Decision Support Systems 31 (2001) 293–301

Decision Support Systems

www.elsevier.com/locate/dsw

Who do you trust? Beyond encryption, secure e-business

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Abstract

Electronic commerce has added a new complex issue to international trade. It is based upon the assumption that buyers and sellers conduct business with very little information about each other. This paper is on the importance and development of trust in electronic commerce. The importance of these assets in commercial relations is discussed. The paper describes how reputation is protected as a legal asset and how laws or legal principles support trust relationships in trade. Finally, the importance of developing legal guidelines for trust and reputation as a counterbalance to the lack of morality on the Internet is discussed. © 2001 Elsevier Science B.V. All rights reserved.

Keywords: Electronic commerce; Law; Trust; Reputation

1. Introduction

In every business transaction, there is an element of chance. No matter how carefully the documents are drawn up, how thorough the background checks of the parties have been or how effective the legal systems in which the transaction are embedded the transaction is always a risk. The decision to transact despite the risk depends upon the potential profit of the transaction. At some point in the negotiating process, the businessman must decide whether or not to trust his counterpart and commit to the deal.

The law is an instrument used by government to secure and promote the economic base of a society. In the market economy one of the main areas of interest for government has been to promote the incentives for businessmen to enter into transactions with each other. This ideology is based upon the traditional economic view stemming from Smith [15], who pointed out that if everyone acted in there own best interests the end result would be most beneficial to society as a whole. “Give me that which I want, and you shall have this which you want, is the meaning of every such offer; and it is in this manner that we obtain from one another the far greater part of those good offices which we stand in need of. It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest.”

The idea is that the individual goals of each businessman will collectively promote the wealth of the nation as a whole. The regulation of transactions is not through law but through the market mechanisms of trust and reputation. The trading parties whose actions do not support their original promises will develop an untrustworthy reputation and they will no longer be able to continue. With the advent of Internet-based electronic commerce the basic market rules named above still apply but the size and anonymity of the Internet make it more difficult for

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the businessman entering into a transaction to judge the trustworthiness of his counterpart.

The purpose of law, in this area, is therefore to strive to protect the ability of the parties to safely transact. Ensuring that the parties feel safe enough to take the business risks does this. To achieve this the law has struggled to create a level playing field. This paper is concerned with the development of secure electronic commerce. This is a goal that researchers and practitioners in the fields of law and technology have set as goals and yet neither is able to achieve a comprehensive and workable solution. Since there is no current international legal standard of Internet commerce, this paper does not argue the law of any particular nation yet draws examples from specific jurisdictions to clarify the author's point of view. This paper proposes a more individual approach to online security that is designed and managed by those who need it the most—the traders.

2. Information, reputation and trust

One of the main assumptions in the market economy is that all the parties involved in transactions have all the information they require. In fact, the assumption is that buyers and sellers in the marketplace are perfectly informed. This would imply that they know everything they need to know about the quality of the merchandise and the reputation of their counterpart. This assumption can easily be attacked since it presents a simplistic view of the marketplace. To be able to have all relevant information about the product (and all other products) and to know the character and reputation of the contracting party, both the market and the players on it must be well defined and well known to the players. Obtaining the knowledge referred to above is often connected to cost. This is because we assume that the information required can be found if only we are prepared to invest enough time or money to find it.

A simple example is determining the quality of the product. If the product is high quality, this will be reflected in the price of the product. Therefore, in the task of determining the quality of a product, the price plays an important role and is not costly to obtain for the buyer. While most common transactions follow this model, very many transactions involve information that is wholly, or in part, difficult or impossible to obtain.

In his seminal article "The Market for Lemons", Akerlof [1] looks at a more complex marketplace that takes into account the fact that buyers and seller cannot afford or are otherwise unable to evaluate the cost of information. He takes his examples from the notoriously complex world of used cars. From his example, we see that the seller knows what the buyer cannot—the true quality and value of the cars. In this scenario, the buyer must guess the value of the product, given enough time and opportunity, the buyer will eventually be able to evaluate the value of the car to a reasonably accurate degree. Unfortunately, time and opportunity are rarely available in an adequate supply in most transactions. This situation leads to the problem that many transactions take place at a great risk.

As long as people have traded with one another, the question of risk has always been there. The risk lay in the uncertainty of whether or not the contracting party will fulfill his obligations according to the terms of the contract. Despite the risks involved, trading has been both a vital and profitable activity. The risks involved have been limited by the introduction of certain mechanisms that can be described as social, legal or technical.

The social mechanism can best be described as the importance of trust and reputation. Trust and distrust are seen as being rational mechanisms in society [7]. This is supported by the fact that the actors, in social science, are often seen as being rational decision-makers and the use of rational choice in trust are based upon two elements. These are (1) incentives of the trusted to behave in a trustworthy manner, and (2) knowledge to allow the trusting party to make the decision either to trust or distrust his counterpart [12].

The rational actor trusts if s/he is granted adequate reason to believe that it will be in the counterpart's interest to behave in an expected manner. This behavior one may expect is dependent upon the time and situation at hand [12]. This is a negative view of trust in the sense that the person trusting trusts other people not to carry out certain action or to fulfill certain actions according to their own interests. This in turn includes the trusting person's judgment of the other person's interests. Some researchers are not