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TRUST ECONOMY: ASPECTS OF REPUTATION AND TRUST BUILDING FOR SMEs IN E-BUSINESS

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Abstract

The lack of direct communication is a problem in E-Business. It often leads to financial disadvantages for small and medium sized companies. This paper investigates the interrelationships between reputation, trust, risk, and costs. It presents a framework combining these four parameters. In addition, it develops a trust building process, a trust cycle, and presents some instruments to engender trust. Companies may consider these solutions to be helpful in order to overcome the lack of direct communication, to build trust between business partners, to understand the interrelationships between the four mentioned parameters, and to avoid financial disadvantages.

Keywords: Trust, reputation, SME, e-business, interrelationships

Introduction

The lack of direct contact in E-Business is particularly a problem for small and medium sized businesses. To date, not a lot has been done on the topics of trust and reputation in the context of E-Business. A recent investigation revealed that from 275 published articles only three were related to the topic of trust (Ngai and Wat 2002).

This paper combines existing E-Business research on the topics of trust, reputation, risk, and costs. As a novelty, it does not only investigate interrelationships between two of the parameters, but also creates a framework to show mutual interrelationships between reputation, trust, risk, and costs.

Based on these findings solutions for the problem of the 'lack of direct contact between business partners' are presented: the aim being to increase trust and reputation. The results could be interesting for businesses that do not have the financial structure to deal with large E-Business staff or to permit experiments in the E-Business area. Mistakes are costly especially for small and medium-sized enterprises (SMEs).

After giving some definitions, this paper describes the situation for companies in the digital economy. It illustrates that lack of trust leads to financial disadvantages. The following paragraph describes the interrelationships between reputation, risk, costs, and trust and builds a framework to combine the four parameters. A brief discussion about the process of building trust leads to some practical advice how to engender trust in order to minimize harm.

There are many different ways how to define **E-Business**. One possible definition is doing business using information and communication technology with or without a re- or new-design of processes. This definition will fit the needs of this paper.

Trust pervades most peoples and business' lives. In nearly every situation we trust somebody or something. Therefore, it is quite difficult to find a definition of 'trust' that fits every case (McKnight and Chervany 2001). In the case of E-Business **trust** can be defined as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party" (Mayer et al. 1995). It is described as "promises, assurances and a demand for high quality products and services. [...] This is because the two parties are not in the same place, and hence we cannot depend on things like physical proximity, handshakes and body-signals"

(Ratnasingam 1998). Trust is an important parameter and research object in many fields, e.g. marketing, organizational study, economics, sociology, and social psychology. Various research results can be classified in terms of disposition to trust, institution-based trust, trusting beliefs, and trusting intentions (McKnight and Chervany 1996; McKnight and Chervany 2001).

Reputation is commonly defined as “the estimation in which a person or thing is generally held”, as “a favorable name or standing” or as “the way in which a person or thing is known or thought of” (Webster 1983, p. 773). Reputation is a way to overcome and to solve the problem of experience goods (experience goods must be experienced by the consumers to value it). “The main reason that we read the *Wall Street Journal* is that we’ve found it useful in the past” (Shapiro and Varian 1999).

A **trustee** is “one to whom something is entrusted” (Merriam-Webster 2002) or for the use in the context of this paper ‘the business partner to trust’. The term **trustor** can be defined as the ‘confider’ or ‘the business partner who gives trust’. As a result from these two definitions it can be said that a trustor gives trust to a trustee.

Risk is the “exposure to the chance of injury or loss” (Webster 1983, p. 786). Its relevance varies over various industry segments. “[T]he risk factors themselves are significantly different in importance, and second, there are significant differences in the perception of risk” (Schoder 2000). Risks of E-Business can be divided into three larger groups: business risk (including legal risk, fraud risk, disruption (denial of service), authentication risk, repudiation of transactions), Internet risk (including monitoring or interception, modification or destruction risk, unavailability), and customer risk (including identity risk, verification risk, virtual con risk) (Jamieson and Baird 1999). From a business’ point of view, risks can be grouped into client risk (uncertainty whether to deal with a unknown business partner), financial risk (value of money that can be lost), and legal risk (institutional deficits) (Schoder and Yin 2000).

The acronym SME (**Small and Medium-sized Enterprise**) tries to group a sort of companies, which are small and medium sized in a special way. Unfortunately this classification is not well defined. For example, it is possible to group companies according to the number of employees or by the annual rate of turnover (Burgess 2002). Within the framework of this paper, the following qualitative definition of an SME shall be used: An SME has up to 200 employees and it is somehow dependent on at least one big company. It has no staff resources of it’s own to handle topics such as ‘Trust in E-Business’. It may therefore suffer from disadvantages compared with big groups that are more likely to have specialized staff positions.

Situation for SMEs

The Internet economy is a fast moving economy. Authenticity and reputation are becoming increasingly important for virtual relationships (Hutter 2001; Castelfranchi and Tan 2001). “The Internet [is] a place in which the rules and knowledge that have informed everyday experiences are not seen to apply and as such is a place of potentially high risk for those that venture in to it” (Rutter 2001). Therefore the new relationship is dangerous for SMEs. On the other hand, trust can be used by SMEs to establish and reinforce a relationship to a business partner or to its customers (Ratnasingam 1998).

Intricate situations for SMEs may be illustrated with the following three scenarios:

- (1) SMEs as customers in a business-to-business scenario:
Large companies will not trust SMEs in the initial phase of co-operation because they are unknown and therefore not trustworthy. Business relationships seem to be more dangerous for the larger companies because of higher risks. The (unknown) SMEs will rarely get a loan or credit from their suppliers. SMEs will get worse delivery conditions than a trustworthy company. The larger companies will pass all risks to the SMEs. They have financial disadvantages.
- (2) SMEs as suppliers in a business-to-business scenario:
SMEs do not have any market power and no well-known reputation. Because of the lack of reputation and trust the risk of trading with SMEs is regarded as high. Larger customers will rarely accept bad shipping and payment conditions from the SMEs. They have to carry financial disadvantages in order to make a contract with the larger companies.
- (3) SMEs as suppliers in a business-to-consumer scenario:
SMEs have no well-known brand name. Customers do not know and do not trust SMEs. They will not buy from online shops owned by SMEs. Using costly ‘benefits’ must catch them. Customers will pass the risk to SMEs. They have to take the financial disadvantages.

Interrelationships

In order to enable SMEs to participate successful in the new economy it is helpful to understand the interrelationships between trust, reputation, costs, and risk. Merz coins the term ‘economy of trust’. He asks for the economic implications of high and low trust (Merz 1999). An economic framework combining the four parameters is presented. This helps to understand what kind of implications an increase in one factor has on the other parameters.

The first interrelationship to evaluate is the one between reputation and trust. A huge competition, privacy concerns and an ongoing battle for attention, uncertainty, and risk are mentioned in order to stress the role of trust and reputation. The interrelationship between reputation and trust is a positive one because “good reputation serves as a means to reduce uncertainty and generate a feeling of trust” (Einwiller and Will 2001). This positive correlation between reputation and trust is depicted in a graph in figure 1 (a). For the ease of use all presented graphs show (limited) linear interrelationships. However, further research may lead to concave and / or convex curves.

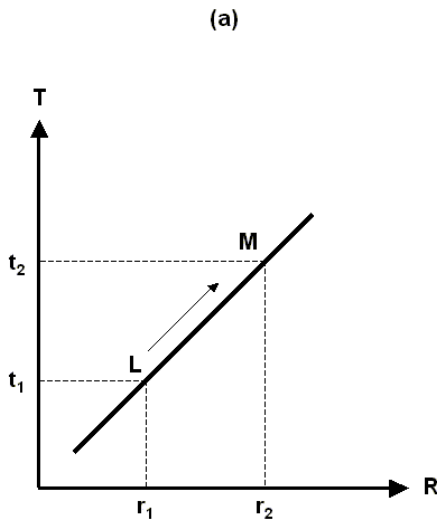


Figure 1. Reputation and Trust

(b) The graph shows reputation R and trust T . An increase of R from r_1 to r_2 will lead to an increase of T from t_1 to t_2 . A movement on the rising curve from point L to point M can show this. It can be said that T is positively influenced by R and that it has an unknown influence by an exogenous variable X (figure 1 part (b)).

$$T = f(R, X)$$

+

In a second step a negative correlation between trust and (perceived) risk is created. If trust in a business partner increases the perceived risk to the partner will decrease. Cheung and Lee propose a measurement model of consumers’ trust in Internet shopping (CTIS). They say that consumers’ trust in Internet shopping is negatively associated with perceived risk in Internet shopping. The presented results act as evidence for this statement (Cheung and Lee 2000). An adoption of the Technology Acceptance Model (TAM) shows that trust is negatively associated with risk. The chancier it is to use a shop the less trust will have the customer in this shop (Pavlou 2001). The mentioned correlation

between trust and risk is shown with a graph (figure 2 (a)).

The graph shows trust T and risk K . An increase of T from t_1 to t_2 will lead to a decrease of K from k_1 to k_2 . A movement on the sloping curve from point N to point O can show this. It can be said that K is negatively influenced by T and that it has an unknown influence by an exogenous variable X (figure 2 part (b)).

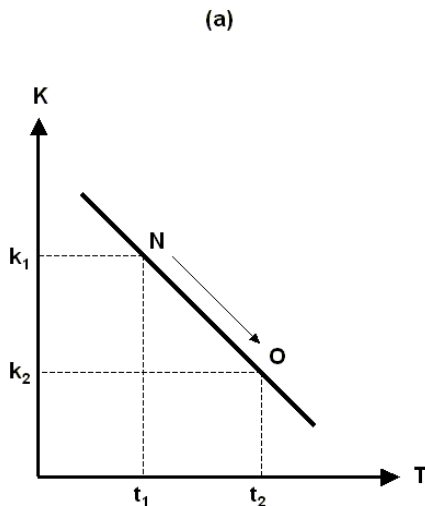


Figure 2. Trust and Risk

(b)

$$K = f(T, X)$$

-

In the next step, the parameters risk and costs are combined. In this context, costs are an expression of the interest rate or the interest paid. Costs increase or decrease by various risks. “Buyers tend to demand compensation for the risk they are exposed to when they transact with less reputable sellers” (Ba and Pavlou 2002). The interrelationship between risk and cost is shown in a graph (figure 3 (a)).

The graph shows in part (a) risk K and costs C . A decrease of K from k_1 to k_2 will lead to a decrease of C from c_1 to c_2 . A downward movement on the rising curve from point P to point Q can show this. It can be said that C is positively influenced by K and that it has an unknown influence by an exogenous variable X (figure 3 part (b)).

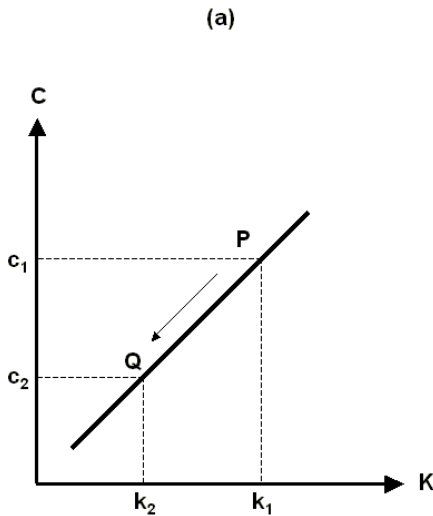


Figure 3. Risk and Costs

figure 4 (a). Although there might be a little confusion, the trend of the graphs was not changed. This combination creates a useful framework. It can be used for the investigation of the influence from one parameter on the other three (Padovan et al. 2001; Pavlou and Ba 2000).

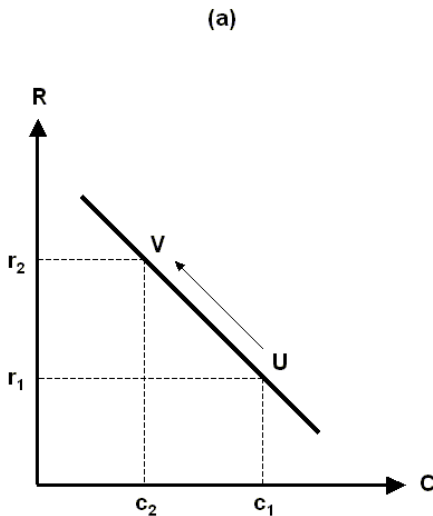


Figure 4. Costs and Reputation

It should be mentioned that there are six possible pairs combinable with four parameters. The presented graphs show deductive dependencies. The two pairs not mentioned (R and K , and T and C) are indirect ones and can be derived as presented in figure 5.

Trust Building Process

The initial building of trust between two parties or business partners can be described by a generic trust building process. In the beginning the trustor has a willingness to trust. He checks the trustworthiness of the trustee. If the trustee is trustworthy, experiences are checked. After a positive check, the actual situation is investigated. If the situation is satisfying, the trustor will check the risk of the investigated transaction. If the risk is not too high, the trustor trusts the trustee. All the parameters will be checked and verified permanently (Wunderli et al. 2000, p. 4).

(b) The fourth correlation is between costs and reputation. It can be said that the better the reputation of a business the lower are its costs (interest rate) and vice versa. This view is supported by (Ba and Pavlou 2002) and (Resnick et al. 2000). The correlation between costs and reputation is depicted in a graph in figure 4 (a).

The graph shows costs C and reputation R . A decrease of C from c_1 to c_2 will lead to an increase of R from r_1 to r_2 . A movement on the sloping curve from point U to point V can show this. It can be said that R is negatively influenced by C and that it has an unknown influence by an exogenous variable X (figure 4 part (b)).

$$C = f(K, X)$$

In a next step, the four graphs (figure 1 (a) to figure 4 (a)) are combined: The axes of T and R from figure 1 (a) are changed. There was a horizontal flip for the K -axis of figure 2 (a) and a combined horizontal flip and a rotation for the axes of C and K of figure 3 (a). In a last step, there was a vertical flip for the C -axis of

(b) Figure 5 part (a) shows R , T , K and C on the four axes. Now it can easily be shown which influence e.g. an increase in trust has on costs. In an initial situation an amount of reputation, trust, risk, and costs is given (r_1 , t_1 , k_1 , c_1). This leads to the square $S_1 = \{L, N, P, U\}$. An increase in trust from t_1 to t_2 leads to some changes on the other axes. The risk decreases from k_1 to k_2 . Reputation increases from r_1 to r_2 . The costs decrease from c_1 to c_2 . This leads to movements in the curves and to a new square $S_2 = \{M, O, Q, V\}$.

$$R = f(C, X)$$

The exogenous variable from the functions in the figures above (figure 1 (b) to figure 4 (b)) can be changed (figure 5 part (b)). R has a positive influence by T and a negative by K and C . T has a negative influence by K and C and a positive influence by R . K has a positive influence by C and a negative influence by R and T . C has a negative influence by R and T and a positive influence by K .

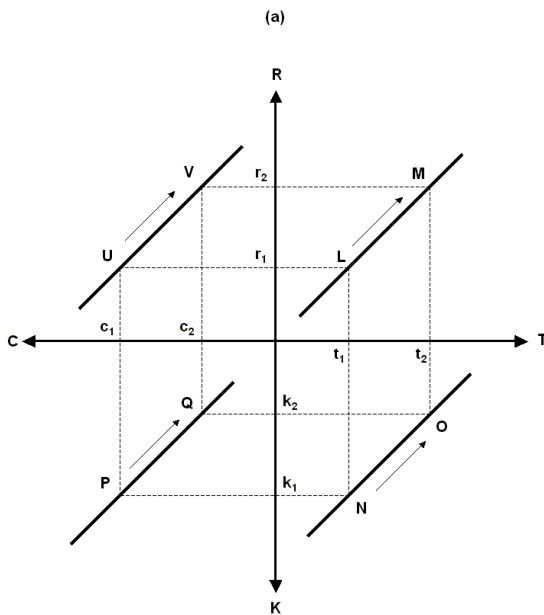


Figure 5. Reputation, Trust, Risk, and Costs

(b) Not only a trust building process but also a trust life cycle for E-Business can be created. It starts with an initial trust formation. In a first step a consumer does not have any trust in a business. After gathering of information, a first transaction takes place. It is based on reward attractions. During the continuous trust development cycle, there is an ongoing evaluation of satisfaction after each transaction. A good and satisfying evaluation may result in more transactions and the customer loyalty is formed. A bad evaluation leads to a drop out due to distrust (Fung and Lee 1999).

$$\begin{aligned}
 R &= f(T, K, C) \\
 T &= f(K, C, R) \\
 K &= f(C, R, T) \\
 C &= f(R, T, K)
 \end{aligned}$$

Building trust and engendering trust have a circle character as outlined above. Thereby a special part is the evaluation process. An important factor is the fulfillment of the promises made. If the promises made by the trustee are kept, the trusting beliefs of the trustor will increase. The updated trusting beliefs are part of the new initial trusting beliefs at the beginning of the trust formation process (Papadopoulou 2001; Abdul-Rahman and Hailes 2000). Figure 6 shows this combination.

It can be summarized that trust in E-Business has to be formed. Once it is established there is an ongoing evaluation on the amount of trust to the trustee. The result of the evaluation will influence future decisions. There is a trust life cycle for long-term business relationships.

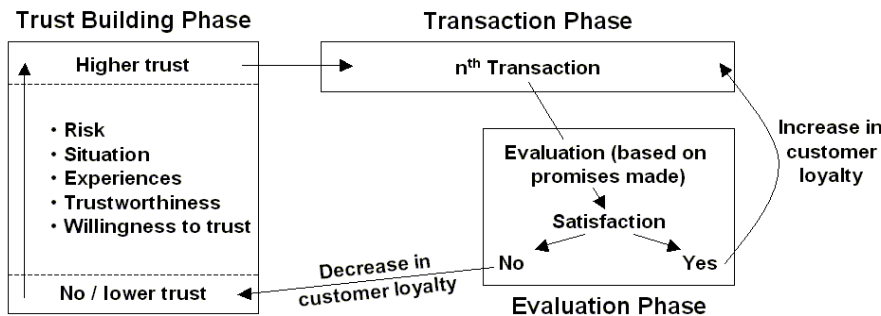


Figure 6. Trust Cycle

Instruments to Engender Trust

Trust has to be created and engendered by SMEs. As shown above higher trust and higher reputation will lead to lower risk for business partners and lower costs for SMEs.

The exchange of experience is a factor to increase trust in new products and services. This supports the life cycle

model of trust presented above (Fuchs and Teutsch 2001). Yee focuses on trust in inter-company partnerships and names several features that lead to trust: competence (the confidence in the business partner's ability), credibility (size and reputation of the firm), integrity (honesty and reliability of the business partner), and benevolence (the courtesy, friendliness or goodwill between the business partners). Additionally, communication is named as a process and principle which helps developing trust and shared values between business partners. Although the features, the principle and the process are meant to be valid for business-to-business situations, they could be useful for business-to-consumer situations, too (Yee 2001).

There are several ways to engender and increase trust. They can be placed within the initial or ongoing trust building phase (figure 6):

- Trust signals
- Trustmarks
- Communities
- Reputation Renting
- Product Testing and Warranty
- Data Ownership

Trust Signals

Corporate branding is a factor in building a trust relationship between business partners. It is “equivalent to a network of positively loaded knowledge about a company stored in the mind of the target groups” (Geissler and Einwiller 2000). One instrument of corporate branding is the use of trust signals. They can be used to build trust and to reduce the risk for the customers and business partners. Trust signals are ‘experience’ (there have been successful interactions with the trustee in the past), ‘familiarity’ (the usage, the graphical user interface and / or the brand name are familiar to the business partner who is now more likely to trust), ‘affiliation and belonging’ (belonging to the group the party to trust also belongs to leads to positive feelings and trust), ‘transparency’ (e.g. a transparent billing process reduces the risk of fraud for the business partner and increases trust), and ‘factual signals and heuristic cues’ (the use of certificates, security statements, experts or celebrities by the party to trust is likely to decrease mistrust) (Einwiller et al. 2000). These signals engender trust between business partners. Nevertheless, there are some requirements, which should be mentioned. The user requires high information quality, i.e. the presented information should be accurate, correct, on time, and useful. For example, an accurate web page should not present wrong or misleading information. By writing the text for a web page, attention should be paid to correct spelling and grammar. The timeliness of the homepage is represented by information that is up to date and timely to the user’s request. The degree of usefulness of a web page is difficult to measure. However, the user’s needs for information or entertainment should be fulfilled.

Another aspect required by the user is an appropriate user interface design. The web interface should be easy to understand, fast and reliable. An interface can be called easy if it is simple to navigate for a target user. A menu bar, search engine or site map may be useful. A quick homepage has fast download rates. It is important to remember that often business-to-consumer customers work with modems and not via a corporate intranet. The reliability of a web site can be secured by avoiding broken links and presenting consistent content (Fung and Lee 1999).

Trustmarks

Trustmarks help to improve the trust relationship between two business partners from an initial lower stage to a higher stage of trust. A trustmark is a logo showing business partners that a trustee fulfils and meets a set of criteria, e.g. security criteria. Some examples of trustmarks are: ADD Secure.net, BBBOnLine (Better Business Bureau), BetterWebSeal, CAP, Clicksure, CyberSeal, DMA, Hackers4Hire, International Computer Security Association, Trust UK, Trust-E, Web Assurance Bureau, Webtrader, and Web Trust (Wunderli et al. 2000, p. 10). With a trustmark, SMEs want to generate trust by showing that they meet the standard of a third party agency (Benassi 1999). This situation can be compared with the first time introduction to a friend of a friend. The trust relationship to our friend is transferred to the friend’s friend. We assume that the new person is not untrustworthy, abusive, etc. “However, the problem arises about why we should trust [trust services] in the first place. These services rely on a previous trustworthy relationship between the consumer and the trust service” (Rutter 2001).

Communities

The use of communities is a similar idea to the use of trustmarks. They help to leverage trust. Members of a certain community will probably trust other members because of shared expectations, demands, and needs (Rutter 2001). They can start a positive feedback loop of trust. Therefore, it is important for SMEs to be part of such a community of trust.

Reputation systems can be used within a community to give feedback about actions and reputation of other members. The system collects, aggregates, and distributes feedback. It is a useful instrument and feedback mechanism for communities in which the business partners do not know each other (Resnick 2000).

Reputation Renting

Reputation can also be rented. This aspect in gaining reputation is especially important for companies trading with one-time products, or not wanting to establish a long term relationship with their customers. SMEs which do not have the time to build a stable and well-known brand as described above may use the reputation of another company. “Reputation is strategically important when a firm is a long-run player or if a product is purchased repeatedly” (Choi et al. 1997). A company can jump on a bandwagon or can sell its articles through another company that has a higher reputation. This strategy is mainly feasible for short-term player or micro-product seller because they have little incentive to invest in long-run reputation building (Choi et al. 1997).

Product Testing and Warranty

A disadvantage for SMEs that sell or trade with information based products is the difficulty to describe these products. The description will not fit the information needs of all the potential customers. A possible solution is to offer downloads of freeware, cripple ware and shareware versions of software products. The chance to test a product increases the potential customers 'willingness-to-pay' and decreases his uncertainties and perceived risk (Hofmann 2001). This decrease in uncertainty will lead to higher reputation, higher trust, and to lower costs for the SMEs. Extended versions of the testing-scenario are compensations for delayed delivery (Shneiderman 2000) and the selling of products with a long-time warranty. A potential customer might become a customer if he knows that he has a widespread right to return the product. A 'cash back warranty' might help in this situation.

Data Ownership

The customers' right to data ownership and to know about privacy practices of a web site or business partner is an additional way to engender trust (Reagle and Cranor 1999). This aspect is due to cultural differences a serious issue in Europe. Most of the customers who are in control of their own information will reward the control giving company with trust (Hoffman et al. 1999). This seems to be a simple way but it differentiates from the traditional business behavior of many companies. Because of the different business practice in the past, it might be difficult for SMEs to convert this idea into daily work.

An example of this situation can easily be given by transferring the behavior of an online bookshop to a bricks-and-mortar bookshop:

After entering the shop, you will be asked for your name, address, etc. Additionally you are set on a mailing list without being asked. The store detective follows you, notices what you look at and for how long. After finding a book, a shop assistant is happy to fetch the book from stock. During this time you are forced to look at advertisements. Before buying the book, you are asked to give credit card details and to fill out a short questionnaire about your interests and shopping routines. This will simplify your next shopping stop in this bookshop. This scenario will perhaps make you feel very uncomfortable. It is because you are monitored all the time in the shop and you have to give many personal details to the shop. You give the data ownership to the shop. (Rutter 2001)

This example shows how easy data ownership is swapped for some kind of personalization. Personalization in this area may be useful but it could again be exchanged for more trust.

This paper has shown some ways for SMEs to gain trust and reputation in the area of business-to-business and business-to-consumer E-Business: trust signals in corporate branding and web interface design, trustmarks, the quick way to build trust by 'renting a reputation,' testing, and data ownership. This list is by far not exhaustive. For example may regulatory actions by the government help to generate trust. However, the above list of points is easy to realize. This is especially important for SMEs in order to gain trust and minimize resulting financial disadvantages.

Conclusion

The lack of direct communication between business partners is a problem in E-Business. It leads to lower trust, lower reputation, higher risk and higher costs. This may result into financial disadvantages for SMEs compared to larger companies. In order to understand the mutual interrelationships between these constructs, this paper presented a framework based on existing research. It combines reputation and trust (positive correlation), trust and risk (negative correlation), risk and costs (positive correlation), and costs and reputation (negative correlation). It is now possible to address all of the variables simultaneously.

On this basis, the paper showed a trust building process and a trust cycle. An important point in this process was the evaluation of customer satisfaction. It leads to an increase in customer loyalty and trust (positive evaluation) or a decrease in customer loyalty and trust (negative evaluation). Additionally, the paper presented some instruments to engender trust: trust signals, trustmarks, communities, reputation renting, product testing and warranty, and data ownership. SMEs may find these solutions helpful in order to overcome the lack of direct communication. Trust can help to avoid the mentioned financial disadvantages.

The single findings on the interrelationships are based on empirical research. The combination of the variables is only deductive and not yet tested. Therefore, validation is needed to support the dependent interrelationships in the framework. On the one hand, practitioners may test the framework, the trust cycle, and the ways to engender trust on usefulness. On the other hand, researchers may validate the interrelationships within the framework in controlled research environments.

If the proposed interrelationships turn out to be correct, the degree of interdependence may be investigated. Relevant questions are e.g. how much trust increases, if reputation increases by one per cent. These questions should be asked for all the presented interrelationships in both ways. The answers might show that the presented interrelationships should not be depicted as linear but as concave and / or convex curves.

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