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# Role of trust in e-business success

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**Keywords** Data security, Trust, Electronic commerce, Internet

**Abstract** Success of an e-business rests on many factors. One of the important contributors is trust. Trust is something that an e-business must strive to achieve over a period of time. Acquiring customer trust depends on many things that an e-business controls. However, customer's trust as such is not under the control of the e-business. Some contributing factors for gaining customer trust are: appeal of the Web site, product or service offerings, branding, quality of service and trusted seals. Trust can be viewed from many angles such as transaction, information content, product, technology and institution. This paper analyses the role of trust from the transaction perspective and highlights the things that an e-business could do for building customer trust.

## Introduction

The rapid growth in the Internet use augurs well for e-business. The Internet is a necessary avenue but not a sufficient one for e-business. Two factors that significantly contribute to the success of e-business are the trust people place in the online businesses and how secure they feel in transacting business on the Internet. Trust is something that has to be earned over a period of time. In the real world, trust is gained both by observing the physical structure of the organization as well as by third party recommendations. Trust brings in repeat business, an essential ingredient for success. Security is something that the businesses can strive to provide. There are several tools available to enhance security on the Internet. Secure socket layer (SSL) and secure electronic transaction (SET) are two such tools. Netscape developed SSL to support point-to-point encryption. Visa and MasterCard developed SET jointly, along with several other technology companies, as an open standard to support end-to-end secure online transactions. SSL is widely recognized as contributing to online security and thus is an important contributor for trust building.

The topic of online trust has been studied in the literature from a variety of angles such as transaction, institution, technology, product, and information content. Before analyzing in detail the trust from the transaction perspective, we will review the existing literature on the other trust dimensions specified. Trust is important for all endeavors to succeed, not just business endeavors. Goodwin (1996) points out that trust "is the grease that keeps the wheels turning". She further emphasizes that responsibility contributes significantly to the facilitation of trust. Castelfranchi and Falcone (2000) point out that trust and control go together. They clearly point out that, inherently, trust and control are opposites;



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however, controls on businesses, such as business licenses, are trust-builders (Castelfranchi and Falcone, 2000). In a different sense, Hoffman and Novak (1999) discuss the need for control – they observe, “cyberconsumers feel they lack control over the access that Web merchants have to their personal information”. Consequently, the consumer is hesitant to trust an e-business. Thus, control is an important aspect that must be addressed in building trust. Trust is essential in dealing with uncertainty. In the e-business context the importance of trust increases further because we are dealing with time asymmetry. This means that the consumer is not able to verify in real time a transaction, especially a payment, *vis-à-vis* exchange of product or service for the payment made. Canzaroli *et al.* (1999) point out that institutions rely on using trusted third-party providers to build trust. For example, a consumer buying an electronic product from an unknown e-business feels reassured to see that post-sales service is handled by a trusted name like Sears, a third party in this context. Gambetta (1988) takes a different approach to institutional trust. He observes that trust is subjective and measured with a certain level of probability that someone will perform a particular action.

Jiang (2001) looks at the trust dimension from the technology perspective and observes that two methods available to build trust are PKI (public key infrastructure) and SSL (secure socket layer). Jiang (2001) points out: “The client-server model of the Web poses a fundamental trust issue: clients are forced to trust in secrecy and correctness of computation occurring at a remote server of unknown credibility”. Thus, there is a tremendous need to make the technology dimension trustworthy for e-business success. Dell Computer Corporation has built a solid reputation based on a quality product. Product configuration is made very simple in Dell’s Web site with a wealth of information. It has set the standard for developing e-business trust in the information arena. Thus, trust makes an implicit contribution to the e-business success. On the other hand, Dasgupta (1990) observes that trust does not appear explicitly in most economic models. His observation, “Trust among persons and agencies is interconnected” is quite true but the interconnection should not be construed as one where the onus rests with the merchant. He further notes that there are no set units under which trust can be measured (Dasgupta, 1990). We realize that trust is crucial in the brick-and-mortar (BAM) world for success of the business. The same applies to e-business models as well. Hollis (1998) argues that trust is founded on reciprocity. In the case of a BAM company there are several observable cues that support trust reciprocation. On the other hand, in the e-business world, there are not very many observable cues other than trusted seals of third parties. This is why Hollis emphasizes the need for reciprocity of trust. The e-business merchant has many advantages in this trust model since the merchant parts with goods or services only after payment is made. In most instances the customer cannot defraud the merchant. So the onus of trust rests more on the merchant than the

customer in facilitating the trust reciprocity. This brief survey of the literature shows the diverse facets of trust. In the rest of the paper we will consider the transaction dimension for trust. For facilitating this discussion we will first develop a working definition for trust. This leads us to the work of Mayer *et al.* (1995), who have identified some major issues with trust, such as:

- confusing trust with its antecedents and outcomes;
- failing to clearly understand the relationship between trust and risk; and
- failing to consider both the trusting party and the party to be trusted.

Considering the above observations from a transaction perspective we will adopt the working definition for trust as follows: “the consumer feels confident that the merchant will deliver the product or service paid for, within a reasonable time and with an acceptable level of customer service”. This theme is echoed by Keen *et al.* (2000).

### **Factors contributing to trust**

Trust is not easy to measure. It is developed over time. People trust a business based on their own past experience as well as by third party recommendations. In the world of online commerce the factors that significantly contribute for enhancing transaction trust are:

- easy access to description of products and services;
- ease of placing orders;
- order confirmation;
- order tracking; and
- post-sales service.

These qualities support our working definition for trust. Thus, customers want to feel good about each and every one of these aspects before they form the opinion that the business is trustworthy.

A tree-structured design of the organization’s products and services will enable easy navigation for the customer. There are numerous tools available for Web design to make the site attractive and easy to navigate. Taking advantage of database tools, an organization can easily bring to the Web real time data such as quantity on hand. Organizations such as Amazon.com have contributed significantly to the growth of software that makes placing orders a breeze. Today there are several third party vendors who provide the Web cart facility. The Web cart virtually parallels the practice in the BAM world of product ordering.

Order confirmation is another integral part of replicating the BAM world practice in e-business. This also enables the customer to see what exactly has been ordered. Technology today can easily facilitate the order confirmation. The most common way this is handled today via email. Since shipping takes

place via an independent carrier, order-tracking information usually comes later. This is not a drawback as long as the order tracking information is linked to the order history. The best thing about the order tracking aspect is that the shipper handles this aspect fully. In order to achieve success in building trust the organization should partner with the shipper in sharing information.

Post-sales service is a key component in earning customer loyalty and trust. In e-business, the customer is most likely separated by distance from the merchant and at the same time has access to the merchant's Web site around the clock. This is time asymmetry forces an e-business to rely on its information systems to facilitate post-sales service such as return of merchandise. Any bottleneck in this aspect will be a major factor in losing trust.

### **Role of intermediaries in building trust**

We discussed earlier the need for a smooth process for post-sales service. One way to achieve this is through an intermediary. It has a two-fold advantage. As we noted earlier, many online businesses are unknown to customers. Yet, they have an interest in doing business with the online company because the product or service has a beneficial aspect to the customer. Their primary concern is the lack of knowledge about the business. On the other hand, they have trust in large financial institutions. So they use the financial institution's intermediary role in guaranteeing payment to the merchant and at the same time assuring customers that their satisfaction is paramount. Financial institutions like First Virtual collect the cost of the order from the customer and hold it in escrow for a set period. The merchant is satisfied that the customer has paid for the order. Customers are satisfied that if the ordered item did not meet their expectations then they have a reliable intermediary to mediate. This is a time-tested concept in the BAM world in the form of escrow accounts. First Virtual has adopted this idea to the online business world.

Next, we look at trusted third parties in a different role. These trusted third parties are called "agents". The primary role of agents is to act as intermediaries between several merchants and a whole lot of customers spread all over the world. They are independent and provide their service for a fee. Their intermediary role involves conflict resolution and customer satisfaction. They have to build the necessary information infrastructure in order to perform this intermediary role. They get their exposure to the customers by means of other trusted organizations such as the Better Business Bureau whose seal they are authorized to use.

### **Digital seal and trust**

Around the world, organizations like the Better Business Bureau and the Underwriter's Laboratories have earned the people's trust as independent organizations that look out for the consumer. What they do in the BAM world applies equally in the e-business world. They use their rigorous authentication

means to evaluate a product or service. Once the product or service meets their strict standards, then the organization approves the use of their seal in the business' Web site. The use of such a digital seal in a company's Web site provides a fair amount of trust for the ordinary consumer (Gritzalis and Gritzalis, 2001). This is yet another way for a business to start earning trust.

There is one danger to the use of digital seals. Businesses bent on defrauding consumers can easily copy the digital seal of a trusted organization and place it in their Web site. By the time such an abuse is noted it might be rather too late. The only way to overcome this drawback is to educate the consumers to follow what is done in the BAM world. When a customer is in doubt about the veracity of a business' claim the consumer calls a trusted third party and verifies the reputation of a business in question. The same thing can be very easily done via an online search of the digital seal provider.

### **Trust and security**

So far we looked at various aspects of building trust. An equally important contributor for e-business in general and trust in particular is the security aspect. In the early days of e-business many people shied away from online purchases simply because of security concerns. Thanks to major efforts by Netscape, the concept of SSL was introduced. Immediately, companies like Amazon.com took advantage of the security provided by SSL and grew rapidly. Today many banks and businesses use SSL and other cryptographic techniques to provide secure online services. Another tool available today for enhancing trust is the digital certificate. Digital certificates are unique identifiers provided by organizations like Verisign for individuals and businesses. These digital certificates are electronically verified. Even though this concept is well known, in practice it is difficult to verify the authenticity of the certificate simply because there is no single agency that issues such certificates. In the open environment of the Internet it will be very difficult to achieve consensus on a global scale on the organizations that issue digital certificates. Digital certificates provide a reliable mechanism to trust independent agents. Yet another tool for guaranteeing transaction security is the SET protocol.

Visa and MasterCard, with the support of many technology companies around the world, initiated the creation of SET as an open security standard for secure online communication. It is a network transaction protocol for network-based payment card transactions. The backbone of SET is encryption. SET uses industrial strength encryption to reduce fraud and minimize risk to the parties involved. The main benefit of SET is to facilitate "financial transactions to take place in a trusted and spontaneous manner over the Internet, even between previously unknown parties" (Globeset, n.d.). SET's three principal goals emulate the traditional card-processing environment for use on the Internet. These are:

- (1) authentication;
- (2) non-repudiation; and
- (3) integrity.

Authentication helps identify the user as the authorized user based on digital certificates. Non-repudiation is achieved by the use of digital signatures. A higher level of encryption using the public/private key of the parties involved guarantees transaction integrity.

### A trust model

Our analysis so far shows that consumer trust is facilitated by the existence of a BAM presence for an e-business. Many BAM enterprises use the e-business to augment their business. The key components of this trust model are the trusted seals, security and financial institutions (see Figure 1). Almost all financial institutions involved in e-business transactions have a large presence in the BAM world. This reinforces the model's implication that trust is transferable. Consumers who have trust in a BAM enterprise are willing to translate that trust into an e-business component of the same enterprise. The model also shows the use of trusted third parties in building consumer trust for an e-business. The model shows further that the numerous other e-businesses without a BAM presence have multiple avenues to build consumer trust. These observations complement the conclusions arrived at by Lee and Turban (2001) in their analysis of trust in Internet shopping and by Clarke (2001) in his analysis of e-business trust. Thus, all e-businesses must facilitate trust building in a variety of ways.

### Conclusion

Trust is one of many factors that contribute to e-business success. There are many ways to build trust. It is an ongoing process that never stops. Many of the

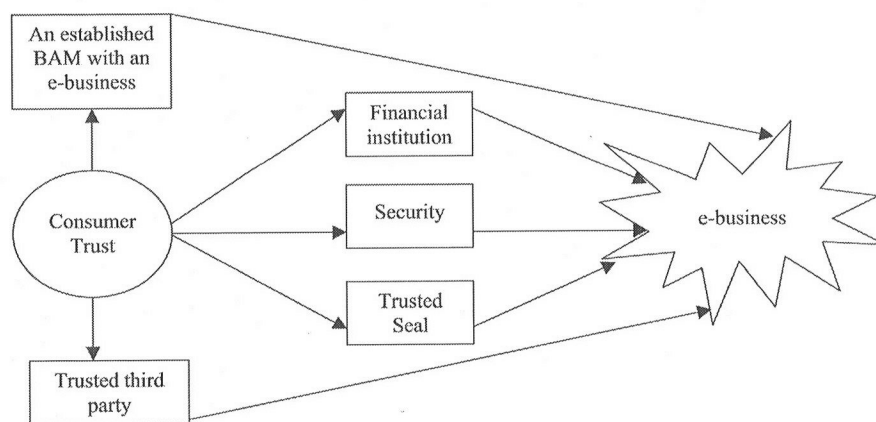


Figure 1.  
Trust model

trust builders that apply in the BAM world apply to e-businesses as well. Since the e-businesses are accessible from anywhere at any time, there are additional impediments in building and maintaining trust.

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