



# The development of initial trust in an online company by new customers

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## Abstract

Lack of trust in online companies is a primary reason why many web users do not shop online. This study proposes a model to explain how new customers of a web-based company develop initial trust in the company after their first visit. The model is empirically tested using a questionnaire-based field study. The results indicate that perceived company reputation and willingness to customize products and services can significantly affect initial trust. Perceived web site usefulness, ease of use, and security control are also significant antecedents of initial trust. Finally, we found no support for the hypothesized effect of individual customer trust propensity on initial trust.

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## 1. Introduction

While B2C electronic commerce is no longer a new phenomenon, our understanding of the many factors that affect transactions between online companies and customers is still limited. The number of web users grows daily and has surpassed the 500 million mark [81]. However, only about 15% of those users make purchases online [84]. A primary reason for that is their lack of trust in companies that they only experience through the web medium [34]. Trust in the web-based vendor is one of the critical factors of success in online commerce [86]. The virtual nature of the web medium challenges traditional understanding of customer trust and calls for new and more appropriate models. Customers no longer interact with salespeople

or have a direct physical experience with the store and its products. Instead, their experience is mediated through the web, a two-dimensional graphical display without any face-to-face interaction with human representatives of the company. Since the development of trust often depends on direct physical experiences with the company's store and its salespeople [22], it is unclear how online customers develop the same feelings of trust towards the web-based companies they visit. Therefore, it is imperative, for companies and researchers alike, to study how online customer trust is promoted and cultivated.

The vast majority of studies published on online customer trust have focused on general trust as it develops between customers and companies over time and after repeated experiences. While we recognize the importance of the evolving nature of trust, our study focuses on *initial* trust beliefs that develop after a customer has a first experience with the company's web site. The difference between the two concepts

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may be subtle but, as we discuss later, it is significant, especially in the online environment.

The concept of trust has been studied in diverse contexts, by researchers from various disciplines and backgrounds, and as a result, there are manifold definitions of trust [26,28,45,49,52,56,78]. The attempt to distill a precise definition of trust from past research is challenging but the literature does reveal that the concept of trust tends to coalesce around a few key recurring concepts. First, as noted by various authors [22,40,52], there must exist, for the trusting party, uncertainty about a potential or existing relationship—business, social, or otherwise—that leads to a certain perception of risk or vulnerability. Second, this perception of risk is generally based upon the beliefs regarding the ability, integrity, and benevolence of the trustee [52,54]. Ability concerns the skills and competencies of the trustee in a specific context, related to the trusting party. Integrity implies that the trustee follows moral and ethical principles that are acceptable to the trusting party. Benevolence concerns the degree to which the trustee has goodwill towards the trusting party [52]. Perceptions of these three characteristics can lead to a willingness of the trusting party to depend or rely upon the trustee in the expectation of a certain beneficial outcome or that the trustee will not act opportunistically [39]. This willingness to rely on a third party is how we define trust in this paper and is consistent with how trust has been previously defined in the literature [27,28,38,39].

As we mentioned above, our study concentrates on *initial trust*. The definition of trust that we have previously discussed also applies to initial trust. The difference lies in the temporal context of the development of trust. In our case, initial trust is the willingness to rely on a third party after the first interaction with that party. We recognize that the development of trust is an ongoing, dynamic process that is influenced by successive interactions between two parties. However, we believe that initial trust beliefs can also be formed without any prior experience or interaction between the two parties. Those initial trust beliefs may change with time and with repeated interactions but they may also determine the extent to which such future interactions will take place [55].

In the context of web-based commerce, initial trust is very important. Web-based companies must rely on their web sites to represent them and to show their new

customers that they are trustworthy and reliable before they can prove that with their products or services. Customers visiting a web site for the first time may rely heavily on web site cues and company reputation to form their initial trust beliefs, but will lack the “credible, meaningful information” that develops through interaction over time [55].

Another important reason for establishing customer trust after the first web site visit is the possibility of low switching costs for new customers [67]. In combination with the vast number of alternatives in both vendors and products that exist on the web, it may be very easy for customers to decide to switch to a different online store after their first visit. Establishing a trusting relationship with them could be essential for companies to retain first time customers. Therefore, we believe that a thorough examination of the factors that promote initial trust in new customers of online companies is critical. Our study tests some established antecedents from the general trust literature as well as two new factors that we believe can have a major impact on initial trust: perceived willingness of the company to customize and perceived security control of the web site.

## 2. Prior research on trust

Recently published papers have presented both theoretical and empirical research on customer trust online. Conceptual papers have explored the different technologies and mechanisms already used online to promote trust. These include, among others, trusted third parties [60,87] and online reputation systems [42,68]. Other articles have proposed new methods of increasing trust online such as agents and virtual reality technologies [11,61], economic incentive mechanisms [5], government involvement [72], and video-conferencing [59]. There have also been some studies that developed new theoretical models of trust online without empirically testing them [25,66]. One example is of a generic model of trust that consists of two basic components: trust in the other party and trust in the control mechanisms used to ensure successful transactions [83]. Such control mechanisms include encryption protocols like the Secure Sockets Layer protocol or trusted third-party seals like BBB Online and Trust-e.

Empirical research has provided a more detailed understanding on the factors that promote and sustain trust building between customers and companies in web-based commerce. Since the early years of commercial use of the web, online customers have been reluctant to buy online due to their distrust of the security of online shopping and their concerns about privacy regarding personal information collected online [34]. However, online customers are likely to trust a company if they perceive it as being large in size and having a good reputation, though, as research has shown, size may be more relevant for certain types of companies or products such as travel sites [38,39,62]. Overall, trust has a positive effect on customer attitude towards the company and customers who trust a company are more likely to buy from its web site. This effect can be direct or can be mediated through a decrease of customer perceptions of risk when transacting with the company [39,62].

Several empirical studies have also developed measurement instruments for online customer trust [8,14,46,54]. Most often, trust is measured through the customer's beliefs in the company's integrity, benevolence, and abilities [8] though in some studies those beliefs are tested as antecedents of customer trust [46]. One such study reported the development and testing of a complex, multidisciplinary, and multi-dimensional measure of trust in web-based commerce [54]. The model includes four constructs that measure customer trust: disposition to trust, i.e. trust propensity; institution-based trust, i.e. trusting the infrastructure and institutions of e-commerce; trusting beliefs, i.e. specific beliefs about the web company's integrity, benevolence, and competence; and trusting intentions, i.e. intention to engage in trust-related behaviors with the company such as making a purchase. According to the study, each of the four constructs is measured well by a number of sub-constructs and the results partly support a model of web trust with the four constructs.

A more recent article reported a study of the role of the Technology Acceptance Model (TAM) in the development of trust in online shopping [29]. Using experienced online shoppers, the authors found that perceived ease of use of the web site can increase trust in the vendor, which in turn can increase perceptions of the usefulness of the site. The results also showed that online trust increases when customers believe that the vendor has nothing to gain by cheating and that the

web site is safe and has a typical interface. At the end of their paper, the authors call for further research that examines the development of trust in new customers as opposed to the experienced return customers they used in their study. Such a study would examine the development of initial trust beliefs. It is that type of initial trust formation that we investigate in our study.

To our knowledge, only two other studies have concentrated specifically on initial trust in web-based commerce. The first study looked at trust transfer on the web between web sites [79]. The authors found that when web customers perceive high interaction and high similarity between two web sites, one they already trust and one that is unknown to them, they are more likely to trust the unknown web site. This is due to the transfer of their trust beliefs regarding the known site to the unknown one. The authors used initial trust in the web site as their target variable. While they controlled for factors such as ease of use and graphical sophistication of the web site, they did not directly hypothesize or test their significance. In addition, their measure of trust was associated with the web site and not the company itself.

The second study tested empirically the factors that may influence initial trust in a web-based company [55]. The authors tested a trust building model for new customers of a fictitious legal advice web site and found that perceived company reputation and perceived site quality both had a significant positive relationship with initial trust with the company. However, the authors acknowledged that their model may not extend to consumer product web sites and called for additional research in that area.

Our study examines the development of initial trust for new customers of web-based companies that sell two types of products: laptops and airline tickets. We chose these two products for several reasons. First, as we just mentioned, there has not been a study of initial trust with consumer product web sites. Second, both airline tickets and laptops are big ticket items which carry more inherent risk for customers, therefore increasing their level of uncertainty and making initial trust in the company more important. This is especially significant for our study because one of the antecedents we test is perceived security control of the web site, a new variable that has not been previously tested in the context of initial trust online. The more money customers expect to pay online, the more, one

would expect, they would be concerned about the security of the web site. Finally, we test a second new variable in our model: perceived willingness of the company to customize its products. Both airline tickets and laptops are products that are easily and often customized by customers. Customers can customize the dates, times, number of stop-overs, and even seat numbers for plane tickets and they can customize the entire hardware and software configuration of laptops.

### 3. Model and hypotheses

Our model, seen in Fig. 1, consists of a number of factors that can affect initial trust in a company. These factors deal with both perceptions about the company as well as perceptions about the web site. The effect of perceptions regarding the company on customer trust beliefs has been documented both online and offline

[22,39]. Our model includes customer perceptions on company size, reputation, and willingness to customize. The effect of web site perceptions has also been documented [55]. While in offline commerce it is the salesperson that often influences the buyer's trust in the seller [22], online it is the website that does that [48]. Therefore, one would expect that the customer experience with and perceptions of the web site would also have a strong effect on customer trust in the company. Our model includes customer perceptions on the web site's usefulness, ease of use, and security control. While some of the factors included in our model, such as perceived size and reputation, have been shown to have a positive relationship with customer trust online, they have not been tested when customers are unfamiliar with the web site. We propose and test the relationships between these established trust antecedents and initial trust in the company by online customers.

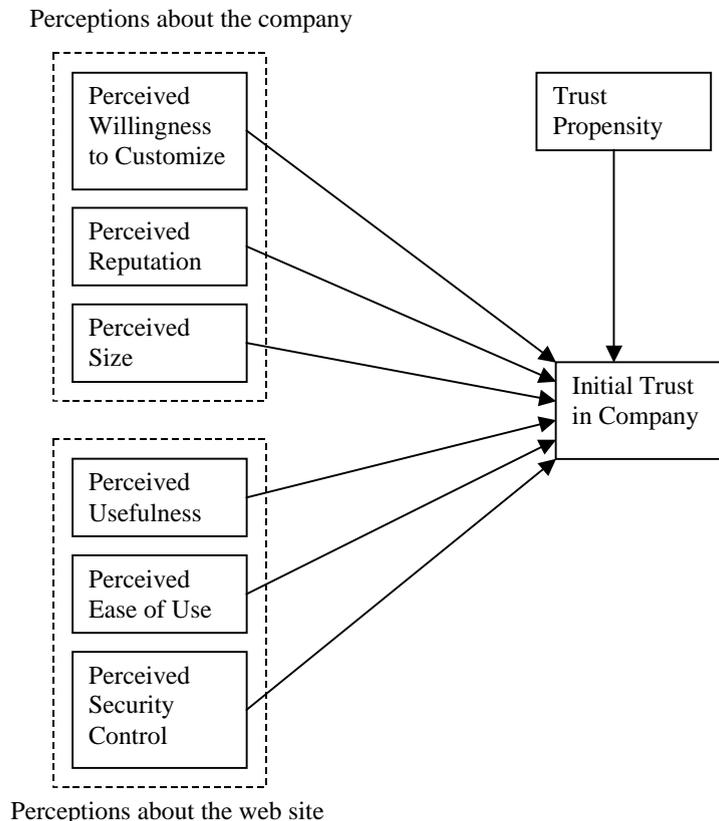


Fig. 1. Research model for initial trust in company for new customers.

Starting with customer perceptions regarding the company we look at company size. *Perceived size* is defined as how large customers perceive a company to be. Perceived size can increase trust in the company, as research in offline commerce has shown [22]. Customers often assume that a large company has the capabilities necessary to provide them with the services and support they desire, thereby increasing their trust in the company [15]. Also, large size may indicate to customers that the company is better able and more willing to compensate them in the case of product failure, especially since it has invested more on its reputation in the market [39]. The relationship between perceived company size and customer trust in web-based commerce has been examined in one empirical study. According to the study's findings, company size had a positive relationship with customer trust when the online company was an air travel service but it had no relationship with trust when the company was an online bookstore [39]. One reason for the difference may be the inherent low risk in book buying as opposed to travel buying.

Since only one study has empirically tested the effect of perceived size on trust and it used a general definition of trust regardless of its temporal nature, we feel that it is essential to examine the relationship between perceived size and initial trust. Given the prior evidence on the positive relationship between size and trust in offline commerce as well as the limited evidence in the single study in online commerce, we expect the same to be true for initial trust online. In addition, as [39] has shown, the effect of perceived size may be especially significant for big ticket items such as expensive laptops and airline tickets that we use in our study. Therefore, we hypothesize the following:

**H1.** Perceived company size is positively related to initial trust in the company.

Customer trust can also increase significantly when the company is perceived to have a good reputation [22,39]. Building a positive reputation is a difficult, expensive, and time-consuming process that requires a great deal of consistent relationship-enhancing behavior on the part of the vendor towards its customers. It is a process that can easily become undermined, and any positive efforts outweighed, by a few missteps by

the firm, in which it is perceived to be acting in an unfair, dishonest, or otherwise disreputable manner. As a result, people generally believe that firms that have established a positive reputation will be reluctant to squander those efforts or risk their reputation-building investments by pursuing opportunistic, short-term gains at the expense of their customers [18,85]. In short, a company that acts in a manner consistent with creating a positive reputation, especially when it has been established, has incentive to continue to do so, and as a consequence, people will consider reputation to be a reliable variable upon which to assess trust in the company.

It has been suggested that reputation is readily transferable among firms [27] and, by extension, individuals, meaning that an individual tends to easily accept the generally held view regarding the reputation of a company and to use it to form an opinion regarding trust in that company. If several others believe that a company has a certain degree of honesty, integrity, fairness, and so on then an individual is likely to assume those qualities about the company as well and use them to determine the extent to which he or she can trust the company.

In this paper, we define *perceived reputation* as the degree in which people believe in the company's honesty and concern towards its customers, which is similar to the definition used in a study regarding the offline environment [22]. This definition is consistent with the notion that trust can be determined by a belief in the firm's benevolence towards its customers, a belief in the integrity regarding a firm's business practices, and the perception of the ability of the firm to deliver on its promises [52]. The relevance of reputation in the online context has been further established, as evidenced by the success of reputation-feedback systems used by eBay and other online auctions. Feedback information influences buyer trust and behavior while the expectation of additional future business, and the threat of retaliation from dissatisfied buyers, influence seller behavior [4,68].

The positive relationship between reputation and initial trust has been shown in the online environment in one other study [55]. McKnight et al. [55] manipulated the perceived reputation of a fictitious legal advice web site by telling some of their subjects that an ad for the site mentioned that the law firm running the web site was rated among the top 50 in the nation.

They found that perceived reputation had a significant positive effect on both trusting beliefs in the company as well as trusting intentions toward the company for new customers. However, the study used a fictitious legal services web site. We believe that it is important to examine this relationship for other types of web sites as well, such as the customer product web sites used in our study. We expect that the relationship between perceived reputation and initial trust online will also be positive in this case. Therefore, we hypothesize that:

**H2.** Perceived reputation is positively related to initial trust in the company.

Customization has been a buzzword in electronic commerce from its early beginnings [47,70]. Innovations such as recommender systems, personalized home pages (e.g. My Yahoo), and news tickers have made it easy for online companies to provide customized information tailored to each individual customer's preferences and needs. Recently, however, companies have also started to offer mass customization of physical products. These companies have been offering individually customized products on a very large scale, using the latest Internet-integrated manufacturing and distribution technologies [91]. For example, Nike allows its customers to customize their own shoes at NikeID (<http://nikeid.nike.com>). Also, Reflect.com allows customers to create their own customized cosmetics, from perfumes to mascara. Lands' End provides customers with the option of buying custom tailored chinos and jeans through its web site [36].

We define *perceived willingness to customize* as the customer's perception regarding the readiness of the company to provide customized products or services to its customers. A company's willingness to customize its services has been shown to be a positive antecedent to customer trust in offline commerce [22]. One reason may be that a company that provides customized information or services, signals to its customers that it cares about them and that it is willing to make an extra effort to provide them with the best service possible. Companies that offer mass customized products enable customers to fill their "sacrifice gaps," the difference between what customers really want and what the mass production

market offers [7]. The result can be an increase in customer loyalty [90].

Customers may also interpret the willingness of a company to customize its products and services as an indication of the company's capabilities, a key antecedent of customer trust. This is especially true for consumer products. In that case, customization implies large investments in manufacturing technology that enables such customization. For example, Nike's eight factories that make customized shoes had to go through a 6-month multi-million dollar reconfiguration [41]. Customization, especially on a mass scale, also implies logistical and distribution capabilities that enable the customized products to be efficiently delivered to the right customers. A new customer looking for cues to develop initial trust in the company would likely be positively affected by a company's willingness to customize its products or services.

A crucial factor for the success of mass customization is the elicitation of customer needs [91]. Customers are asked to communicate with the company and provide it with specific information as to how they want their product customized. This information can range from individual measurements, as in the case of custom fit apparel, to the type and size of processor, as in the case of a customized laptop. In this way, customers are transformed from passive to active participants in the product development process [90]. At the same time, a company that allows customers to customize its products on its web site must provide a lot of detailed information on the product configurations, such as the types of network cards on a laptop or the types of soles in a shoe. If new customers who visit a company's web site for the first time see that the company is willing to customize its products and services for them, they may perceive this as an opportunity and an invitation to communicate their specific needs to the company and they may feel that the company is communicating more information about its products to them. We know from the trust literature that information sharing between two negotiating parties can increase the climate of trust between them [9]. In studies of offline buyer–seller relationships, communication has been found to significantly increase buyer trust in the seller [3,74]. Therefore, mass customization may increase customer trust due to its inherent need for interaction

and communication between the company and its customers.

For certain products and services, such as computers or travel, it is becoming increasingly the case that customization is no longer a value-added or luxury service offered by a selected number of companies. It is often the case that customers expect companies to allow them to customize their computers or their travel arrangements, just as they expect to have the capability to receive customized information and services from online publishers [71]. Therefore, for certain products and services, customization may fall under the definition of *situational normality* online. Situational normality concerns the expectations of customers as to what is normal for a company and is defined as “an assessment that the transaction will be a success, based on how normal or customary the situation appears to be” [29]. When customers encounter web sites where things seem to be normal or customary and their interaction with them has no unexpected elements, they are more likely to trust the company that owns that site [29]. The same may be true for new online customers when it comes to customization for certain products such as computers and travel. The effect should be even stronger since new customers have no cues from prior experience to judge a company by. Therefore, they will tend to compare the new company they visit with what they have experienced previously with other companies and what they consider to be normal. While this may not be the case for all products and services, we believe it is a likely scenario for the two products in our study: laptops and airline tickets. Laptops, and computers in general, have a long history of being customized for customers. Dell is perhaps the best example of mass customization. They have provided customers with the ability to customize their computers over the phone even before the Internet and the web made it possible online. Airline tickets, by nature, are also customizable. Airline customers have always been able to choose from a vast selection of flight times, airlines, number of stopovers, and more recently even select their actual seats on the plane.

Overall, we believe that new online customers who perceive a company as willing to customize its products or services will be more likely to trust that company after their first visit to its web site. Therefore, we hypothesize that:

**H3.** Perceived willingness to customize is positively related to initial trust in the company.

The second set of antecedents to initial trust in our model includes perceptions about the web site. Two of those perceptions are taken from the Technology Acceptance Model (TAM) that has long been considered a robust model for understanding how users develop attitudes towards technology and when they decide to adopt it [19,20]. TAM has been tested in many empirical studies that include user acceptance of word-processors [20], spreadsheets [51], email [82], voice-mail [80], telemedicine technology [35], and in the last few years it has been shown to apply in the area of web-based commerce [1,13,21,29,43,57]. The two main belief variables of TAM are perceived usefulness and perceived ease of use of the technology both of which have a positive effect on intention to use the technology. Since a company’s web site is an example of a particular type of technology, we expect that the two TAM belief variables will also have an impact on initial customer trust beliefs online. In this context, perceived usefulness is defined as a subjective perception by the customer regarding the site’s utility in his or her shopping task. Perceived ease of use is defined as the subjective perception by the customer regarding the amount of effort necessary to learn and use the web site.

In the marketing literature, characteristics of the salesperson have been shown to influence customer trust in the salesperson and the company [2]. For example, salesperson expertise [16,22] and likeability [22,33] are positively related with customer trust in the salesperson that, in turn, has a strong positive association with trust in the company [22]. Online, there is no salesperson but the customer interacts with the web site instead. We expect that perceiving the web site as likeable and useful would have a similar impact on trust beliefs as when those perceptions are about a salesperson. Therefore, we believe that when customers find a web site easy to use and useful, they are more likely to trust the company that the site belongs to. A positive relationship between perceived ease of use of the web site and trust beliefs in the vendor has been shown for repeat customers with prior web site experience [29]. We believe that it will be even stronger for new customers with no prior web site experience. Given the lack of prior experience, new customers will

look for cues that will help them develop their initial trust beliefs in the company [54,55]. We expect that an easy to use and useful site will provide those necessary cues to increase that initial trust.

A well-designed web site that is both useful and easy to use can also be seen as proof of the company's capabilities. Believing that a company has the resources and capabilities to fulfill its promises is often described as one of the three key antecedents to customer trust in the company [15].<sup>1</sup> A well-designed site that is easy to navigate and provides an efficient and effective shopping experience requires certain capabilities on the part of the company. Customers may extrapolate from those capabilities to the more general capabilities of the company to serve its customers successfully. The effect would be similar to the impression of a well organized and laid out store with pleasing decorations and fully stocked shelves. Customers are more likely to perceive the company that owns such a store as one that is capable of serving them and fulfilling their shopping needs. In contrast, customers who enter a store that is badly laid out, with an unpleasant look and poorly stocked aisles will likely extrapolate that the company itself will be unable to provide sufficient service to them, which then diminishes their trust in that company.

The effects of perceived usefulness and perceived ease of use have never been studied for initial trust online. We believe that it is especially important to do so, because one could argue that perceptions regarding the web site may not be strong enough after a single visit to influence initial trust and that only after customers have interacted with the web site multiple times would their perceptions about the site have a strong impact on trust. However, we do not believe that is the case. Prior studies using the TAM variables have shown that they can have a significant impact on customer attitudes even after a single visit [43] and so we expect that perceived usefulness and ease of use will have a strong positive effect on the new customers' initial trust beliefs in the company. Therefore, we hypothesize that:

**H4.** Perceived usefulness of the web site is positively related to initial trust in the company.

**H5.** Perceived ease of use of the web site is positively related to initial trust in the company.

A major concern of online customers is how secure their transactions on the web are. Customers hope that an online company's web site will provide methods for secure exchange of financial information with them [65] but many times security concerns, such as fears of stolen credit card numbers, have been a leading reason for many web users' decision not to buy online [34]. In general, customers who believe that online commerce is secure are more likely to express satisfaction with the web as a commercial channel and are more likely to prefer it to the traditional offline commercial channels [21].

The perception of risk in transactions with the company, or any other entity, is an essential element in the literature on trust [22,40,52]. Risk has received considerable attention in the management and psychology literature. Sitkin and Pablo [76] provide a thorough review and discussion of the risk literature. In their discussion, they highlight three essential key dimensions for the definition of risk: outcome uncertainty, outcome expectations, and outcome potential. All three of the dimensions concern the nature of the probability distribution of an outcome.

Furthermore, we can distinguish between objective risk that is constant and perceived risk that is subjective and variable. Reduction in perceived risk, as defined by Pavlou [62], can be related to increased levels of initial trust. Pavlou [62] views perceived risk as comprised of two dimensions—behavioral and environmental. Behavioral risks are those that are associated with the actions of particular vendor, and they include factors such as risk to privacy, and risks associated with not being able to directly monitor the performance of the vendor. Environmental risks are those that are associated with the infrastructure of the medium itself and are related to the extent to which strategies that prevent unauthorized access are implemented. Both dimensions include security (potential economic loss) as a key factor.

In a similar vein, Lee and Turban [46] also postulate that "security effectiveness" as a contextual factor will have a significant impact on trust formation, though they do not empirically test its significance. Environmental risk has also been included in the empirical study of initial trust by McKnight et al. [55].

<sup>1</sup>The other two key antecedents are integrity and benevolence [53].

The authors have shown that lower environmental risk, manifested as the belief in the security of the web in general, can increase the initial trusting beliefs in a specific web-based company. However, the magnitude of that effect is very small, especially compared to other factors such as the company reputation and site quality.

In our study, we concentrate on perceived risk for new customers of online companies. We test the impact on initial trust of *perceived security control*, defined as the perception of security associated with transactions with a particular web site. This construct is negatively related to perceived environmental risk, as defined by Pavlou [62], in the sense that it deals with specific actions taken by a particular web site. When a company uses technologies like encryption and authentication techniques to secure transactions from unauthorized access it ensures that customers will perceive its web site as a secure place to do business. Therefore, by lowering their perceived environmental risk it can increase their trust in the company itself [25,66,88]. The company's web site is seen as the main tool or control mechanism it uses to enable and secure transactions with its customers. Customer trust in that control mechanism can partly determine trust in the company itself [83]. Therefore, we hypothesize that:

**H6.** Perceived security control of the web site is positively related to initial trust in the company.

Trust propensity, also known as “disposition to trust,” is an individual trait defined as a “general willingness based on extended socialization to depend on others” [53,69]. Trust propensity has been shown to have a direct effect on the formation of trust [52]. People vary in their readiness to trust others (people or other entities) and this individual characteristic has been shown to have an effect on customer trust in online shopping as well [46]. The effect of trust propensity on trust formation can be especially significant when the trusting party, e.g. the customer, has no prior information about the trusted party, e.g. the company [52]. This is indeed the case in our study where the customers are new to the company and its web site and have no prior experience with them. Therefore, their general trusting disposition will play a major role in determining their level of trust for the company. We hypothesize that:

**H7.** Trust propensity is positively related to initial trust in the company.

#### 4. Methodology

In order to test our model, we conducted a field study and collected data via an online questionnaire. Subjects browsed a web site they had never visited before and searched for a particular product. Subsequently, they answered a series of questions regarding their experience on that site. The subjects were undergraduate and graduate students of a major Northeastern U.S. university. Participation was voluntary and each participant was paid \$10 and made eligible for a drawing of \$100 for completing the study, which took approximately 30–45 min to finish.

During the sessions, each participant was first asked to indicate which web sites, out of a list of four, they had visited in the past. This served as a screening procedure that enabled us to send each subject to a web site they had not visited before. This way, we eliminated the effects of prior experience with the company and its web site on customer trust [22,31]. We directed each subject to a website they had not visited before and gave them a set of instructions that asked them to search for either a laptop or flight tickets for a trip to California.

The subjects searching for a laptop were asked to imagine that they had enough money to buy a laptop that would serve their needs for the next 2 years. They were told to use their assigned web site only and try and find what they felt was the best model for them. We required the subjects to indicate the model, price, and certain product specifications of their final laptop choice. The subjects shopping for the airline tickets were asked to imagine they were planning a vacation to California for the summer and they had enough money to pay for it. They were told to use only their assigned web site and try to find a pair of tickets that was satisfactory. They were then required to indicate the airline, flight numbers, departure and arrival dates, and ticket price of their final choice. The subject instructions for the two tasks can be seen in [Appendix B](#). We chose to be very specific regarding the shopping tasks and required the subjects to provide us with the details of their final choices in order to ensure that the participants browsed the site extensively,

becoming familiar with it, and thus increasing the validity of their survey responses. The sites used for laptops were Pcprielist.com (<http://www.pcprielist.com>) and BCD2000 (<http://www.bcd2000.com>). The travel site choices were Expedia (<http://www.expedia.com>) and Trip.com (<http://www.trip.com>).

Once the participants found their products and completed their responses on the instruction form, they were asked to fill out an online questionnaire. The questionnaire was set up so that the participants were required to answer all the questions before they could submit their responses, eliminating any potential missing values in the dataset. Our questionnaire used seven-point Likert items for all constructs measured. The scales were adapted from prior literature with the exception of the scale for perceived willingness to customize that included some new items added by the researchers. This was necessary since that scale was adapted from a study examining buyer–supplier relationships in an industrial setting [22]. The full questionnaire with explanations on the origin of each scale can be seen in [Appendix A](#).

## 5. Results

Our sample size was 212 of whom 128 were male and 84 were female. Eighty-four percent of the subjects were 25 years old or younger. The subjects were divided almost equally between the four sites: 51 for BCD2000, 55 for Pcprielist.com, 52 for Expedia, and 54 for Trip.com. We tested the validity of our scales using Principal Components Analysis (PCA) with direct oblimin rotation, an appropriate method when there is reason to expect the factors to be correlated [63]. The results of the initial PCA showed that the items for the perceived size scale loaded on the same factor as those for the perceived reputation scale. This left us with two possibilities: (a) to combine the two scales into a new one measuring a different construct or (b) to eliminate one of the two scales from our analysis. The first option, combining the two scales, did not make intuitive sense, nor did it have theoretical support from any of the prior literature. Even though size and reputation can sometimes be correlated, this is not always the case. Very large companies may have a bad reputation, as is currently the case with Enron after its public accounting scandal.

Therefore, we opted for eliminating one of the two scales.

We decided that perceived size was the best candidate for elimination since the subjects had very few cues to help them form a perception regarding the company's size. Past research on online trust manipulated the perception of company size by providing them with sales figures and number of products available [39]. Since we did not provide such data to the subjects, we believe that the web sites alone did not provide enough cues to determine the size of the company. Therefore, we eliminated the items for size and removed the variable from our model.

The final results of our factor analysis with PCA (after removing the items for perceived size) can be seen in [Table 1](#). For the scales to show both convergent and discriminant validity, each item should load highest on its related factor and have very low loadings on unrelated factors. Also, the highest factor loadings for each item should be significantly above a threshold level determined by the number of variables, factors, and data points in the sample. According to Hair et al. [32] a reasonable factor cut-off point for our sample size is 0.40. All the items in [Table 1](#) load on their related factors with factor loadings over 0.40 and load on other factors with small loadings, always under 0.40. Therefore, our scales show good convergent and discriminant validity. We also tested the reliability of the scales using Cronbach's alpha. Those values along with the mean and standard deviation for each scale are also shown in [Table 1](#). All Cronbach's alpha values are above 0.7 indicating that our scales also show good reliability [58].

Since we collected the dependent and independent measures with the same instrument at the same time, there is a possibility of common method bias in our data. We used Harman's post hoc one factor test to examine the presence of the bias [64]. The result of the principal components factor analysis reveals that the first factor does not account for the majority of the variance (it accounts for 39% only). Therefore, there is no single general factor that accounts for the majority of the variance and since there are also multiple factors emerging from the factor analysis, we conclude that common method bias is not a problem with our data.

In order to test our model, we used linear regression analysis. Our linear regression model includes, in addition to the independent variables of our model,

Table 1  
Pattern matrix from principal components analysis of all scale items (except perceived size) using oblimin rotation

	Perceived usefulness	Trust propensity	Perceived reputation	Perceived willingness to customize	Perceived security control	Perceived ease of use	Initial trust
CUSTOM1	−0.004	−0.022	−0.017	<b>0.880</b>	0.082	0.066	0.021
CUSTOM2	0.039	0.029	−0.154	<b>0.768</b>	−0.154	−0.128	0.114
CUSTOM3	0.151	−0.011	0.027	<b>0.534</b>	−0.041	−0.072	−0.456
CUSTOM4	−0.027	−0.037	0.180	<b>0.521</b>	−0.150	0.259	−0.261
REP1	0.282	−0.096	− <b>0.687</b>	−0.185	−0.026	−0.062	−0.198
REP2	0.055	−0.009	− <b>0.742</b>	−0.026	−0.152	0.088	−0.014
REP3	−0.155	0.047	− <b>0.760</b>	0.213	−0.104	0.077	−0.026
REP4	−0.036	0.050	− <b>0.580</b>	0.230	−0.041	0.117	−0.135
USEFUL1	<b>0.743</b>	−0.014	−0.111	0.080	−0.040	0.171	−0.025
USEFUL2	<b>0.688</b>	0.006	0.027	0.028	−0.083	0.314	0.005
USEFUL3	<b>0.710</b>	0.010	0.003	0.034	−0.124	0.225	−0.013
USEFUL4	<b>0.542</b>	−0.033	−0.115	0.061	−0.089	0.350	−0.103
EASE1	0.136	−0.005	0.028	0.108	−0.009	<b>0.781</b>	−0.061
EASE2	0.280	0.080	0.006	−0.073	−0.019	<b>0.568</b>	−0.257
EASE3	0.089	−0.020	−0.115	0.002	−0.096	<b>0.771</b>	0.050
EASE4	0.134	0.018	−0.101	−0.021	−0.079	<b>0.723</b>	−0.068
SECURE1	−0.051	−0.013	−0.046	0.025	− <b>0.828</b>	0.057	−0.019
SECURE2	−0.055	0.041	−0.159	0.074	− <b>0.716</b>	0.043	0.081
SECURE3	0.080	0.014	−0.046	0.021	− <b>0.763</b>	0.109	0.036
SECURE4	0.342	0.076	0.160	−0.015	− <b>0.626</b>	−0.111	−0.156
TRUST1	0.197	0.105	−0.200	0.089	−0.237	−0.109	− <b>0.461</b>
TRUST2	0.308	−0.013	−0.149	0.206	−0.166	−0.223	− <b>0.487</b>
TRUST3	−0.081	0.005	−0.275	−0.031	−0.397	−0.037	− <b>0.458</b>
TRUST4	0.098	0.085	0.007	0.039	−0.091	0.207	− <b>0.648</b>
TRUST5	−0.080	0.007	−0.191	−0.004	0.065	0.196	− <b>0.718</b>
TRSTPRP1	−0.120	<b>0.872</b>	0.093	−0.005	−0.097	0.079	−0.043
TRSTPRP2	−0.068	<b>0.852</b>	0.058	−0.087	−0.074	0.036	−0.041
TRSTPRP3	0.227	<b>0.722</b>	−0.202	0.081	0.149	−0.116	0.112
TRSTPRP4	−0.030	<b>0.811</b>	0.039	−0.006	0.010	−0.002	−0.035
Cronbach's $\alpha$	0.929	0.833	0.823	0.787	0.823	0.896	0.865
Mean	4.54	3.45	3.96	4.18	4.40	5.26	4.43
S.D.	1.69	1.31	1.10	1.28	1.19	1.55	1.19

Also reported are the Cronbach's alpha values, the mean, and standard deviation for each scale.

three dummy variables to represent the four different web-based stores that our subjects visited [32]. By including the dummy variables, our regression model takes into account the possibility that there are significant differences between the experience and attitudes of subjects on different web sites. Each web store has a multitude of differences with the other three and these differences may influence customer perceptions and beliefs. By controlling for these possible differences, we remove any possible spurious relationships between our dependent variable of initial trust and the independent variables.

After the first run of the analysis, we detected two outliers in the sample that had standardized residuals

with absolute values greater than 3.0 [12]. We removed the two outliers and reran the analysis. The results of the linear regression model can be seen in Table 2. The model has very good fit ( $F = 59.498$ ,  $P < 0.001$ ) and a very high adjusted  $R^2$  value of 0.716. The coefficients for perceived reputation, security control, and willingness to customize are significant at the  $P < 0.01$  level and those for perceived usefulness and ease of use are significant at the  $P < 0.05$  level. The coefficient for trust propensity is not significant. Therefore, the data indicate support for H2–H6 but no support for H7. We were unable to test H1. The coefficient for the dummy variable for BCD2000 is significant at the  $P < 0.05$  level indicating that there

Table 2  
Linear regression model for initial trust in company

	<i>B</i>	S.E.	Beta	<i>t</i> -value	<i>P</i> -value	VIF
Constant	0.132	0.266		0.498	0.619	
Reputation	0.284**	0.055	0.263**	5.174	0.000	1.903
Usefulness	0.094*	0.044	0.134*	2.163	0.032	2.820
Ease of use	0.098*	0.045	0.126*	2.181	0.030	2.441
Security control	0.259**	0.053	0.262**	4.885	0.000	2.117
Willingness to customize	0.238**	0.044	0.257**	5.450	0.000	1.632
Trust propensity	0.057	0.034	0.063	1.666	0.097	1.055
Trip.com (dummy)	0.027	0.129	0.010	0.212	0.832	1.650
BCD2000 (dummy)	−0.300*	0.139	−0.108*	−2.158	0.032	1.848
PCPrice (dummy)	−0.243	0.135	−0.090	−1.800	0.073	1.858

$N = 210$ ,  $F = 59.498$  ( $P < 0.001$ ), adjusted  $R^2 = 0.716$ .

\* $P < 0.05$ .

\*\* $P < 0.01$ .

is a significant but small difference between the web sites of BCD2000 and Expedia when it comes to the effect of the independent variables on initial trust. The VIF values are low, indicating no multicollinearity problems. The standardized residuals are normally distributed and we saw no indications of heteroscedasticity in the data.

The results can be seen graphically in Fig. 2. Our revised model does not include perceived size because the scale for that variable did not have sufficient construct validity, thereby preventing us from testing its relationship with initial trust in the company.

## 6. Discussion and implications for research

The purpose of our study was to examine the development of initial trust beliefs by new customers of a web-based company. We developed a model that incorporated perceptions regarding the web site and the company. We found that both types of perceptions can determine initial trust towards the company. Specifically, we found that perceived reputation of the company and perceived willingness of the company to customize its products and services were significant antecedents to initial trust in the company. We also found that perceived usefulness and ease of use of the web site as well as perceived security control of the site were also significant antecedents of initial trust in the company. Finally, we found no support for our hypothesis that individual customer trust propensity has an effect on initial trust in the company.

Our findings have important implications for researchers and practitioners. Understanding what makes a new customer trust a web-based company is a challenging task. Without prior experience with the company either through simple visits to its web site or through transactions with the company, customers must rely on other perceptions to guide them. While perceptions about the company should intuitively matter in the formation of initial trust beliefs by such customers, we also empirically tested the importance of the web site as a mechanism to instill trust in new customers. Our results have demonstrated that both types of perceptions, about the company and the web site, can have an impact on initial trust in a company by new customers. Despite the lack of prior experience with the company, new customers were able to form perceptions regarding its reputation and its willingness to customize its products and those perceptions had an impact on their initial trust in the company. At the same time, the customers' perceptions on the usefulness and ease of use of the web site, as well as its security, also determined how much they trusted the company. While our model could not include all the possible factors that may determine initial trust, it did account for almost 72% of variance explained indicating that our model captured many of the important determinants of initial trust in this setting.

One of the two most important antecedents of initial trust was perceived reputation of the company by the new customers (beta = 0.263). This is consistent with prior research in online trust [39] as well as the wealth of evidence on the significance of brand and reputation

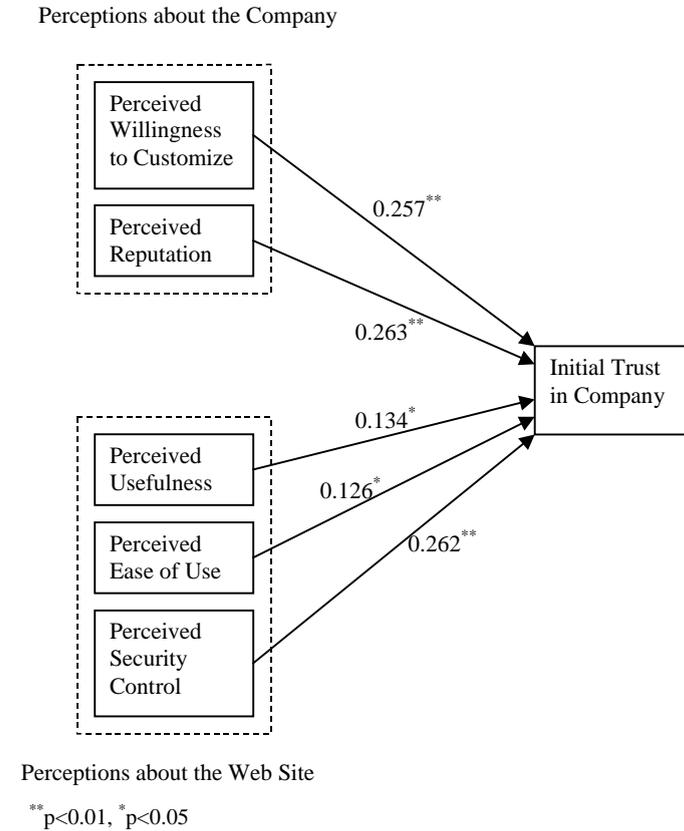


Fig. 2. Final model with standardized beta coefficients. Perceived size was removed because it was not tested. Trust propensity was removed because the data did not support its hypothesized effect.

in marketing. New customers, that have never visited a web site before, are faced with a relatively uniform interface. Unlike a physical store, where a large, well-stocked, nicely decorated, well-staffed space can lend face validity to the company, online customers can only see a two-dimensional screen with text and graphics. Therefore, if they believe that the company has a good reputation in the market, it can boost their trust in it despite the poor medium they are using and the lack of more tangible and physical signs of a well-established company.

The obvious question then becomes: How does a web-based company increase those perceptions of a good reputation in its new customers who have had no prior experience with the company? Does a well-designed web site with a large selection of products, ample value-added information, easy navigation, and quick checkout provide that perception? Our study did

not set out to answer that question but it is a very important one that future research should address.

The second of the two most important antecedents of initial trust in our model is perceived security control (beta = 0.262). New customers with no prior experience with a company are likely to be very concerned with the security of transactions with the web site. Since the majority of web users still does not purchase online because of fears of stolen credit card numbers and other sensitive information, it is to be expected that believing a web site is secure can increase trust in the company. Once again, the question is how to increase the perception of security control in those new customers. Since the average user is not likely to be familiar with encryption and the Secure Sockets Layer protocol, it may require explicit statements visible on the web site regarding its security measures. Seals from trusted third parties may also

help customers feel that the web site is secure. This is also an important question that future research should address.

A company's willingness to customize its services and products was also very significant in our model ( $\beta = 0.257$ ). As customers become more demanding for customized services and products they are likely to see a company's willingness to provide them as a sign of its capabilities and resources. A company that can provide customized products and services appears more capable of serving its customers better. The increased communication between the company and its customers that is necessary for the production of customized products may also contribute to the higher levels of initial trust by the customers. Willingness to customize may also be an indication of the company's benevolence or concern towards its customers. Providing customized products or services shows that a company is concerned with each individual customer's specific needs and desires and takes a personal approach to customer service. Both beliefs in a company's capabilities and benevolence have been shown to increase customer trust in the company [52]. This may be especially important for new customers. Having no prior experience with the company by which to judge its capabilities and concern for them, customers can use a company's willingness to customize to form such opinions. Therefore, perceived willingness to customize can increase the customer's trust in the company after a first visit to the web site.

Perceived usefulness ( $\beta = 0.134$ ) and ease of use ( $\beta = 0.126$ ) of the web site were also significant antecedents of initial trust in the company though with smaller standardized coefficients than the rest of the antecedents. This is an indication that online customers do see the web site as a representation of the company itself and its resources and capabilities. It suggests that perceptions about the web site directly affect perceptions about the company itself and not the other way around. This is common in offline commerce where perceptions about the salesperson influence perceptions about the company [16,22,33]. We believe that since our subjects had never before visited the company's web site, it is reasonable to expect a direct causal relationship between web site perceptions and trust in the company. The customers' first experience with the company is through its web site. Their interaction with the site is immediate and

tangible. We believe that the resulting perceptions about the web site are more prominent and can therefore have a causal effect on their perceptions regarding the company. New customers only have the company web site to help them form their beliefs about the company including how much they trust it. To use the salesperson analogy again, it makes more sense to think that, during an initial visit to the store, perceptions regarding the salesperson will influence customer perceptions regarding the company than the other way around. We believe that the same applies for a web site.

One surprising result was the lack of support for the effect of trust propensity. Our data did not support the hypothesis that individual customer trust propensity has an effect on initial trust in the company. The implication may be that when it comes to new online customers, it does not matter how willing they are to trust other entities in general. When they form their trust beliefs in a company they visit for the first time, they all rely on the same perceptions about the company and its web site equally. While this result may seem counter to prior research in trust that found trust propensity to be a significant factor, it may be explained by our sample population. By considering only customers who are new to the company's web site, we may have reduced the effect of trust propensity to a level where it is statistically insignificant. This may be because many web users still consider buying online a very risky activity. And when this is done at a company with which the customers have had no prior experience, they may ignore their general tendencies to trust others. Given the publicity that online security (or lack thereof) and the mistrust of online customers have received, our subjects may have been able to ignore their natural trust propensity. It is possible that with more experience with a company, trust propensity eventually becomes a significant factor. Longitudinal research on its effects is needed to test that possibility.

Our results have important implications for online companies that seek to retain new customers and increase their sales. Company reputation is just as important as it has ever been. Online customers rely on their perceptions regarding company reputation to decide how much they trust it. Companies must always take that into account and strive for excellence in the market that will provide them with a good reputation. Our findings also indicate that online

companies should heed the call for customization of products and services. Online customers may expect more tailor-made products and information and they trust companies that provide them, perhaps because they appear to have more resources and capabilities than companies that do not customize.

In addition, online companies need to concentrate on the quality of their web site. One of the reasons online customers do not buy online is because the web sites are complicated and difficult to use [6,50]. A site that is useful and easy to use can lead new customers to trust the company that runs it. Therefore, web sites need to have efficient navigation schemes and organized layouts. They also need to provide customers with all the information and tools they need to make the right purchasing decisions [44]. Web sites also need to appear secure to customers. When customers feel that a web site is secure, they trust the company more. Companies need to employ web security technologies and more importantly, make sure that their customers are aware of the precautions they take to make their transactions secure. This will result in customers trusting the company more.

## 7. Limitations and future research

One of the potential limitations of our study is the reliance on student samples. Several studies in the past have argued either against using such samples for research purposes or that the results should be accepted with caution [17,73,75,77,89]. Although it is easier to achieve internal validity with a homogenous sample such as undergraduate college students [30] and thus appropriate for theory building purposes [10], achieving external validity presents a greater challenge that can be especially acute in regards to behavioral studies. Does the traditional college student really reflect the cognitive norms, social behavior, psychological states, or consumer habits of the wider population? While the results of past studies are equivocal, several researchers seem to suggest that traditional college students may not be appropriate for research purposes, other than for perhaps pilot studies [73].

However, in our case, the sample consisted of non-traditional college students, such as those in the current study who attend a commuter institution, in

a dense urban center. The students in our sample tend to be older, have families, regular jobs, and higher incomes that are more reflective of society at large than samples used in previous research. In a recent empirical study comparing consumer, non-traditional students, and traditional students, it was found that non-traditional college students could be used in consumer behavioral studies to reflect the broader population [37]. In addition, given the current demographic trends at colleges, where already fully 25% of all students are over 30 [24], college students will increasingly reflect society in general [23].

Unfortunately, we were unable to test the effects of perceived size on initial trust. The scale we used from prior literature did not demonstrate sufficient construct validity in our study. This may have been because we did not provide our subjects with any information on which they would base their perceptions regarding the company's size. Future research should take that into account and possibly follow the example of Jarvenpaa et al. [39] who did provide such data to their subjects.

Also, we did not control for the possibility that our subjects had prior exposure to the company but not its web site. While we made sure that subjects visited a web site for the first time, we did not ask them if they had heard of the company before either through advertising or from other people. Prior exposure to advertising or knowledge about the company may have led some of our subjects to have prior perceptions regarding the companies and some to have formed trust beliefs for them. While we believe that this is highly unlikely with the two laptop retailers (BCD2000 and Pcprielist.com) that are not well known companies, it is possible that this was the case with Expedia or Trip.com. Both of those companies have advertised online and are better known in the industry.

Our results regarding the positive relationship between perceived willingness to customize and initial trust might not be generalizable to all types of companies and products. The two types of products we used, laptops and airline tickets, are highly customizable and online customers often expect to be able to customize them. This may increase the effect of perceived willingness to customize on trust. It may not be the case when the customer is buying a product that never or rarely requires customization such as

food or books. In that case it may be irrelevant whether a company is willing to customize its products. More research using the same variable of perceived willingness to customize in different contexts is necessary to determine its generalizability.

Our study examined initial trust in the company and did not look at how trust develops over time through repeated experiences with a company. There is an obvious need for further longitudinal research to examine the temporal nature of customer trust. Also, future work can determine how web site perceptions influence company perceptions such as reputation and size. Furthermore, there are many opportunities for further research to determine how the antecedents of trust in our model are determined. Are online privacy statements enough? Do third party seals work? How does a web site project an image of a reputable company? Experimental and field studies can examine how company web sites can increase the antecedents of trust.

As electronic commerce becomes more common in our lives it is necessary for researchers and companies to understand the factors that influence customer behavior online. One such factor is customer trust. We conducted an empirical study to determine how new customers of online companies develop trust in a company they have not had any past experience with. Our results have shown how perceptions about both company and web site characteristics can play a role. With a keener sense of online trust formation, companies can expand their reach or customer base and use the web, as a commercial medium, to its full potential.

### Acknowledgements

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### Appendix A. Questionnaire

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Please indicate how much you agree with each of the following statements regarding *the company* whose web site you were asked to visit today

*Perceived reputation* (adapted from [22,39]):

- REP1: This company is well known
- REP2: This company has a good reputation
- REP3: This company has a reputation for being honest
- REP4: This company is known to be concerned about customers

*Perceived size* (adapted from [22,39]):

- SIZE1: This company is a very large company
- SIZE2: This company is one of the industry's biggest suppliers on the web
- SIZE3: This company is a small player in the market<sup>R</sup>

*Perceived willingness to customize* (adapted from [22,39]):

- CUSTOM1: Just for me, this company is willing to customize its products
- CUSTOM2: Just for me, this company is willing to change its delivery procedures
- CUSTOM3: This company will respond to my individual needs and desires<sup>N</sup>
- CUSTOM4: This company is willing to provide customized services to its customers<sup>N</sup>

*Initial trust* (adapted from [22,39]):

- TRUST1: This company is trustworthy
- TRUST2: I trust this company keeps my best interests in mind
- TRUST3: This company will keep promises it makes to me
- TRUST4: I believe in the information that this vendor provides me
- TRUST5: This company wants to be known as one who keeps promises and commitments

**Appendix A. (Continued)**

Please indicate how much you agree with each of the following statements regarding *the web site* you were asked to visit today

*Perceived usefulness* (adapted from [43]):

- USEFUL1: Using this web site can improve my shopping performance
- USEFUL2: Using this web site can increase my shopping productivity
- USEFUL3: Using this web site can increase my shopping effectiveness
- USEFUL4: I find using this web site useful

*Perceived ease of use* (adapted from [43]):

- EASE1: Learning to use this web site would be easy for me
- EASE2: My interaction with this web site is clear and understandable
- EASE3: It would be easy for me to become skillful at using this web site
- EASE4: I find this web site easy to use

*Perceived security control* (adapted from [14]):

- SECURE1: The web site implements security measures to protect its online shoppers
- SECURE2: The web site has the ability to verify online shoppers' identity for security purposes
- SECURE3: The web site usually ensures that transactional information is protected from being accidentally altered or destroyed during transmission on the Internet
- SECURE4: I feel secure about the electronic payment system of the web site

Please indicate how much you agree with each of the following statements

*Trust propensity* (adapted from [14]):

- TRSTPRP1: It is easy for me to trust a person/thing
- TRSTPRP2: My tendency to trust a person/thing is high
- TRSTPRP3: I tend to trust a person/thing, even though I have little knowledge of it
- TRSTPRP4: Trusting someone or something is not difficult

<sup>N</sup> New item, <sup>R</sup> reversed item.

**Appendix B***B.1. Instructions for subjects—travel sites*

Imagine that you are planning a vacation to California for the summer. You can assume that you have enough money to pay for such a vacation. Use the online travel site you have been assigned to research possible flights to California during the summer break. *DO NOT ACTUALLY BUY* anything from the travel agency. You will *NOT* be reimbursed for any purchases that you make. You are only required to research the information available and see if you can find a flight that you like. Do not research information at any other online travel site. Once you have found a flight that you are satisfied with, please fill out the following information and raise your hand to let the researchers know

that you are ready to proceed to the second part of the study:

**Flight to California**

Airline \_\_\_\_\_ Flight# \_\_\_\_\_

Departure date \_\_\_\_\_

**Return flight from California**

Airline \_\_\_\_\_ Flight# \_\_\_\_\_

Return date \_\_\_\_\_

**Round trip fare** \_\_\_\_\_

*B.2. Instructions for subjects—laptop sites*

Imagine that you are planning to purchase a laptop computer for your personal use. This computer should

serve all your anticipated needs for at least the next 2 years. You can assume that you have enough money to pay for a laptop. Use the online store you have been assigned to research possible laptops you would consider buying. **DO NOT ACTUALLY BUY** anything from the online store. You will **NOT** be reimbursed for any purchases that you make. You are only required to

research the information available and see if you can find a laptop that you like. Do not research information at any other online store. Once you have found a laptop that you are satisfied with, please fill out the following information and raise your hand to let the researchers know that you are ready to proceed to the second part of the study:

**Laptop Model Name and Number** \_\_\_\_\_

**Processor Type** \_\_\_\_\_

**Memory (RAM) size** \_\_\_\_\_

**Hard Drive size** \_\_\_\_\_

**Operating System**

\_\_\_\_\_

**Check which of the following features are available in the laptop you have selected**

**(Check all that apply):**

Floppy Drive

Removable Media:

CD-ROM

CD-RW

DVD

CDRW/DVD Combo Drive

Other

**Total System Price** \_\_\_\_\_

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