



# Trust in inter-organizational exchanges: a case study in business to business electronic commerce

Pauline Ratnasingam\*

*Harmon School of Business Administration, Department of Computer Information Systems, Central Missouri State University,  
301A Dockery, Warrensburg, MO 64093, USA*

Received 1 December 2002; accepted 1 December 2003  
Available online 27 April 2004

## Abstract

Given the uncertainties of online transactions, e-commerce encourages the creation of institutional structures for online exchange relationships. Building upon the notion of institutional trust, this research examines how institutional structures develop through governance mechanisms leading to technology trust derived from structural assurances for online dyadic relationships. Technology trust is defined as the subjective probability by which organizations believe that the underlying technology infrastructure is capable of facilitating transactions according to their confident expectations. Using a cognitive process framework, we discuss four perspectives of trust, namely technological, economic, behavioral, and organizational perspectives, to show how technology trust evolves into relationship trust. We examine the impact of technology trust within an inter-organizational dyad between Cisco and Compaq. The findings posit that technology trust contributes and evolves into relationship trust. The study provides evidence on how specific structural assurances in Cisco Connection Online help to build initial online technology trust in B2B marketplaces that in turn promotes relationship trust and builds trustworthy e-commerce relationships. The paper discusses theoretical and managerial implications of this study, while proposing suggestions for future research.

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*Keywords:* Institutional structures; Business-to-business e-commerce; Technology trust; Inter-organizational trust

## 1. Introduction

The Internet, a rapidly expanding global computer and communications infrastructure, has facilitated the emergence of computer-mediated environments that serve e-commerce partnerships [79]. Internet business, in the United States alone, is forecast to increase as high as \$7.3 trillion in 2004 [25]. Previous research

suggests that trust in Internet-based business to business (B2B) e-commerce is an important factor for both practitioners and academicians alike [34,36,42].

Alternatively, the spatial and temporal separation among business partners together with an acceleration of technical changes, have generated implicit uncertainties in B2B e-commerce [9,27]. Technical uncertainties arise from the complexities of e-commerce operations that in turn demand technical skills and knowledge. Previous research suggests that the lack of personal contact and anonymity associated with e-commerce followed by increasing competitive pres-

\* Tel.: +1-660-543-8606; fax: +1-660-543-8465.

*E-mail address:* [ratnasingam@cmsu1.cmsu.edu](mailto:ratnasingam@cmsu1.cmsu.edu)  
(P. Ratnasingam).

asures by businesses to adopt e-commerce have created uncertainties, thereby creating perceived risks from privacy concerns [40,55,64]. This in turn makes the system vulnerable to fraud and increases the need for security services. Parkhe [66] and Ring and Van de Ven [69] identify two types of uncertainties: uncertainty regarding unknown future events (or environmental uncertainty) and uncertainty regarding trading partners' responses to future events (or behavioural uncertainty). Similarly, Mayer et al. [52] pointed out the relationship between trust and risks and suggest two sources of risks. First, risks in the partner who will not behave in a benevolent, competent, honest and predictable fashion, and second, risks that stem from factors outside the relationship that make the decisions significant and uncertain [52].

Uncertainties inherent in the current e-commerce environment give rise to a lack of trust and reliability in e-commerce partnerships, thereby reducing confidence and creating barriers to trade [5,42,76]. Handy [32] suggests that virtuality requires trust to make it work, as technology alone is not enough. Keen [42,p,1] noted, "We are moving from an IT economy to a trust economy." While one group of scholars believe that trust contributes to positive predictable outcomes leading to willingness to belief [2,8,22,33,59,69], another group of scholars have posited that for trust to occur there must be an element of risks and vulnerabilities [13,14,15,23,29,41,46,48,52]. Given the uncertain nature of the online environment, we argue that trust is important for B2B e-commerce relationships.

Zaheer et al. [84] discuss the distinction between interpersonal and inter-organizational trust suggesting that organizations are the subjects of trust as individuals make up members of an organization. This study contributes to inter-organizational trust literature, as the context of this study examines an inter-organizational dyad which is governed by specific structures, and policies. Trust is a multi-dimensional concept and has traditionally been difficult to define and measure Hosmer [37]; McKnight et al. [55]; Rousseau et al. [70]; Sako [72]. We examine trust from four perspectives, namely technological, economic, behavioral, and organizational perspectives. These perspectives focus on how institution-based trust at an organizational level provides structural assurances, and security technical solutions in the form of technology trust

leading to interpersonal or relationship trust focusing on trading partners' interactions, behaviors, motives, and intentions. We then discuss how technology trust evolves into relationship trust applying Doney and Cannon [18] cognitive process framework. From an empirical perspective, this study provides experiential support to previous research on initial trust formation [55,74,85]. The managerial contributions come from the study's findings on the relative effectiveness of technology trust mechanisms that contribute to technical security solutions and provide institutional structures for initial trust formations that in turn increases the awareness of managers.

The purpose of this study is to shed light on the role and nature of institutional structures in the form of technology trust in a dyadic buyer–supplier relationship by providing theoretical and practical insights to the following research question. How does technology trust evolve into relationship trust in B2B e-commerce? Using a cognitive process framework, we discuss the evolution of trust from four perspectives, namely technological, economic, behavioral and organizational perspectives. The rest of the paper is structured as follows. The next section reviews the relevant literature on trust from four different perspectives. We then describe the research method, report and discuss the findings. Finally, we conclude the paper with implications to theory, practice, and suggestions for future research.

## 2. Theoretical development

### 2.1. Trust in business relationships

Previous scholars suggest that trust in B2B e-commerce is relevant and important in exchange relationships. Trust has been related to desirable outcomes including firms' performance, and reduced conflicts [83], competitive advantage [2], Ganesan [24,28,60] and other favourable economic outcomes [18,69]. Trust also reduces transaction costs of an exchange, resulting in efficient transactions [8,31]. Sociologists argue that trust is embedded in the social context of the buyer–seller relationships that modify economic activities and create social capital [21,30]. For example, Fukuyama [21] claims that national efficiency is highly correlated with an exis-

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