We can talk of a permanent, accelerated evolution – not a revolution, as the latter term implies an abrupt change followed by a period of stability. We may soon look at the regulatory instruments drafted in the 90’s with the same sentiment we look at the Pac-Man game today.

A common law, piecemeal approach

In light of the above, common law rules, which are responsive not preemptive, seem better suited to address rapidly changing technologies and commercial practices. Common law is by definition more flexible than statute as the *ratio decidendi* is not confined by a set of words. In the words of one commentator: common law might be “resolutely backward-looking” but it is also innovative and creative.⁹¹ As illustrated by “dispatch” and “receipt,” *ex ante* legislation cannot address the multitude of technological configurations with sufficient precision to ensure certainty. Precision usually comes at the price of flexibility and may reduce the law’s ability to respond to future change. Only *post factum* case-specific solutions can address the complexity of the fast-moving communication landscape.⁹² Legislation can be debated when there is a need for reform or when “a real problem exists that the common law is demonstrably incapable of dealing with.”⁹³ It can be doubted, however, whether such reform is needed in contract law. I must remind the reader: contract law must be distinguished from intellectual property law. Also, progress in *communication* technologies must be distinguished from progress in such areas as medicine and energy, both of which may raise public safety concerns and thus require *ex ante* regulatory intervention. According to Dworkin, it is safest to assume that no legal response is necessary and that if the necessity arises “the common law should be the presumptive first-line response.”⁹⁴ A clear distinction must, however, be drawn between civil and common law systems. In the former, there will be more statutory provisions incompatible with technological progress. Even then, however, some restraint must be exercised. When addressing formal requirements, the UK government warned against “regulatory haste” and broad approaches. Instead of declaring across-the-board equivalence of electronic and

⁸⁴ Ch Reed, ‘How to make bad law: lessons from Cyberspace’ (2010) 73 MLR 6

⁸⁵ J Feich, R Werle “Regulation of Cyberspace” in *Oxford Handbook of Regulation* R Baldwin ed, (Oxford University Press, Oxford 2012) 525

⁸⁶ S P Crawford, The Internet and the Project of Communications Law (2007) 55 UCLA L Rev 359 at 362

⁸⁷ J E Cohen, Cyberspace as/and Space (2007) 107 Colum L Rev 210, 250

⁸⁸ R. Brownsword, K. Yeung. “Regulating Technologies: Tools, Targets, Thematics” in *Regulating Technologies: Legal Futures, Regulatory Frames and Technological Fixes* (Hart Publishing, Oxford 2008) 17

⁸⁹ De Vries above at note 82, 156

⁹⁰ I J Lloyd, Information Technology Law (6th ed, Oxford University Press, Oxford 2011) 448

⁹¹ J Sallet, “New Products At Every Stage” - The Application of Common-Law Reasoning in an Age of Innovation (2009) (unpublished manuscript), available at <http://fcc-reform.org/response/new-products-every-stage-application-common-law-reasoning-age-innovation>

⁹² J D Bick, above at note 13, 52

⁹³ L Bennett Moses, Adapting the Law to Technological Change: A Comparison of Common Law and Legislation (2003) 26 U New S Wales L.J. 394 at 402

⁹⁴ R B Dworkin, Limits: The Role of the Law in Bioethical Decision Making (Indiana University Press 1996). 169-70

traditional signatures, it advised to update *individual* primary legislation after a careful assessment of possible consequences.⁹⁵ Only a case-by-case approach permitted a tailored response to each formal requirement in light of the available technology. Empirical evidence does in fact suggest that the case-by-case common law approach is more effective at addressing the legal aspects of e-commerce transactions than *ex ante* regulatory interventions.⁹⁶

Conclusion

It is easy to criticize with the benefit of hindsight. It is also easy to learn from past mistakes. Despite its idiosyncrasies, e-commerce can exist within the existing legal framework - at least with regards to its purely transactional aspects. It can therefore be questioned whether we need "e-commerce" regulation in the first place. The latter is part of contract law and should be left to evolve gradually on a case-by-case basis in response to actual problems. At least in countries based on English common law.

Apart from the questionable value of a regulatory sphere called "e-commerce," existing regulations can be accused of imprecise target-setting: neither the "removal of obstacles" nor the "promotion of e-commerce" are valid regulatory aims. Especially in light of the fuzzy definition of "e-commerce." Given the speed of change, a certain degree of uncertainty will always be present. As the future development of the Internet cannot be predicted, we cannot design rules based on its present state. The "present state" is transient. The variety of technologies and the resulting diversity of interactions will only increase and put additional strain on existing regulatory solutions. Short-term consumer protection might be necessary to accommodate the novelty of online communications. But this is where all interference should stop. E-commerce is best promoted by providing secure payment mechanisms, enabling paperless invoicing and increasing the reliability of the post to ensure order fulfillment. These are the areas where the EU Commission identified severe shortcomings.⁹⁷ It is questionable whether e-commerce - assuming we decide to keep this term - is promoted by the incorporation of additional steps in the contracting procedure or by the provision of electronic equivalents of "writing" and "signatures." Ensuring that parties can fulfill formal requirements online seems less important than creating a transparent transacting sequence. Certainty stems from simplicity and continuity. The omnipresence of terms like "innovation," "revolution" and "change" creates a temptation to break with tradition, to disrupt the law in similar fashion as the Internet has disrupted the communication landscape. It must be appreciated, however, that commerce requires continuity, a gradual evolution of law - not a revolution. Any uncertainty that persists in the area of e-commerce can be regarded as the product of regulatory ignorance - ignorance pertaining to both the law and the technologies involved in online transactions.

The "precision vs. flexibility" conundrum becomes irrelevant when technology-specific legal problems are addressed *post factum*. Only incremental solutions provided by judicial decisions can address the complexity of the e-commerce environment. In this regard, common law based systems seem at an advantage. Law must *follow* commercial practice and stay connected to the technologies used in this practice. There would be nothing wrong with differentiating between online and offline transactions, as long as the special regime created for the latter (a) were tailored to the technologies in question, (b) fitted within the existing legal system. Creating legal instruments uniquely crafted to e-commerce transactions is, however, extremely difficult. Many e-commerce instruments can be accused of contributing to legal uncertainty by providing "solutions" which cannot work with the actual technologies involved or creating legal requirements that are technologically infeasible. The problem lies not in imprecise goal-setting but in impossible goal-setting. Lastly, the slightest drafting mistake may result in an interference with traditional principles. Maybe it is better, not to regulate at all? Commerce requires certainty, legal continuity in the face of technological change. The introduction of new law always carries the risk of disruption. We must think twice before leaving the issue to the regulator.

⁹⁵ Building Confidence in Electronic Commerce - A Consultation Document DTI March 1999, (p10) 18

⁹⁶ J K Winn, 'The Impact of EU Unfair Contract Terms Law on U.S. Business-to-consumer Internet Merchants' (2006) 62 Bus Law 209

⁹⁷ Commission Communication To The European Parliament, The Council, The Economic And Social Committee And The Committee Of The Regions, "A coherent framework for building trust in the Digital Single Market for e-commerce and online services" (SEC(2011) 1641 final) 4, 11, 88