

Preface

There seems to be a consensus among academics from across a wide spectrum of disciplines that trust has a significant influence on human behavior and social exchange. Traditionally the face-to-face interactions, general perceptions and recommendations have played an important role in building trust between transacting parties. However, e-commerce thrives on a virtual environment that at times denies some of these physical/social cues to large number of unknown players. This adds to the already existing vulnerabilities of the parties resulting in greater trust deficit. Trust, being a social and psychological phenomenon, has been viewed as a personality trait and most of the existing literature is focused on individual's perspective leaving the organization's perspective largely unexplored. No wonder, most of the work on building trust in e-commerce is confined to B2C segment leaving a lot to be explored in the context of B2B e-commerce segment which accounts for most of the e-commerce revenue and investment. Although, B2B and B2C e-commerce collectively form 90% to 95% of total global e-commerce, they differ significantly from each other in terms of infrastructure and transaction and thus the perspectives of trust in B2B e-commerce may differ from that in B2C e-commerce. The B2B e-commerce infrastructure often requires huge investments in inter-organizational systems focusing on strategic applications such as Supply Chain Management, Procurement, Distribution management, etc. Trust deficit can cost a lot by affecting the utilization factor of such strategic infrastructures and thus, it is imperative for business organizations to make deliberate attempts in building and maintaining trust of the trading partners in B2B e-commerce infrastructure. Technology could provide cues for trust building strategies in e-commerce because it is *the very vehicle on which ecommerce activities are carried out and e-commerce specific trust issues generally arise from the characteristic features of the technologies used to build the e-commerce infrastructure. As the use of technology has considerably increased in B2B e-commerce, it becomes imperative to address the issues of trust that emerge in the context of technology.*

It is in this perspective that this book was conceived and written. It, primarily, focuses on various trust issues that emerge from deployment of various e-commerce technologies in inter-organizational relationships. There are a number of technology-related issues that have been cited to pose challenges for developing trust in B2B e-commerce. Some of these issues relate to security, privacy, authentication, non-repudiation, quality of web interface, system performance and infrastructure, environmental factors. The objective of this book is to examine these technology-related trust issues that may play a key role in determining the levels of trust in B2B e-commerce. This book makes a modest attempt to contribute to the ongoing process of developing a framework for understanding the process of building trust in B2B e-commerce.

This book contributes to the theory, practices and research in the area of trust in B2B e-commerce in a number of ways. It is based on an empirical study of the technology-related practices followed by

106 sample companies using inter-organizational systems for their B2B e-commerce applications and 65 B2B e-marketplaces. The data for the study was collected *during 2007*. *An extensive literature review coupled with inputs obtained during the interactions with chief information officers of some of the sample companies provided the theoretical foundations for a conceptual ‘Trust and Technology Model’ presented in this book. This model attempts to explain the relationship between the levels of assurance (based on the technology-related practices and environment) in respect of various technology-related trust issues and the levels of trust in B2B e-commerce.* This attempt is perhaps the first of its kind that focuses on benchmark practices regarding deployment and implementation of technologies relevant in addressing the trust issues that arise in B2B e-commerce. The empirical evidence presented in the book makes it unique in its scope and approach.

As it seems, none of the previous researches have focused on the practices relating to various technology tools. Another main contribution of this book lies in the fact that it has identified benchmark technology practices, policies and procedures regarding effective deployment and implementation of the relevant technologies that help in enhancing the levels of trust in B2B e-commerce. Further, it also presents a comprehensive list of various benchmark practices relating to each of the technologies that help in addressing the technology-related trust issues identified in the model. Such a list could be useful in planning any attempts in enhancing trust levels in B2B e-commerce.

Another unique feature of this book is the identification of environment related factors influencing the levels of trust in B2B e-commerce and the role of policy makers and professional bodies in this regard. Further, the attempt to incorporate levels of assurance in respect of the technology-related policies and procedures as antecedents in the trust model is another unique contribution feature of this book.

How is this Book Structured?

The book contains thirteen chapters that are organized in three sections as shown below. The first four chapters focus on the concepts, theories and models relating to e-commerce and its adoption by business organizations. The second section, consisting of Chapter 5 to chapter X, relates to the analysis of the technology practices of companies, aimed at addressing the trust issues in B2B e-commerce. The third section of the book contains three chapters that attempt to map the corporate practices with the help of case studies, presents summary of findings, conclusions and suggestions, and proposes a rational policy in this regard.

Section 1: Concepts, Theories and Models			
Chapter 1: Introduction	Chapter 2: Theoretical Foundations and Literature Review	Chapter 3: Trust Theories and Models of E-Commerce	Chapter 4: Trust and Technology Model
Section 2: Technology and Trust Issues			
Chapter 5: Research Design	Chapter 6: Trust Related Technology Practices	Chapter 7: Technology Related Trust Issues	Chapter 8: Technology Related Policies
Chapter 9: Trust and Web interface	Chapter 10: Trust and Environment Related Issues		
Section 3: Strategy and Approach			
Chapter 11: Trust and Technology: Case Studies	Chapter 12: Summary of Findings and Conclusions	Chapter 13: Towards a Rational Technology Approach	

Section 1: Concepts, Theories and Models (Chapters 1- 4)

This section focuses on the rationale, the scope and the context of the book. It offers a framework for understanding of issues that have a bearing on trust in B2B e-commerce. It also presents a ‘Trust and Technology’ model that describes the relationship between the levels of trust and various technology and environment related issues.

Chapter 1: Introduction. This chapter describes the context in which various technology-related trust issues in B2B e-commerce have been discussed in the book. It identifies the issues that literature on B2B e-commerce continues to confront and barriers in the growth of B2B e-commerce. It also raised various questions pertaining to trust and technology in B2B e-commerce, that remain unanswered.

Chapter 2: Theoretical Foundations and Literature Review. This chapter aims at addressing the conceptual issues relating to trust and technology in B2B e-commerce and presenting a theoretical framework based on review of the related literature. It underlines the potential benefits as well as the challenges and constraints in adoption of B2B e-commerce in developing countries like India. It dwells on the conceptual issues relating to the concept of trust, its nature, type, preconditions, constructs and dimensions and the role played by technology in building trust particularly in the context of IT and e-commerce adoption. In a way, this chapter attempts to develop a framework for understanding the issue of trust and how technology can be leveraged to enhance levels of trust in B2B e-commerce.

Chapter 3: Trust Theories and Models of E-Commerce. The literature on the issue of trust and e-commerce adoption has been enriched by a number of models and the underlying theories relating to behavior of individuals and organizations. These models and theories use different approaches and have been applied within organizational contexts to information systems over the years. This chapter briefly describes such theories like system theory, SCOT, SET, ECT, TRA, TPB. It also introduces several trust models adopted by prior research related to the trust in e-commerce and indicates the how the scope of this book is positioned in this context.

Chapter 4: Trust and Technology Model. This chapter presents the framework of analysis used in this book for examination of various technology related factors that have the potential to influence trust in B2B e-commerce. It proposes, a ‘Trust and Technology’ model, which identifies various technology-related trust issues and their inter-relationships. In a way, this chapter provides the broad structure of the discussions and the factors that form the core of this book.

Section 2: Technology and Trust Issues (Chapter 5- 10)

This section is based on an empirical study carried out primarily to identify the technology and environment related trust issues. It describes the research process that was carried out to test the proposed ‘Trust and Technology’ model and the results thereof. It also includes the analysis of levels of assurance maintained by the sample companies with respect to each of the technology related trust issues and the factors that influence the environment related trust issues.

Chapter 5: Research Design. This chapter describes the research approach, sources of data, sample selection, and the measurement instrument used for analysis of the data relating to technology practices. It also a brief profile of the sample companies. This chapter also explains the various variables and constructs used in the analysis of the data collected through the survey.

Chapter 6: Trust Related Technology Practices. This chapter focuses on analysis of various technologies like antivirus, firewall, IDS/IPS, VPN, PKI, etc. and related practices being followed by Indian

companies using inter-organizational systems that have the potential to influence the levels of trust in B2B e-commerce. It also identifies various benchmark technology practices and relates the levels of assurance in respect of each of the technologies with the profile of the sample companies.

Chapter 7: Technology Related Trust Issues. This chapter makes a modest attempt to examine the relationship between the levels of assurance with respect to various technology related trust issues and the levels of trust in Inter-organizational systems.

Chapter 8: Technology Related Policies. In addition to the technology-related practices, adoption of appropriate technology related policies and procedures and communication of such policies and procedures to trading partners might also influence the levels of trust. This chapter discusses two technology-related policies i.e. security policy and the privacy policy and some technology-related procedures like regular review of policies, ethical hacking, formulation of a security team, conduct various awareness and training programs, membership of security regulatory institutions, allotments of certificates from various seals of approvals, etc. It also examines the relationship between levels of assurance with regard to these technology-related policies and procedures and the levels of trust in B2B e-commerce.

Chapter 9: Trust and Web Interface. An effective web interface can induce trust in online environment of B2B e-commerce. The levels of assurance in respect of various dimensions of web interface may determine its effectiveness. This chapter makes an attempt to examine the relationship between the levels of assurance in respect of various dimensions of web interface and the level of trust in both inter-organizational systems and B2B e-exchanges.

Chapter 10: Environment Related Issues. This chapter analyses the perceptions of IT managers involved in B2B e-commerce, regarding the role of socio-cultural environment, technological standards and regulatory framework. Though the data used for the analysis presented in the group of chapters relates to companies in India, the analysis presented is likely to be useful for readers across the globe as the technology-related trust issues are quite common to B2B e-commerce environment in different countries. Due to the more serious infrastructural and social-cultural constraints in developing countries like India, the relationship between these issues and the levels of trust is likely to be stronger.

Section 3: Strategy and Approach (Chapter 11- 13)

This section offers a summary of the findings of the analysis that form core of this book. It also proposes a framework of rational approach towards building trust in B2B e-commerce incorporating the implications and suggestions that emerge from the analysis presented in the earlier sections. Included in this section are two case studies that describe the process related issues in building trust in B2B e-commerce.

Chapter 11: Trust and Technology Case Studies. This chapter contains two case studies illustrating the process related aspects of successful implementation of technologies for the purpose of enhancing trust in B2B e-commerce system among the trading partners.

Chapter 12: Summary of Findings and Conclusions. This chapter offers a summary of findings and conclusions drawn from the analysis with regard to practices, policies and procedures in respect of relevant technologies and the technology related trust issues. It also presents the contributions of the book and the scope of any further research in the concerned area.

Chapter 13: Towards a Rational Technology Approach: Considerations for Building Trust in B2B E-Commerce. The book concludes by articulating a rational technology approach towards building trust in B2B e-commerce, in this chapter. This chapter is primarily targeted at B2B e-commerce managers and is based on the implications drawn from the findings presented in the second group of chapters. It

discusses the ROI in B2B e-commerce and its perceived benefits. Further, it offers certain suggestions to all the related parties with B2B e-commerce i.e. the trading partners, the B2B e-commerce enablers and the policy makers.

This book is expected to be useful to researchers, academicians, B2B e-commerce solution providers and B2B e-commerce managers in various organizations. For the researchers and academicians, the book provides a conceptual framework for trust in B2B e-commerce with a focus on technology-related trust issues and provides clues for future research. Though it is primarily a research book, the analysis of the corporate technology practices makes the book business-oriented. The book is also likely to be equally useful for students and practitioners of e-commerce management. The book is expected to serve as a reference for the students of MIS courses in management and IT stream as it offers the requisite body of knowledge for understanding the technology-related trust issues in B2B e-commerce. For B2B e-commerce solution providers, the book offers a framework for enhancing the levels of assurance in respect of various technology-related trust issues. For the B2B e-commerce managers, the book offers a set of benchmark practices that can help in enhancing the levels of assurance for addressing these issues. Thus, the practicing business and IT managers responsible for managing the e-commerce services may find this book useful in carrying out their responsibilities.

This book is based on a research study carried out by experienced academicians and is expected to shed new insights for researchers; academicians, students and practitioners and improve understanding of complex issue of trust in e-commerce.

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