ISSUES INFLUENCING THE USE OF E-SIGNATURES FOR SECURE E-BUSINESS TRANSACTIONS IN PAKISTAN

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ABSTRACT

This paper focuses on the issues of eSignatures for secure eTransactions in Pakistan i.e. social and legal issues. Internet has become affordable in developing countries like Pakistan, yet the societal changes surrounding eSignatures are even greater threat than that of developed countries. The increasing use of internet for eBusiness has raised the issue of legality of eTransactions. The researchers have underlined several factors responsible for creating issues for eTransactions however the problems of eSignature are prominent. In Pakistan, eBusiness is an infant child facing several social and legal issues e.g. privacy and authentication, trust psychological and cultural, internet access and eSecurity. Given the absence of adequate legislation on eSignatures in Pakistan, this paper concludes that to meet the user's needs, legal infrastructure must first be put in place before users in Pakistan can actively engage in secure eBusiness transactions.

Key Words: eSignatures, eSecurity, eTransactions, eBusiness, Social and Legal Issues.

INTRODUCTION

Around the globe, symmetric key encryption for encryption and decryption is traditionally used to ensure privacy and authentication of eTransactions (Aime et al., 2011). Earlier, ATM was used with a pin number using password authentication, thus symmetric encryption was the preferred mode. However, 'eSignatures' has opened a new debate, since users are facing security problems while making online transactions (Arvind et al., 2005). Yet, the anxiety over the security of eBusiness transactions is un-explored since eSignatures can in fact meet the need to build user trust (Basile & Cappadonia, 2011). Bushra (2002) asserts that "internet based technologies have become more significant in developing countries like Pakistan by influencing and changing societal interactions." She further reports that "these technologies are now affordable for users with even greater societal changes." The increasing use of internet based technology for eTransactions also raised the issue of the legal position of eTransactions (Christiansen, 2012). This paper specifically focuses on the social and legal issues which significantly affect the use of

eSignatures for secure eBusiness transactions in Pakistan. Like any other technology, eBusiness needs building of an information infrastructure before eSignatures can be confidently used by consumers in Pakistan (Ashar, 2002).

Use of eSignatures in eBusiness

eSignatures is the use of 'electronic seal' which is agreed upon by both sellers and buyers to authenticate the origin of document, identity of user, time and date on which a document was signed and sent (Kraft & Kakar, 2009). Like written signatures, eSignatures are also exposed to falsification and deceptive use. eSignature is dependent on PKI system to encrypt the message, used to establish credibility, and trust among the users and ensure trustworthy environment, both are internet based technologies used for secure eBusiness transactions (Hyder, 2001). The methods used for cryptography are vital for trust building and user's confidence in secure eTransactions (Mir & Banday, 2008). Yet, there is a common perception that due to technological limitations, it is imperative to go beyond the technical issues and focus more on the social and legal aspect that might influence the use of eBusiness, these include perception, privacy and authenticity, trust, confidence, culture and psyche in particular (Navneet & Lolita, 2011).

Perception

Perception is far from the reality, in developing countries like Pakistan, the most consistently perceived technological weakness is 'eSecurity', (Navneet & Lolita, 2011) which is ranked as the major impediment to secure eBusiness (Kundi, 2010; 2007). The consumers fear the deception, risk of fraud and loss constituted associated with online business, which one of the most important reasons of poor trust of users in Pakistan.

Privacy and Authenticity

According to Smith & Shao (2007) and Kundi (2007) the issues of privacy and authentication of the identities of the parties involved in eTransactions is the foremost societal concerns of consumers in Pakistan, while Moreno (2001) is of the view that 90% of Web sites fail to comply with basic privacy principles, likewise Stephen E.B. (2010) claimed that "due to consumer's concerns about the privacy and lack of trust, in the year 2008-2009 eBusiness companies round the globe faced some $2.8 billion loss."

Trust and Confidence

The Secure Sockets Layer Protocol

(SSLP) is the most successful commercial application of eSignatures (Storey et al., 2009), which is used in payments by credit cards, yet, does not meet the requirements as perceived by users. More specifically, eSignatures has the capacity to authenticate the identity of only one party 'trader' which is the weak aspect of this technology, this implies that it does not provide any means by which the trader can reciprocate the authentication of identity of customer. Resultantly, it inhibits users from engaging in online transactions.

Culture and Psyche

In conventional business operations, business transactions depend on trust, same is applicable to eBusiness. Although trust and confidence is of great significance as most people want it, yet they fear in using the internet technologies available for secure eTransactions (Tobias & Heiko, 2009). Likewise, Kundi (2010, 2007) and Naeem (2003) are of the opinion that the difficulty of use and lack of trust with respect to online payment, privacy, and consumer service have been found to constitute a real psychological impediments to eBusiness in Pakistan. This uneasiness of psyche may represent a user culture that is not yet familiar with new digital technologies. However, after every next spell of moment computers and Internet are replacing the generations' (Aslam, 2000).

Legal Factors Affecting Secure eBusiness Transactions

Issue of eSignatures

According to Kundi et-al. (2008) and Umesh et al., (2004) the growth of eTransactions in Pakistan shows the trust of users on security of eTransactions however it has raised the issue of the legal position of eTransactions.

Legal experts equate eSignature with manual signatures in the traditional business but in reality, the word 'eSignature' connotes letters and writing, and the term eSignature has been conceived in a generic and technology-neutral way. It is said that, to "apply the term signature to what can be performed using cryptography is simply inappropriate and misleading (Deitel and Nieto, 2005)." Though eSignatures have acquired legal status round the globe, yet the legal definition of eSignatures is proving very difficult to map onto eSecurity technology functions in developing countries like Pakistan (WWW Consortium, Oct. 2007).

Pakistani Perspective

Existing Legal Infrastructure

Abbasi and Zubair (2001) argue that guarantee of legitimate agreement between parties involved in eBusiness is more important especially when the agreements are paperless yet, in the developing countries and especially in Pakistan, there is a poor legislation on eTransactions, and hence assessing the validity of electronic contracts and other electronic documents becomes not only difficult rather complicated (Kundi, 2012). The existing legislation of electronic transaction ordinance (ETO 2000) and electronic crimes act (ECA 2007) seems to be inappropriate in dealing with online business transactions. This puts Pakistani businesses at a greater risk than businesses in developed countries. A survey indicates that 40% of the users in Pakistan considered insufficient and poor legal infrastructure as a barrier to eBusiness in Pakistan (Kundi, 2009). Moreover, Rana (2006) reports '80,000 to 1, 00,000 computer crimes in day throughout Pakistan.

Though Pakistan has promulgated ETO 2000 and framed ECA 2007 to gain the confidence of consumers and to strengthen their bond of trust in eBusiness. Yet the confidence of the ordinary users on security of eBusiness transactions in Pakistan is still shaking. However, in an attempt Pakistan can modify the framed legal infrastructure to bring additional legal certainty regarding the use of eSignatures which is also suggested by UN legal model for eBusiness transaction (Stephen, 2010).

According to Albarran & Goff (2000) the United Nations Commission on International Trade Law (UNCITRAL) has adopted a Model Law on eSignatures in 2001 which provide sufficient base for eLegislation to Pakistan. Based on Article 7 of the UNCITRAL Model Law on eBusiness (Stephen, 2010), it is proposed that subject to certain conditions, eSignatures will be treated as equivalent to hand-written signatures. This law establishes basic rules of conduct for the parties involved in the process of eSignatures.

Internet Access, Cost and Insecurity

Research on Information Systems security view digital divide as one of the most critical barriers to the expansion of eBusiness in Pakistan or in other words, lack of telecommunications and internet connectivity (Christiansen, 2012), as well as access to necessary hardware and

software associated with high financial cost are impeding eBusiness growth (Kundi & Shah 2009; Naeem, 2003). It has been found that eSecurity is a major barrier to secure eBusiness transactions in Pakistan. Though technology is improving gradually however, after September 11, 2001 the issue of authentication has become a serious concern particularly for Pakistani users. Since, many international especially US websites only cater for US customers while former international particularly Pakistani customers, who were previously issued international visa cards, are debarred from engaging in eBusiness. This has negative impacts for both Pakistani businesses and consumers to shop online globally (Zarmeene, 2005). As a consequence, there is a lack of confidence in eSignatures among the Pakistani businessmen and users and a general reluctance to engage in eBusiness.

CONCLUSIONS

Generally, the buyer and seller involved in eBusiness have a legal protection for online transactions and they are not liable if the card is stolen or misused in an unauthorized manner, however the use of these innovative internet based technologies for eTransactions has become increasingly ubiquitous. The issue of the legality of eTransactions arises since customers may even be at risk with the use of internet technologies and credit cards. So, in eBusiness transactions, both seller and buyer by and large desire to be certain about the origin, receipt and integrity of information, and authenticity and identity of each party. This necessitates the demands of laws and regulations. Recognizing the use of eSignatures is an exception to the above generality.

Given that eBusiness needs, standard regulations and laws to create an environment of certainty, trust and security for the users to go online, furthermore, it is indispensable to develop the information infrastructure supported by the appropriate legislation. This goal can be materialized by promoting the development of digital culture and expansion of telecommunication networks and services across the country. Though government of Pakistan is making hectic efforts by taking initiatives with regard to legislation, yet close coordination and cooperation with institutions such as WTO, and UNCITRAL could be helpful in establishing legislation on eSignatures. The development of sound legal infrastructure could win the user's

confidence and trust of both the businesses and consumers in Pakistan. Succinctly, online transactions require an elaborate PKI consisting legislation, certification authorities and regulation for building trust among the online community in the country.

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