

## Trust in E-Commerce

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### **Article:**

The Internet is still far from achieving its potential as an e-marketplace due to consumer reluctance to engage in spontaneous transactions online. According to a 2001 McKinsey & Co. research report, lack of consumer trust is a critical impediment to the success of e-commerce [3], a conclusion that's equally valid today [8]. Consumers may fear providing credit card information to commercial Web vendors, simply because they lack enough trust to engage in business relationships involving financial transactions [7].

It follows that many customers may still not trust vendors when shopping online. Thus, it is precisely the development of exchange relationships that are central to understanding the role of trust and trust mechanisms in the context of e-commerce. Trust does not exist in a vacuum; it needs the context of a relationship to develop. Alternately, it is difficult to imagine an exchange relationship that could be developed and nurtured without trust.

While a secure technical infrastructure is necessary, it is not sufficient for creating the trust necessary to generate spontaneous electronic transactions on the Internet. Reliable encryption and authentication methods are common technical approaches to alleviating this problem. Digital certificate technologies (such as eTrust, WebTrust, eCard, and Smartcard) are steps in the right direction. Secure transaction methods using encryption and other technologies have existed for some time, yet the perceived risk of Internet transactions is still significant [8]. As with any innovation, the market needs time to decide for itself about the adoption and diffusion of new trust mechanisms leading to widespread acceptance.

Here, we explore the comprehensive framework we've developed for understanding trust in the context of Internet-enabled exchange relationships between consumers and Web-based vendors in any industry. Our research benefits scholars, business analysts, and Web-based business managers by clarifying the underlying theoretical concepts that decrease perceived risk and increase consumer trust in the context of e-commerce and exchange relationships. Managers need a long-term approach to managing trust and generating a positive consumer experience from each and every Internet transaction.

### **Theoretical Foundation**

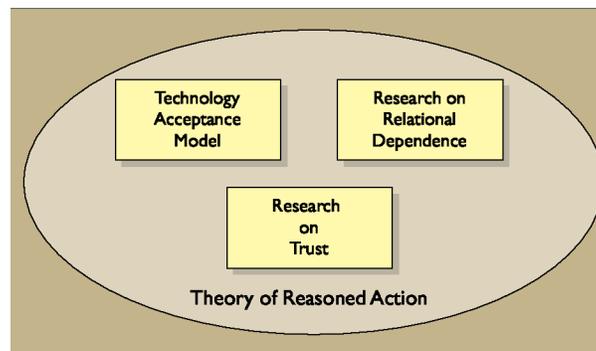
The framework draws on sound theoretical and empirical foundations from four main research streams: the technology acceptance model (TAM) [2, 11]; theories on trust [9, 11]; theories on relational dependence [5, 11]; and how these models and theories are integrated through the theory of reasoned action (TRA) [4] (see Figure 1).

TAM research investigates the adoption, diffusion, and use of technology in business organizations [2, 12], using TRA [4] as a foundation. Research on relational dependence [5] examines issues related to different types of relationships and their characteristics. Research on trust sheds light on this complex and often-illusive concept and its role in the development and maintenance of consumer-business relationships. TRA consists of five main components: external factors, beliefs, attitudes, intentions, and behavioral out-come. The theory,

which is accepted in many fields, including psychology, sociology, and information systems management, identifies external factors, including prior experience and communication, affecting belief formation. Beliefs lead to the formation of attitudes that help determine eventual behavior, including willingness to spend money online.

The consumer-Web-vendor relationship is influenced by consumers' beliefs regarding Web vendors. These beliefs are generally classified as either: usage, relating to perceptions of a vendor's Web site, and trusting, relating to the vendor's trustworthiness. Distinguishing them [6, 9] makes it easier to develop specific interventions for each one. Additionally, managers may develop a comprehensive approach to external variables that may affect different belief classes and user attitudes and intentions. For example, consumers who have had a favorable experience at [Amazon.com](http://Amazon.com) are likely to develop favorable attitudes toward the company, along with intentions to visit its Web site again. A favorable usage experience, coupled with a trustworthy evaluation of the site, may lead consumers to purchase from [Amazon.com](http://Amazon.com). Continued favorable buying experiences can then yield a more long-term exchange relationship with this Web-based vendor.

Consumer beliefs influence the formation of attitudes toward a Web site and the perceived trustworthiness of the organization behind it. Attitudes yield intentions to use the site, leading to actual, confirmable visits. Favorable usage experiences lead to development of an exchange relationship with the vendor that may subsequently evolve from transactional to long-term. Managers can proactively manage this transition by ensuring improvements in the usage value of the site and nurturing trust development. Figure 2 outlines the components of a comprehensive framework for managing e-commerce exchange relationships in a trusting environment.



**Figure 1. Foundation of the proposed trust-building framework, including three research streams unified through the theory of reasoned action, relating consumers' beliefs and attitudes on trustworthiness toward Web vendors.**

A number of factors shape consumer beliefs, attitudes, and intentions bearing on trust-based consumer-vendor relationships in the context of e-commerce (see Figure 3):

*External variables related to Internet use.* Prior experience in Internet use and online relationships is an important factor in the formation of consumers' usage beliefs. A lack of Internet use obviates the issues involved in developing meaningful exchange relationships over the Internet.

*Internet usage beliefs.* Two usage-related beliefs—perceived usefulness and perceived ease of use—explain the formation of attitudes about using IT for business [2]. Studies that applied TAM to e-commerce [6, 8] found TAM effective in explaining a significant part of attitude formation and usage intention for consumers visiting and using vendor Web sites [7]. Perceived usefulness reflects the extent to which users are able to find relevant and useful information at particular Web sites. These factors have strong implications for designing sites that are able to manage these perceptions and the subsequent formation of attitudes and intentions.

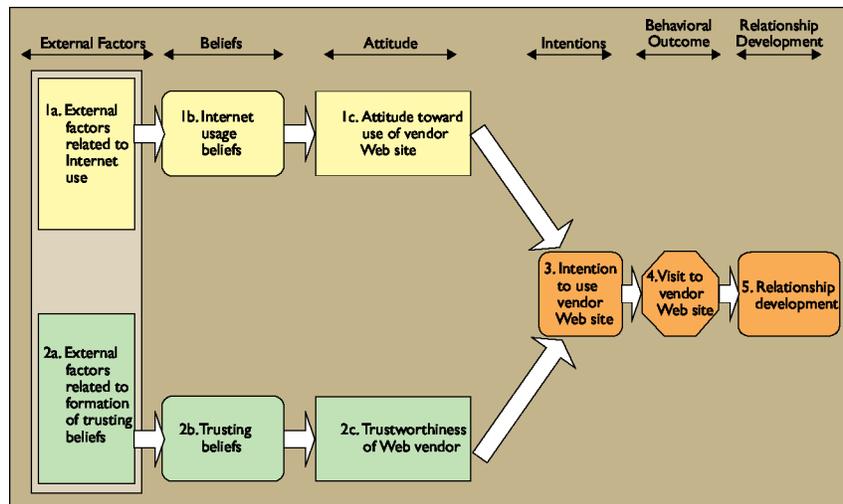
*Attitudes toward a vendor's Web site.* Attitudes develop as people make judgments based on usage beliefs. Usefulness, along with beliefs about ease of use, contribute to the formation of consumer attitudes—and intentions—toward using a particular Web site [6].

A number of factors influence formation of trusting beliefs about Web vendors:

*External variables and the formation of trusting beliefs.* Past experiences (good and bad) influence future consumer decisions about dealing with specific vendors and are the basis for brand loyalty in returning customers. The lessons learned by consumers are reinforced by vendor communications, advertising, newsletters, product brochures, and promotions. Other reinforcement factors include third-party sources (such as news reports, product evaluations, safety issues, and product recalls) not under the vendor's direct control. First-time visitors to a Web site tend to rely on such information when deciding whether or not to interact with and ultimately buy from a particular Web vendor. Both external and internal sources of information influence belief formation [4].

Consumers' disposition to trust, along with institution-based trust, further influences the formation of trusting beliefs. Some consumers exhibit a greater disposition to trust anything and anybody and are more likely to trust a Web vendor despite having only a limited set of information. Others require more information to form trusting beliefs. Institution-based trust creates an environment conducive to the formation of trusting beliefs. Institution-based trust relates to the trust environment produced by the legal institutions providing oversight, recourse, and remedy, and by banks and financial institutions guaranteeing transactions [10].

These external variables, along with prior experience in Internet-based exchange relationships, related communications, disposition to trust, and institution-based trust have a direct effect on consumers' trusting beliefs about Web vendors. They produce an environment that either allows trust to develop or ultimately undermines that trust.



**Figure 2.** *Components of the e-commerce exchange relationship development framework.*

### Trusting Beliefs

TRA suggests that four trusting beliefs determine consumer attitudes of trustworthiness toward Web vendors:

*In the benevolence of the vendor.* This belief involves consumer perceptions of characteristics demonstrated by the vendor (such as good will, caring, responsiveness, and concern).

*In the competence of the vendor.* This belief involves consumer perceptions of characteristics (such as honesty, credibility, reliability, dependability and discretion) demonstrated by the vendor. Belief in integrity captures concerns related to privacy and subsequent use of consumer information by the vendor. A vendor's compliance with consumers' beliefs about integrity implies explicit and careful management policies to protect financially

and legally sensitive information. Consumers' belief in the integrity of the vendor is a contributing factor in their trust in the vendor. In a 2002 study, [1] presented empirical support for these components of online trust in the context of individuals' trust in online firms.

*In the competence of the vendor.* This belief implies perceived competence in its product design, manufacturing, order processing, delivery, after-sale service, and customer problem solving. A vendor's continued response to emergent consumer needs through new product design and better technology reinforces this belief; for example, Dell Computer is generally viewed as demonstrating its competence through innovative and high-quality products, on-time delivery, and competent after-sale service, leading to consumers' belief in its competence.

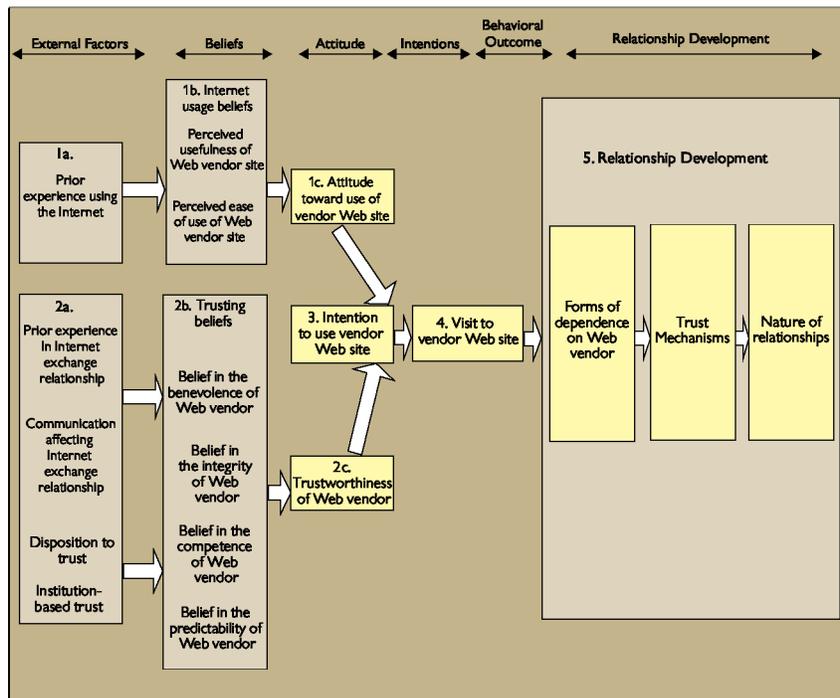
*In the predictability of the vendor.* This belief involves perceptions of predictability and consistency in the vendor's actions, reducing perceived consumer risk; for example, [walmart.com](http://walmart.com) has consistently adopted the "Always Low Prices. Always" mantra of its parent company, inspiring the same predictability beliefs in consumers at [walmart.com](http://walmart.com).

Without actual visits, there is no opportunity for either financial transactions or for the development of exchange relationships between vendor and consumer. For consumers, the beliefs help determine three consequences of a vendor's trustworthiness:

*Consumer evaluation.* Trust-worthiness is a consumer's judgment-based evaluation of a vendor, whether the consumer perceives the vendor as worthy of trust in a transactional relationship in which the consumer might be required to share personal and other sensitive information with the vendor.

*Intention to use a vendor's site.* The intention to use a vendor's Web site implies a consumer's willingness to go there and seek information or perform commercial transactions.

*Actual visits to a site.* Research supports the notion that intention is a positive indicator of behavior involving IT [12]. A consumer deliberately visiting a Web site is critical to the ultimate formation of an Internet-based exchange relationship.



**Figure 3.** Components of the conceptual framework in the context of e-commerce.

## Relationship Development

Participating in an e-commerce relationship assumes some amount of consumer dependence on the Web vendor for products or services. It also involves some amount of risk. Trust mechanisms help people cope with the risks inherent in specific types of relationships. The type of dependence determines the formation of specific types of relationships that are in turn influenced by specific types of trust mechanisms. Knowing the nature of the dependence and the trust mechanism being employed, a vendor can manage the initial information-seeking relationship with consumers. It might then evolve into a transactional (short-term) or relational (long-term) relationship, provided the vendor takes the steps necessary to ensure the usage value of its Web site while nurturing the consumer's trust.

Market-pricing relationships are shallow dependence relationships [5]. Consumers make one-time purchases but never again visit the vendor's Web site. The mechanism necessary for producing trust in shallow dependence is sometimes called "calculative" or "deterrence based" [11]. A broader view involves fear of punishment for violating trust and the potential rewards from preserving it. Deterrence-based mechanisms include: the benefits and costs of staying in the relationship; the benefits and costs of cheating on the relationship; and the benefits and costs of ending the relationship. In shallow-dependence relationships, consumers may use a deterrence-based trust mechanism to calculate whether or not to get involved with a Web vendor, as well as what form the relationship might take.

Deterrence-based relationships in e-commerce are often based on getting information or knowledge-based service from a Web vendor. Consumers who find a Web vendor to be trustworthy may then engage in a transaction with its Web site. If that experience is good, the relationship will continue and may evolve from shallow transactional toward deep dependence.

In deep-dependence relationships, deterrence-based trust evolves into an obligation-type trust mechanism, facilitating development of a long-term relationship. "A contract is a mental model people use to frame events, such as promises, acceptance, and reliance" [11]. Obligation-trust mechanisms are based on "psychological contracts" that rely on mutually perceived obligations. They develop in deep-dependence relationships in which consumers expect certain behaviors from a Web vendor. If these expectations are consistently met and the contracts honored, consumers are more likely to develop the trust in a vendor required for a long-term exchange relationship. Web vendors find it financially beneficial to cultivate long-term customers in order to leverage knowledge of their needs and requirements and provide more customized products and services.

## Conclusion

The framework we've explored here highlights the importance of nurturing consumer trust in the context of e-commerce. Trust is a complex social phenomenon reflecting technological, behavioral, social, psychological, and organizational interactions among human and nonhuman technological agents. Technical approaches to establishing credibility and integrity are necessary but not sufficient for creating long-term trusting relationships between consumers and online businesses. Web vendors must align both their long-term and short-term relationships with consumers and develop interventions to inspire consumer beliefs that affect their attitudes, intentions, and dependence, and ultimately their willingness to spend money.

Managers must address the factors affecting different belief classes to establish the trustworthiness of their organizations. Without taking a comprehensive view of how consumer trust evolves and how it relates to specific actions, the desire by businesses to establish trusting relationships with consumers is like groping for a solution in the dark. Our proposed model, grounded in existing theories, provides the first steps toward understanding these issues.

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