Global Advanced Research Journal of Management and Business Studies (ISSN: 2315-5086) Vol. 3(2) pp. 074-081, February, 2014
Available online http://garj.org/garjmbs/index.htm

Full Length Research Paper

Legal Effect of Electronic Contracts: A Comparative Study

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Accepted 31 October 2013

The aim of this chapter is to analyse the legislative approaches of other countries. The chapter seeks to explore how countries other than Australia have regulated electronic contracts. The chapter intends to demonstrate how the deficiencies examined are addressed by other countries, which have adopted different approaches. The chapter will specifically examine the legislative initiatives in regulating electronic contracts and electronic signatures in jurisdictions such as the US, the UK, Europe, Germany and Singapore. The chapter also discusses the recent development in the cases related to the enforceability of electronic contracts and electronic signatures. To avoid repetition, only those provisions that differ from the Electronic Transaction Legislation of Australia are discussed.

Keywords : Legal system, Electronic Contracts, Comparative Study.

INTRODUCTION

A number of countries around the world have introduced legislation that enables an electronic or digital signature in order to satisfy legal formalities that require a signature to be provided in an electronic transaction or a document. Most legislation on electronic contracts, electronic signatures, transactions and electronic commerce are based on the Model Law on Electronic Commerce. The development of electronic commerce has generally given rise to different movements in relation to law reform (Boss,1998).A large number of countries have enacted electronic contracts and electronic signatures legislation and distinct approaches have emerged. All these approaches will influence the future development of electronic signature technologies, electronic contract, technological innovations and the market. However, the legal issues related to the adaptation of these approaches are difficult to resolve because of the fast technological developments, evolution in electronic contract and electronic signatures.

Literature Review

Electronic transaction legislations of different countries differ significantly.. The three main approaches have emerger which be classified as minimalist approach, technology neutral approach and teachnology specific approach (Kuner,2000).

The minimalist approach is completely technology-neutral and does not provide preference to any

technology in particular. Hence, it is also known as technology-neutral approach. Thus, parties may choose any technology that they think is best suited for making electronic transactions(Boss,1998). This approach is particularly popular among common law countries such as Australia, the US, the UK, New Zealand and Canada (Wang, 2007). The aim of the supporters of this approach is to remove legal obstacles of electronic transactions and not to favour any particular technology. The proponents of this approach have made different options available to the parties and have allowed them to make wise choices as per the requirements of their transactions (Boss,1998). The supporters of Minimalist approach state that it is the market that must determine the type of technology that must prevail (Electronic Commerce , 1998). The market on electronic contracts and electronic signatures has not yet developed fully and hence it is not possible to predict what kind of electronic contracts and electronic signatures will be popular and successful. Therefore, the supporters of minimalist approach feel that over-regulation will impede the natural development of the market and due to market uncertainty, regulation of a single technology will be unnecessary (California Secretary of State, 2008). The critics of the minimalist approach state that the minimalist approach is an extension of recognising all types of electronic signatures, which may damage consumer protection because electronic signatures are less secure than digital signatures and may not provide the same level of security as that of written signatures(Wang, 2007).

The prescriptive approach is also known as technology-specific approach because it mandates one particular technology such as the digital signature based on Public Key Infrastructure (PKI). Thus, it attempts to establish a legal framework for the operation of the PKI and it also reflects the form and requirements of handwriting regarding paper-based documents(Kuner,2000). This approach also imposes operational and financial requirements on certification authorities and prescribes the duties of key holders and defines circumstances that justify reliance on electronic signatures. This approach usually sets standards for technologies that may influence the direction of new technologies. The prescriptive approach is more popular in civil law countries than the common law countries such as Germany, Italy, Argentina, Russia and Malaysia (Fischer, 2000).

The proponents of technological approach believe in supporting and promoting a single reliable technology (Boss,1998). The advantages of the prescriptive approach include the reliability and security provided by the digital signatures and their market potential. Digital signatures are said to provide greater reliability in securely authenticating electronic documents when compared to other forms of electronic signatures (Lui-Kwan, 1999). The digital signature is said to meet high technical requirements and guarantees authenticity and integrity (Sherry, 2002).The supporters of the prescriptive approach are of the view that favourable legal treatment towards digital signatures will not only promote the development of the market by standardising technology but also helps in contributing towards market innovation because electronic stakeholders adopt legislation quickly when they have certainty regarding signature technologies. Such a development is said to be necessary when competing vendors look for new technology to keep up with the developing market (Wang, 2007). Finally, the supporters of this approach argue that the prescriptive approach is simple and provides for greater legal certainty (Grabb, 2000).

The prescriptive approach is also criticised for its lack of feasibility because, from an international perspective, designating one particular technology is likely to survive only under two situations, such as when there is only one government in the whole world or if all the governments in the world adopted digital signatures as the only means that meets the requirements of signature. Such situations will never exist(Wang, 2007). However, if national governments mandate different technologies, then it is likely to impede one of the benefits of the internet such as the promotion of cross-border transactions. Finally, the prescriptive approach appears to be premature and risks interfering with the natural evolution of the market by excluding other possible technological developments that may be superior to digital signatures (Bliley,2007). Laws that have adopted this approach specifically prescribe the use of digital signatures (Lupton,1999).

The two-tiered approach is also known as hybrid approach and it is technology-neutral. However, certain technologies exhibiting certain specified features are provided with beneficial legal presumptions. This approach is a combination of the minimalist approach and the prescriptive approach. Under the minimalist approach, a signature may not be denied legal effectiveness on the sole grounds that it is in an electronic form or it is not a qualified, reliable or secure electronic signature. Under the prescriptive level, certain technologies are provided with a favourable presumption such as qualified e electronic signatures.This approach has been adopted by Singapore, China, EU and Germany. The legislation under this approach provides some rights and duties to the parties in an electronic contract and transaction(Wang, 2007). Usually, laws that have adopted this approach do not expressly specify any particular technology. However, they specify technological and security features similar to digital signatures(Lupton,1999).

The two-tiered approach is favoured due to its flexibility. It achieves technology neutrality by providing minimum recognition to all types of electronic signatures that have adapted new technological developments. The approach also provides legal certainty due to favourable treatment of certain authentication technologies. Thus, the two-tiered approach establishes and maintains

necessary trust in electronic transactions and contracts. This approach faces criticism because it may not provide sufficient flexibility for the natural development of the market. Technological innovations may be stifled because this approach favours certain technologies and this may exclude other technologies that could provide similar level of security and merits. Further, the technologies favoured by this approach may vary in different jurisdictions, thus resulting in inconsistency in the world(Wang, 2007).

Considerable research has been done on the formation of electronic contracts and use of electronic signatures However, in depth analysis of case laws have not been carried out. In order to fill this gaps in the literature, this research will examine cases between 1996- 2013.

RESEARCH METHOD AND METHODOLOGY

Doctrinal legal research method was undertaken and document analysis was carried out. Doctrinal legal research is considered as one of the most accepted legal research paradigm (Pearce, Campbell and Harding, 1987), (Burns and Hutchinson,2009) and (Macconville and Chui, 2007). Doctrinal research is also called as pure theoretical research(Adilahet,2009), (Macconville and Chui, 2007 Under this method legal rules, areas of difficulty are analysed(Pearce, Campbell and Harding, 1987), (Burns and Hutchinson,2009). Document analysis(Collis, and Hussey, 2003), (Neuman, 1997)was carried out to investigate cases between 2003- 2013.

Writing Requirements and USA

In the US, many states have now passed legislation in order to implement a *Uniform Electronic Transactions Act 1999* (UETA). The legislation not only recognises contracts formed through electronic means but also acknowledges the differences between electronic and paper-based medias by specifically referring to electronic records. (Uniform,1999) Although s 7(b) takes into account electronic media-based differences of electronic contracts and deals with contract formation, it was not intended to deal with all the aspects of contract formation and leave scope for the application of traditional principles. (Uniform,1999) Analysis of cases highlight the difficulties associated with the writing requirement provided In *Joseph Kaminski v Land Tec Inc*(2011) Electronic record could not fulfill the requirements of paper based writing due inadequate proof. While in *James Jefferson v Best Buy Company*(2010) it was held that the electronic record satisfied the requirements of paper based writing. The criteria for writing was broadly interpreted. Similar View was also expressed in *Dustin Barwick v Government Employee Insurance Co., Inc*(2011) Similarly, validity of electronic record was recognized in a number of cases such as *Godfrey v Fred Meyer Stores*,(2005), *Crestwood Shops, L.L.C v Hilkene*, (2006), *JPH Consulting v Country Hills Health Care* (2011), *Re Marriage of Takusagawa*(2007)

Electronic Signatures And USA

In order to promote uniformity in the legislation governing electronic contracts and electronic signatures, two initiatives have been introduced. UETA and the *Electronic Signatures in Global and National Commerce Act* (E-SIGN).UETA broadly defines 'electronic signature' as a symbol with an intent to sign the record(Uniform, 1999) E-SIGN provide many consumer protection provisions that protect consumers from unintentionally entering into electronic contracts. It requires consumers to provide their consent and requires the other party to fulfil a number of requirements(Friedman,2007).

A critical element in UETA is the presence of intention to execute or adopt the sound or symbol or process for the purpose of signing the related record(*Uniform, 1999).* In sum, analysis of signature cases illustrate that electronic signature are valid as seen in *Cloud Corporation v Hasbro, Inc*(2002),*Lamle v Mattle, Inc* (2005)and *Shattuck v Klotzbach*(2001)In these cases, validity was provided by drawing analogies between electronic signatures and traditional signatures. It appears thata name in an email can also be used as a signature. However, in situations where a person's intent to sign the record is not clearly evident, name in an email will not be considered a signature, as seen in *Brantley v Wilson* (2006) As seen in these cases, recognising electronic signatures by drawing analogies with typed written signatures is understandable. However, by merely drawing analogies without discussing the protective functions of paper-based documents such as protection against fraud, the cases appear to have ignored the protective function of traditional signatures. Traditional signatures protect parties from fraud by specifically identifying the signatory and by maintaining integrity of the document (Kania, 1999). While it can be generally accepted that electronic signatures are provided legal validity, uncertainty can still arise in situations when an electronic signature is tampered. Thus, the position appears to be clear in situations when an electronic signature is not tampered and is still unclear in situation were electronic signatures are tampered. Overall, validity of electronic signatures is still problematic. These decisions must be treated with caution as electronic signatures can be easily tampered this flaw of electronic signatures provides more scope for a contracting party to change the terms of a contract. *EPCO Carbon Dioxide Prods, Inc v JP Morgan Chase Bank*,(2006), appears to indicate that an electronic signature will only be enforced under Uniform Electronic Transactions Act it the parties consent to conduct transactions electronically. In *Richard*

S Berger v Robert Newhouse(2003).It was held that an electronic signature will only be enforced if the signatory adopts, executes or authorizes the electronic signature. Further it was also noted that the under *Uniform Electronic Transactions Act* allows a party to challenge such a signature. Similar view was also expressed in *Hepfinger v white*(2005) In *Powell v City of Newton* (2010).electronic signature was not enforced because parties specifically intended for the owner's physical signature on the settlement agreement. Therefore although electronic signature was regarded as valid under the Uniform electronic Transactions Act it was not regarded as a valid signature for the purpose of statute of Frauds. Similar view was also expressed in *May Turcking Co. v Northwest Volvo Trucks, Inc*(2010) While, in *Diane Wells v Craig&Landreth Cars* , Inc, (2010) electronic signature was not recognized due to inadequate facts. However, validity of an electronic signature was recognized in a number of cases such as *Vincent B Blake v Murphy Oil USA, INC*,(2010), *Super Group Packaging & Distribution Corp v Smurfit Stone Container Corporation and James B Laurence* (2005), *International Castings Group Inc v Premium Standard Farms Inc* (2005)*, Richard S.Berger v Piranha Inc*(2003) and *Sims v Stapleton Realty, Ltd*(2003).

Writing Requirements and UK

In response to a series of reports and consultations by the Department of Trade and Industry, the first response of the UK towards the development of electronic commerce and communication was the introduction of the *Electronic Communications Act 2000*. (Murray, 2003)The *Electronic Communications Act 2000*, the *Electronic Signatures Regulations 2002* and the *Electronic Signatures Regulations 2002*.(Electronic Signatures,2002) deal with electronic contracts, transactions and electronic signatures in the UK. Part II of the *Electronic Communications Act 2000* provides for the legal recognition of electronic signatures and it also facilitates the use of electronic communications or electronic storage of information as an alternative to the paper-based or traditional means of storage (Harrington, 2002). In addition, an independent, industry-led, self-regulatory scheme called Scheme was also set up in the UK to assess and approve trust services based on minimum standards.(Scheme, 2008) The aim of the Act is to clarify the legal position of electronic contract and electronic signatures. (Murray, 2008) However, the Act does not specifically state when exactly an electronic contract is formed. (Turner and Traynor, 2002).

The *EU Directive on Electronic Commerce 2000*(Directive, 2000) was implemented by theElectronic Commerce (EC Directive) Regulations 2002. (Electronic commerce Regulations, 2002) Regulation 9 states that information that a service provides must be provided to the recipient of the service when electronic contracts are formed. (Electronic commerce Regulations, 2002) It requires service providers to provide information such as technical steps that must be followed for the formation of contracts, technical means for correcting input errors, availability of terms and conditions of the contract. (Electronic commerce Regulations, 2002).

Section 8 of the UK *Electronic Communications Act 2000* grants authority to appropriate ministers to modify the provisions of any legislation to remove the barriers related with traditional writing requirements for facilitating electronic commerce. (Electronic Communications Act, 2000).

The requirement for contract formation were liberally interpreted in *R (on the application of Software Solutions Partners Ltd) v Revenue and Customs Commissioners.(*Revenue and Customs Commissioners, 2007).

Electronic Signatures and UK

The *Electronic Communications Act 2000* deals with the legal status of electronic signatures and empowers the government to modernise outdated legislation in such a way that an option to use electronic communication and to provide storage is offered as an alternative to paper-based transactions. The *Electronic Communications Act 2000* also recognises self-regulatory schemes that ensure the quality of electronic signatures and cryptography support services. (Wang, 2008) The *Electronic Signatures Regulations 2002* were introduced to implement the European Directive on electronic signatures that was enforced on 8 March 2002. The EU Electronic Signatures Directive facilitates the use of electronic signatures and contributes towards the legal recognition of electronic signatures.(Harrington, 2002)

Under s 7(2) of the *Electronic Communications Act 2000* and s 2 of the *Electronic Signatures Regulations 2002*, electronic signature can be represented in multiple forms and serves as a method of authentication. (Electronic Communications Act, 2000) However, the *Electronic Communications Act 2000* does not describe the legal effects of electronic signatures. The Act only states that electronic signatures, the certification and the process under which such signatures and certificates are created, issued and used shall be admissible in evidence in terms of the authenticity of the communication or data or the integrity of the communication or data. (Electronic Communications Act, 2000)Automatic insertion of an email address was not recognised as a valid signature for the purpose of statute of frauds. The reason for not recognising it as a valid signature was lack of intention of the signatory to adapt it as a signature. It appears therefore that automatic insertion of name in an email address will be recognised as a valid signature only if a person's intent to sign the electronic document is clearly

	USA	UK	SINGAPORE
WRITING REQUIREMENT	Electronic record could not fulfill the requirements of paper based writing due inadequate proof. As seen in *Joseph Kaminski v Land Tec Inc.*	The requirement for contract formation were liberally interpreted in *R (on the application of Software Solutions Partners Ltd) v Revenue and Customs Commissioners*	The legislation of Singapore has limited application as seen In Mathew and another v Chiranjeev and another
	The criteria for writing was broadly interpreted in *Dustin Barwick v Government Employee Insurance Co., Inc Godfrey v Fred Meyer Stores*, *Crestwood Shops, L.L.C v Hilkene*, *JPH Consulting v Country Hills Health Care*, *Re Marriage of Takusagawa.*		
SIGNATURE REQUIREMENT	If a person's intent to sign the record is not clearly evident, name in an email will not be considered as in *Brantley v Wilson. May Turcking Co. v Northwest Volvo Trucks, Inc*. While, in *Diane Wells v Craig&Landreth Cars* , Inc, *EPCO Carbon Dioxide Prods, Inc v JP Morgan Chase Bank*,	It appears therefore that automatic insertion of name in an email address will be recognised as a valid signature only if a person's intent to sign the electronic document is clearly ascertainable, as seen in *Nilesh Mehta v J PerieraFernandes S.A.*	
	Hepfinger v white In *Powell v City of Newton*, highlight the importance ofconsent		

ISSUES	USA	SINGAPORE	UK
Writing requirements and Storage of terms of electronic contracts	The criteria is more inclined towards retention of contents	Provide supplementary criteria in relation to writing requirement which specifically talk about storage of electronic documents 'retrievable in a perceivable form'	Precisely deal with storage of terms and conditions of electronic contract
Reliability of electronic signatures	E-signs of USA provides detailed consumer protection laws favouring consumers specifically in relation to electronic documents	None	None

ascertainable, as seen in *Nilesh Mehta v J PerieraFernandes S.A.*(Mehta , 2006) A more restrictive and stricter approach was adopted in *Hall v Cognos Limited*, (Hall, 2000) where it was held that only a printed email can be considered signed writing for the reason that it provides stronger evidence. It appears clear that courts are still reluctant to readily provide validity to electronic signatures. It can be seen that mere use of electronic signatures does not assures validity. Overall, it can be said that different approaches are being adopted

to recognise electronic signatures, which can give rise to disparity.

Writing Requirement and Singapore

Singapore was the first country to introduce legislation based on the Model Law on Electronic Commerce 1996. Electronic contracts in Singapore are governed by the *Electronic Transactions Act* that was passed in 1998. (Electronic Transactions Act,1999) It provides legal framework for electronic transactions (Bickers,1998) It also promotes electronic transactions and electronic commerce (Leng, 1999).

The term record used in the criteria for writing imposes additional requirement. It requires information to be retrievable in a perceivable. (Uniform Electronic Transactions Act,1999)In *Mathew and another v Chiranjeev and another* (Mathew, 2010) an apartment was jointly owned by the appellant while the respondents were intending to purchase it from them. The communication in relation to the purchase of the property was carried out both orally and by email communication between the parties through a property agent. After inspecting the property respondents offered to purchase the property and issued a cheque. The property was clearly identified at the back of the cheque. The agent informed the appellants about the offer by an email and also deposited the cheque into their account through. Later the appellants informed the agent and the respondents that they were cancelling their plan to sell the property. The respondents refused to take the cheque back. While the appellants refused to complete the deal. Respondents initiated an action for specific performance. The High court decided in favour of the respondents. The appellants appealed to the court of appeal. The issue before the court was whether there was a binding contract between the parties. Electronic transactions Act (sing) was considered to determine if there was a valid contract. Section 4 of the Electronic transactions Act (sing) states that in the formation of contract offer and acceptance can be communicated electronically by means of electronic records. However, the Act does not apply to certain transactions such as to the contracts dealt in the current case. While, s 6 of the Act generally states that the information must not be denied legal effect and validity solely because it is in an electronic form. It was noted that the email communication satisfied the requirements of s 6(d) of the *Civil Law Act*. (Mathew,2010).

Electronic Signatures and Singapore

The Electronic Transactions Act enables legislation to remove uncertainty regarding the legality of contracts that are formed electronically, to recognise electronic signatures and also to clarify the liability of network service provider. The Act sets out voluntary licensing of certification authorities as trusted third parties in the electronic environment to provide the basis of trust relations to be established between the parties.(Electronic Transactions Certification Authority Regulations, 2001) stipulate technical security requirement to be met. In addition, the Electronic Transactions Actenables government agencies to easily implement electronic systems in order to transact with the public, without the requirement to amend their own governing Acts. The Electronic Transactions Actprovides for the acceptance of applications and issue of digital licences with an ability to receive and send electronic documents in a reliable manner. The provisions of the Electronic Transactions Actalso cover electronic records, signatures, contracts and security related matters. (Tan,2002) However, the Act does not specifically deal with the issue of impersonation of signatures.(Electronic Transactions Act, 1999).Thus, *SM Integrated Transware Pty Ltd* v *Schenker Singapore (PTE) Ltd*(SM Integrated Transware, 2005)established that a typewritten name and even the name of a sender in the header of an email is sufficient to satisfy the requirements of the Statute of Frauds. Further, the name in an email was considered an electronic signature.A broad approach was adopted in *SM Integrated Transware Pty Ltd* v *Schenker Singapore (PTE) Ltd* (SM Integrated Transware, 2005)In this case, emails were accepted as a valid signature because the parties confirmed that they had sent the messages. This approach may have limited application in situations when signatories repudiate the electronic signature and deny that they had sent the electronic message. Such an indirect approach may not provide effective solution for electronic commerce.

RESULTS AND DISCUSSION

This article examined the legislative approaches of the US, the UK, and Singapore. All these jurisdictions contain provisions related to electronic contracts and electronic signatures. The Article submits that different legal backgrounds, and the influence of technology and international and national developments has led to the development of different approaches.

An analysis of the laws and cases indicate that, in recognition of impediments created for electronic commerce by traditional laws, legislation has been introduced in these jurisdictions. they contain ambiguous technical terms that provides limited relief and creates confusion. Another major deficiency of these laws is that they favour consumer protection provisions, which can discourage businesses from conducting electronic commerce effectively. As a result, the approaches adopted by these jurisdictions are inappropriate.

Unlike traditional signatures, electronic signatures do

not create evidence, which is a considerable shortcoming. UETA and E-SIGN do not address this issue, resulting in gaps in relation to this issue. The analysis of the approach adotpted by the UK indicate that a name in an email will be recognised as a valid signature only if a person's intent to sign the electronic document is clearly ascertainable. under this approach electronic signatures will be recogisned only if the intention is clearly ascertainable therefore, It suffers from limitation . A broad approach has been adopted by Singapore. A name in an email will accepted as a valid signature if the parties involved confirmethat they had sent the messages. However, this approach may have limited application in situations when signatories repudiate the electronic signature and deny that they had sent the electronic message. Such an indirect approach may not provide effective solution for electronic commerce. Thus, the overall analysis of cases indicates that divergent approaches are being adopted by courts.

In relation to writing requirements, UETA requires documents to be specifically stored. Although it prescribes additional criteria, it is not completely satisfactory, and suffers from limitation by using controversial terms Thelegislation of UK also is also inappropriate as it does not provide clear guidelines regarding how the requirements in relation to writing needs be to fulfilled. While, the writing requirements are brodaly interpreted by the Singapore courts.Such a liberal approach may not provide protection from tampering and fraudulent trasactions like tradtional paper based documents.

CONCLUSION

This research adds to the literature by carrying out an close analysis of cases between 1996-2013. The Key finding of the research indicates the approaches adopted by USA, UK and Singapore have major deficiencies. The electronic transaction legislation of these jurisdictions remain unclear in the absence of scholarly research in this area, this Article provides a new conceptual framework of gaps and international developments. Within this framework, further considerations regarding suitable legislation can be made in . Articledraws parameters within which solutions can be found, but does not attempt to provide solutions. Providing solutions is an area for future research.

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