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THE IMPACT OF WEBSITE DESIGN EFFECTIVENESS ON CUSTOMER'S TRUSTING BELIEFS ABOUT A PURE INTERNET RETAILER: A CONCEPTUAL STUDY

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Abstract

The growth of Business-to-Consumer e-commerce has been slower than expected due to the fundamental lack of faith between pure Internet retailers (retailers conducting business exclusively over the Internet) and e-shoppers. Recognizing the importance of trust in e-relationships, extensive research has been done in this area. An analysis of the past research reveals that unlike brick and mortar firms that generate customer trust primarily through the personal interface between customers and retailers, pure Internet retailers (PIRs) are forced to look at alternative avenues to generate trust. One of the significant avenues available to PIRs is their website. In order for the website to take up the critical role of a trust generator, adequate attention needs to be paid to its design. However, little research has focused on the relationship between website design and customer trust.

This paper aims at developing a conceptual framework that explains the impact of different website design factors on the customer's trusting beliefs about the PIR. Website design factors have been categorized as hygiene, motivation, motivation-hygiene, and de-motivation factors based on an analogical use of dual factor theory of motivation and the two-factor theory of website design. The trusting belief construct has been studied as operational benevolence, operational competence, and operational integrity.

The proposed conceptual model will benefit both PIRs and researchers. PIRs need to realize that website design factors play a significant role in enhancing the customer's trusting beliefs. Since there is no pre-determined set of website design factors that can generate customer's trusting beliefs in every situation, the PIRs need to analyze the needs/beliefs of their customers and choose a set of factors that will build and maintain their trustworthiness image. This study will provide a basic framework that will assist PIRs in developing websites that focus on winning the target customers' trust. The academic community can benefit from the conceptual framework as it provides a foundation for future research in this area.

Keywords: E-commerce, pure Internet retailers, Website design effectiveness, trusting belief

Introduction

A panoramic view of an organization reveals three distinct but inter-related components: the inner environment, the outer environment and the interface between the two (Simon 1969). According to Simon (1969), the ability of the inner environment to achieve its desired goals while working within the constraints imposed by the outer environment, is highly contingent on effective designing and deeper understanding of the interface. Even though, the fundamental goals of the inner and the outer environments remain the same for brick and mortar as well as online organizations, the interface component differs dramatically (Palmer 2002). With the increase in the popularity of e-commerce, there has been an increasing number of researchers studying the crucial role played by the interface in case of online organizations. According to Palmer (2002: pp. 151), "poor interface design has been a key element in a number of high profile site failures". Therefore, designing effective websites is a major challenge faced by pure Internet retailers (PIRs). Yet another significant challenge posed to the PIRs is generating customer trust. Though generating customer trust is a common concern shared by both traditional and PIRs, the concern magnifies in case of a

PIR due to the impersonal nature of online environments (Ba and Pavlou 2002; Bhattacharjee 2002; Brynjolfsson and Smith 2000). Further, the differences between the traditional and online environments, such as differences in the interface, the level of risk, firm's physical proximity, history of successful prior transactions and legal policies governing the trade (Bhattacharjee 2002) demand different trust building efforts (Ba and Pavlou 2002). Since the website is the primary customer interface (Palmer 2002) in an e-environment, this paper examines the influence of website design factors on one of the most important objectives of PIRs, which is generating and maintaining customer trust (Torkzadeh and Dhillon 2002).

Customers do not trust most online vendors enough to engage in relationship exchanges involving money and personal information (Hoffman et al. 1999). Both academic as well as practitioner communities recognize the fundamental lack of faith between PIRs and customers (Hoffman et al. 1999) as an important barrier to the widespread diffusion of e-commerce (Ba and Pavlou 2002; Bhattacharjee 2002; McKnight et al. 2002; Corritore et al. 2001; McKnight and Chervany 2001; Tan and Thoen 2001). The area of trust has been vastly studied in intra-organizational, inter-organization, as well as business to consumer settings (Sirdeshmukh et al. 2002; McKnight and Chervany 2001; Mayer et al. 1995). More recently there has been a spurt in research focusing on trust related issues in an online setting (McKnight et al. 2002; Lee and Turban 2001; Jarvenpaa et al. 2000; Jarvenpaa and Todd 1996/1997). However, to our knowledge trust has not been studied in the context of pure Internet retailing. Pure Internet retailing refers to sale of products and/or services by business entities exclusively through the Internet and not through a brick and mortar store. Focusing on the pure Internet retailing is pertinent due to the implications of transaction cost. Transaction costs associated with the digital economy are dropping toward zero with startling implications for the optimal firm size (Cooper 2000). Therefore, firms will have to identify avenues that will allow them to exist with minimum transaction costs. One significant alternative that cannot be overlooked by firms is that of pure Internet retailing. Continuing decline of transaction cost in the digital economy is likely to lead to the mushrooming of PIRs, and hence, PIRs are the subject of this study. This paper aims at developing a conceptual framework that explains the impact of different website design factors on customers trusting beliefs in a pure Internet scenario. Specifically, it studies the impact of website design elements on the customer's belief about the vendor's trustworthiness.

The next section reviews the current literature on trust and website design and their role in an online setting. The third section presents a conceptual framework that examines the effects of website design elements on customer's trusting beliefs about the online vendor. The fourth section puts forth various propositions. The paper concludes with a discussion of the implications of the study to the academic and the practitioner communities, and offers suggestions for future research.

Theoretical Background and Literature Review

In order to study the effect of website design elements on the customer's trusting beliefs, website design elements are classified based on an analogical use of the Dual Factor Theory (Herzberg 1968). Application of motivational theories in a technological context is evident in prior research (Zhang et al. 2000; Zhang et al. 1999; Gill 1996). Dual Factor Theory distinguishes between "hygienes" (the de-motivation avoidance factors) and "motivators" (Herzberg 1968). Zhang et al. (2000) extended the Herzberg's hygiene-motivational theory (1968) originally developed for an organizational setting to the web environment, and classified website elements into website hygiene factors and website motivation factors. The empirical study conducted by Zhang et al. (2000) highlighted the presence of a set of website elements that fall under both website hygiene factors and website motivation factors. This study refers to such website elements as website motivation-hygiene factors. The categorization of website design elements in the past research does not inspect website elements that might potentially de-motivate the customers through their sheer presence. For example, using ten different font colors and font types in the body of the website, is likely to disorient and de-motivate a customer. Therefore, this paper introduces a fourth category called website de-motivation factors and studies the impact of all the four categories of website design elements on the different dimensions of customer's trusting beliefs.

The trusting belief construct has been vastly studied under different contexts ranging from psychology/micro-organizational behavior (Kramer 1999; Lewicki et al. 1998; Mishra and Spreitzer 1998) to strategy/economics (Bhattacharya et al. 1998). Due to the lack of consensus regarding the definition and dimensions of this construct, McKnight and Chervany (1995) draw from extant literature and identify four dimensions of the trusting belief construct (benevolence, honesty, competence, and predictability). This paper adapts the dimensions of trusting beliefs (operational benevolence, operational integrity, and operational competence) based on the work of McKnight and Chervany (1995) and Sirdeshmukh et al. (2002). The term 'operational' refers to visible behaviors exhibited by the trustee. The section on trust discusses the dimensions of trusting beliefs and how they have been adapted in the context of PIRs.

This paper proposes the relationship between the website design factors and the dimensions of trusting beliefs based on the theory of planned behavior (TPB) (Ajzen 1991), the work of Sirdeshmukh et al. (2002), and the concept of end-user expectation incongruity. Numerous researchers have used the theory of planned behavior (TPB) to predict customers' beliefs, intentions, and behaviors in variety of information technology related research (Song and Zahedi 2001; Harrison et al 1997; Taylor and Todd 1995; Mathieson 1991). Drawing on the TPB, Song and Zahedi (2001) have demonstrated that web design elements have a significant influence on customers' e-commerce related salient beliefs such as perceived price, perceived service, informational interpersonal influence, and self efficacy. Extending the work of Song and Zahedi (2001), this study argues that the website design elements will significantly influence the customer's trusting beliefs related to PIRs. This argument receives further support from the work of Sirdeshmukh et al. (2002). According to Sirdeshmukh et al. (2002), in a brick and mortar setting, the frontline employees (FLE) and the management policies and practices (MPP) influence the customer's perception about the vendor's trustworthiness. More specifically, the FLEs generate customer trust through their observable behaviors. In a B-to-C e-commerce transaction, the website serves as a proxy for FLE and acts as the primary user interface (Palmer 2002). Therefore, the website carries the burden of displaying trust generating behaviors, which is highly contingent on its design (Palmer 2002; Zhang et al. 2000). The propositions put forth in this study are further explained using the concept of end-user expectation incongruity. Past research in the areas of trust (Boyle and Bonacich 1970) and organizational behavior (Robinson 1996) has noted the relationship between end-user expectation incongruities and trust. This paper extends the concept of expectation incongruities to a PIR setting. Situations where a customer's expectations relating to the website design do not match the actual website design result in expectation incongruities and thus influence customer's trusting beliefs. Expectation incongruities encompass two situations: i) expectations exceeding the actual outcome referred to as 'negative incongruity' and ii) actual outcome exceeding expectations referred to as 'positive incongruity'. For instance, website hygiene elements are expected by the customer to be present in any website he visits. The absence of such elements will result in a negative incongruity and hence will negatively influence the customer's trusting beliefs. Therefore, we propose that website design elements influence the various dimensions of the customer's trusting beliefs about the PIR.

A Conceptual Framework

The proposed conceptual framework (see Figure 1) is based on the extant research on trust in the areas of social psychology (Mayer and Davis 1995), inter-organizational relationships (McKnight et al. 1998; Morgan and Hunt 1994), customer behavior (Sirdeshmukh et al. 2002; Lee and Turban 2001), and website design effectiveness (Udo and Marquis 2001/2002; Song and Zahedi 2001; Zhang et al. 2000; Zhang et al. 1999). Cautious translations and adaptations of constructs have been made based on relevant literature from the afore-mentioned areas.

McKnight and Chervany (1998) have brought to light the impact of trusting belief on trusting intention, and the effect of trusting intention on the trusting behavior in an inter-personal context. Our framework includes these constructs only for the purpose of completeness. The scope of this study includes a conceptual framework that studies the impact of website design effectiveness on the various dimensions of the customer's trusting beliefs about a PIR. The next sub-section defines and explains the various constructs used in the conceptual framework.

Website Design Effectiveness

Website design effectiveness refers to the capability of the website's design to effectively meet those objectives of the business that can be facilitated by the website. According to Schneider and Perry (2000), such objectives include:

- Attracting visitors to the website;
- Making the site interesting enough such that visitors stay and explore;
- Convincing visitors to follow the site's links to obtain information;
- Creating an impression consistent with the organization's desired image; and
- Reinforcing positive images that the visitor might already have about the organization.

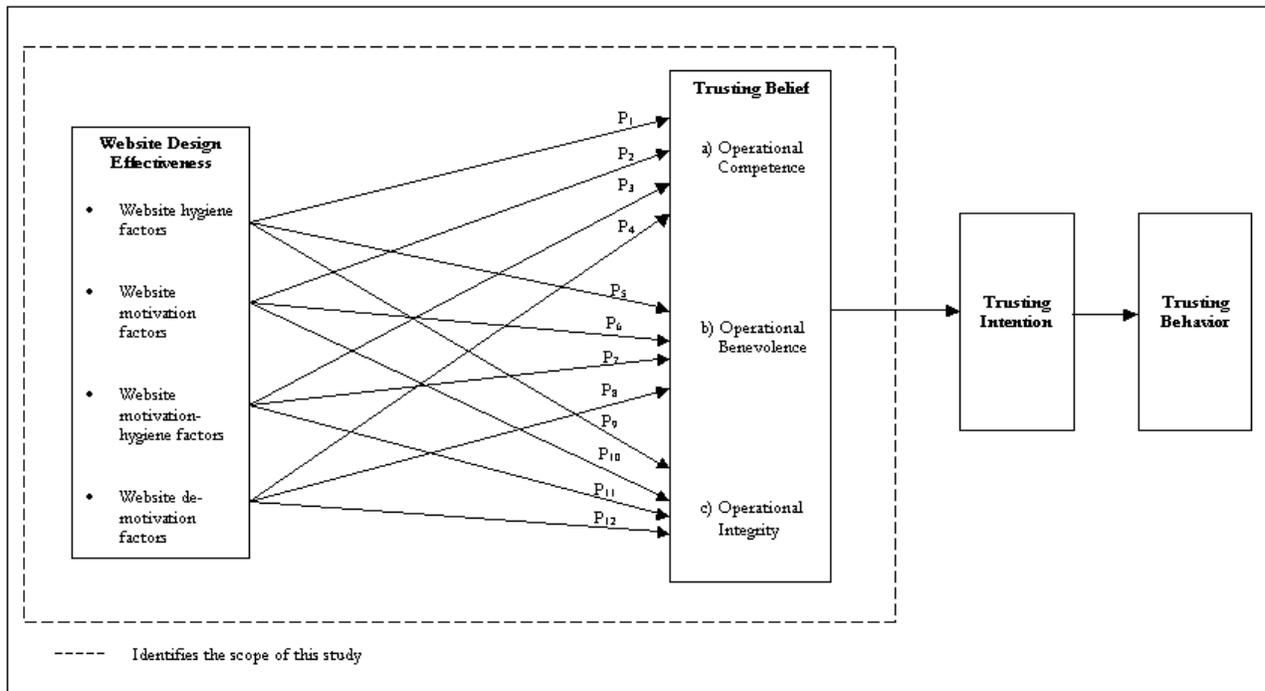


Figure 1. A Conceptual Framework for Studying the Impact of Website Design Factors on a Customer's Trusting Beliefs in a Pure Internet Retailing Scenario

Effective website design can be facilitated by a careful selection and use of web elements (Palmer 2002; Zhang et al. 2000). *Web elements* are defined as “features, components and information used in developing e-commerce websites” (Song and Zahedi 2001: pp.3). A number of attempts have been made to classify web elements into different categories (Zhang et al. 2000; Keeney 1999; Lohse and Spiller 1998; Alba et al. 1997; Jarvenpaa and Todd 1996/1997;), with little theoretical basis (Song and Zahedi 2001). The empirical study conducted by Zhang et al. (2000) highlighted three groups of website design factors: i) website motivational factors, ii) website hygiene factors, and iii) websites design elements possessing the characteristics of both hygiene and motivational factors, referred to as website motivation-hygiene factors in this paper. The grouping identified by Zhang et al. (2000) does not provide for elements whose presence de-motivates a customer i.e. a group of elements which are undesirable in a website. Therefore, along with the three groups identified by Zhang et al. (2000), this paper introduces a fourth group that is referred to as website de-motivation factors. Each of the four groups has been explained and substantiated with examples in the following sub section.

Website Hygiene Factors

Factors that provide the basic architecture and content of the website can be classified as *website hygiene factors* (Zhang et al 2000). Drawing from the past literature, we propose that the absence of these factors negatively impact the customers trusting beliefs, though their presence might not have any significant impact. Zhang et al. (2000) cite “live/broken links” as an example of a website hygiene factor since a live or functional link is taken for granted by a customer but a broken link might frustrate a customer. The categories that have been grouped as website hygiene factors are technical aspects (features related to the basic functions of the website), navigation (features related to moving around in the website), and privacy and security (features related to customer privacy and access restrictions to the website) (Zhang et al. 2000, pp. 4).

Website Motivation Factors

Website motivation factors are those factors that add value to the functional aspects of the website's design by appealing to, aesthetic, cognitive, and emotional preferences of customers (Zhang et al 2000). We propose that these factors will have a positive

impact on the customer's trusting beliefs, if included but will not negatively influence the customer, if not included. For example, the presence of audio interaction capability might have a positive impact on the customer, while its absence may have no impact on them. The categories that have been grouped as website motivation factors are cognitive outcomes (features related to learning while using the website), enjoyment (features that make the website enjoyable, entertaining, and fun), visual appearance (features related to the look of the website), credibility (features related to the website's identity, reputation, and recognition) (Zhang et al. 2000, pp. 4).

Website Motivation-Hygiene Factors

Factors that share the characteristics of both website hygiene and motivation factors are grouped as website motivation factors, i.e., they contribute towards the basic architecture as well as the aesthetic, cognitive, and emotional preferences of customers. We propose that the presence of these factors is likely to positively influence the customer's trusting beliefs, while the absence of these factors will negatively influence the customer's trusting beliefs. For example, well-organized information content may motivate a customer to read the information presented, whereas a cluttered presentation of the information content may de-motivate the customer. The categories identified by Zhang et al. (2000) as both hygiene and motivation factors have been grouped as website motivation-hygiene factors. The categories are customer empowerment (features that decide the degree to which customers can control their interaction with the website), organization of information content (features related to the arrangement of the information content), impartiality (features related to fairness, objectivity, and neutrality of the information content), information content (features related to the amount and type of information covered), and surfing activity (features related to the characteristics of the surf activity itself, not the website) (Zhang et al. 2000, pp. 4).

Website De-motivation Factors

Website de-motivation factors are factors that make the website dysfunctional. We propose that these factors, if present, is likely to negatively influence the customer, and if absent, will have a neutral impact on the customer. For example, frequent pop up windows displaying third party advertisements may often de-motivate a customer. This category has not been included in the past research relating to website design elements and as such there is a need to study the impact of this category on the customer's trusting belief.

Table 1. Effect of Website Design Factors on the Customer's Trusting Belief

Website Design Factor	Impact of Factor's Presence	Impact of Factor's Absence
Hygiene	Neutral	Negative
Motivation	Positive	Neutral
Motivation-Hygiene	Positive	Negative
De-motivation	Negative	Neutral

Table 1 summarizes the likely effect of website design factors on the customer's trusting beliefs. Further, influence of the website design elements on the customer's trusting beliefs may lie anywhere on a continuum that ranges from a negative impact (de-motivation) to a positive impact (motivation). Figure 2 diagrammatically represents the impact of the website design elements on the customer's trusting beliefs on a continuum.

Trust

The number of meanings ascribed to the term trust has grown with the increase in the volume of research emphasizing this construct over the last several decades (Bigley and Pearce 1998). The current conceptual diversity in the literature on trust is reflected in the works of several scholars (Kramer 1999; Bigley and Pearce 1998). Johnson-George and Swap (1982: pp.1306) asserted that "willingness to take risk may be one of the few characteristics common to all trust situations". Kee and Knox (1970) argued that to study trust appropriately there must be some meaningful incentives at stake and that the trustor must be cognizant of the risk involved. Regardless of the underlying disciplines of different authors – from psychology/micro-organizational behavior (Kramer 1999; Lewicki et al. 1998; Mishra and Spreitzer 1998) to strategy/economics (Bhattacharya et al. 1998) – confident expectations and a willingness to be vulnerable are the most common components of the popular definitions of trust

(Rousseau et al. 1998). These components form the core of trust as defined by Mayer et al. (1995), who defined trust as “the willingness of a party to be vulnerable to the actions of another party based on expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party.” This study has adopted the definition of trust provided by Mayer et al (1995) in the context of pure Internet retailing where trustor refers to the customer and the trustee refers to the PIR. Further, the different trust constructs identified by McKnight and Chervany (1995) provide the framework for the trust related constructs of the study. The set of six trust constructs that extend across impersonal, dispositional, and interpersonal dimensions identified by McKnight and Chervany (1995) are: trusting intension, trusting behavior, system trust, dispositional trust, situational decision to trust, and trusting beliefs. McKnight et al. (2002) have empirically studied the relationship between these six constructs in an online setting. This paper focuses on the impact of the website design factors on the customers trusting beliefs. Constructs such as trusting intentions and trusting behavior are outside the scope of this study but have been included in the conceptual framework for the purpose of completeness and have been explained in this section for the purpose of clarity.

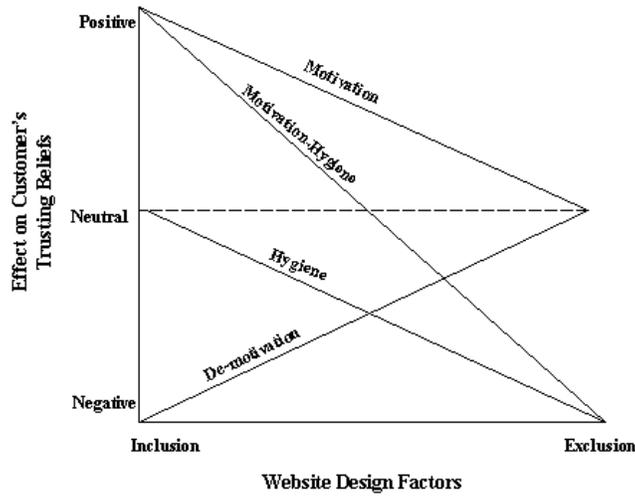


Figure 2. Diagrammatic Representation of the Proposed Effects of Website Design Factors on the Customer’s Trusting Belief

Trusting intention is the extent to which the customer is willing to depend on the PIR in a given situation with a feeling of relative security, even though negative consequences are possible (McKnight and Chervany 1995). Trusting intention is primarily based on the customer’s cognitive beliefs about the PIR (Bromiley and Cummings 1995). Willingness to depend on the PIR might lead the customer to actually depend (behaviorally) on the PIR (McKnight and Chervany 1995). Trusting intention is not taking risk per se, but rather is a willingness to take risk. It is the trusting behavior, in which one makes oneself vulnerable, that leads one to take risk (Mayer et al. 1995). Trusting behavior is the extent to which the customer voluntarily (Lewis and Weigert 1985) actually depends on the PIR in an online transaction with a sense of relative security, even though negative consequences are possible (McKnight and Chervany 1995).

Trusting belief refers to the extent to which the customer believes and feels confident in believing that the PIR is trustworthy in a given situation. Trusting belief is both person- and situation- specific. Based on 79 articles/books, McKnight and Chervany (1995) found that most trusting beliefs seem to cluster into four categories that have been often considered as the dimensions of trustworthiness (McKnight et al. 1998; Mayer et al. 1995). They are benevolence, honesty, competence, and predictability. According to McKnight and Chervany (1995: pp.34-35),

“If one is consistently (predictably) proven to be willing (benevolence) and able (competent) to serve the trustor’s interests in an (honest) manner, then one is worthy of trust indeed...such beliefs form a core cognitive construct we call trusting beliefs that find expression via trusting intentions which in turn is acted upon through trusting behavior.”

The dimensions of trusting belief put forth by McKnight and Chervany (1995) have been adapted to be applicable in a pure Internet setting. Predictability as a dimension of trusting belief has often been a subject of debate (Mayer et al. 1995). *Predictability* means one's actions are consistent enough for the other to be able to forecast what one will do in a given situation (McKnight and Chervany 1995). This construct has been incorporated in the definitions of the three dimensions of trusting belief in our model and hence has not been considered as a separate dimension of trusting belief.

Dimensions of Trusting Belief

Conditions leading to trusting beliefs have been considered repeatedly in the literature (McKnight et al. 1998; McKnight and Chervany 1995). One approach to understanding why a given party will have a greater or lesser amount of trust for another party is to consider attributes of the trustee, i.e., to consider whether the trustee is trustworthy. Some authors identify a single trustee characteristic that is responsible for trusting belief (e.g. Strickland 1968), whereas others have delineated as many as ten characteristics (e.g. Butler 1991). Even though a number of factors have been proposed, three dimensions of trusting belief that appear frequently in the literature are ability/competence, benevolence, and integrity/honesty (McKnight and Chervany 1998; Mayer et al 1995). The proposed conceptual model captures the essence of the dimensions of trusting belief as: i) operational competence ii) operational benevolence and iii) operational integrity (Sirdeshmukh et al. 2002; Mayer et al 1995; McKnight and Chervany 1998).

Operational Competence

Competence means one's ability to do for the other person what the other person requires (McKnight and Chervany 1995). It is one's capability for producing the desired output or effect (Stein 1971). Competence as a construct has been widely studied by number of researchers (McKnight and Chervany 1998; Butler 1991; Butler and Cantrell 1984; Rosen and Jerdee 1977; Kee and Knox 1970). Further, many others have discussed competence using different terminologies such as expertness (Giffen 1967), inter-personal competence (Gabarro 1978), and ability (Mayer and Davis 1995; Sitkin and Roth 1993; Cook and Wall 1980; Jones et al. 1975). In the current conceptualization, all of these constructs are similar to competence. *Operational competence* refers to the expectation of consistent competent execution of visible behaviors from an exchange partner (trustee) (Sirdeshmukh et al. 2002). It is distinguished from the inherent competence of the trustee. This operational focus is appropriate because competence judgments are typically based on observation of the vendor's behaviors. For example, a vendor might be competent to provide services in ten different areas. However, the customer's perception of the vendor's competence will be based only on those services made visible to the customer, through explicit behaviors during the transaction.

Operational Benevolence

Benevolence means one party is concerned about the welfare of the other and is therefore motivated to act in the other party's interest (McKnight and Chervany 1995), aside from an egocentric profit motive (Mayer et al. 1995). For example, suppose customer A has purchased a product P from company C. Though there is no money back guarantee included in the contract of sale, C intends to provide a refund if its customers are dissatisfied with its products. This is the benevolent nature of C. Thus, benevolence is a positive orientation of the trustee toward the trustor (Mayer et al. 1995). Different synonyms of benevolence have been included as trust constructs by different researchers. Some of them are: intentions or motives (Cook and Wall 1980; Giffen 1967; Kee and Knox 1970), altruism (Frost et al. 1978), goodness, morality, caring, concern, goodwill, and responsiveness (McKnight and Chervany 1995). *Operational benevolence* means consistent visible behaviors that "reflect an underlying motivation to place the customer's interest ahead of self-interest" (Sirdeshmukh et al. 2002). Simply having a benevolent motivation is not sufficient; rather, it needs to be operationalized in visible behaviors of the vendor that explicitly favor the customer's interests (Sirdeshmukh et al. 2002). For instance, in the previous example if the company's website is designed to send a personalized email enquiring about the customer's satisfaction with the product and informing the customer about the recourses available to him in case of dissatisfaction would highlight the vendor's benevolence and would constitute as operational benevolence.

Operational Integrity

Integrity implies that one enters into good faith agreements (Bromiley and Cummins 1995; Mayer et al. 1995; Butler 1991), speaks the truth (McKnight and Chervany 1995) and fulfils any assurances made. Trustor's perception that trustee follows a set of

principles that is acceptable to the trustor leads to the trustor's perception of the trustee's integrity (Mayer and Davis 1995; McFall 1987). Integrity as a trust construct has been used by a number of researchers under different terminologies, such as honesty (McKnight and Chervany 1998; Bromiley and Cummins 1995), moral integrity (McFall 1987), openness or congruity (Hart et al. 1986), and character (Gabarro 1978). *Operational integrity* means consistent visible behaviors that reflect the trustee's motivation to be honest and to adhere to set of principles acceptable to the trustor (Lee and Turban 2001; Mayer et al. 1995). For example, making false claims about delivery capabilities and failing to deliver Christmas gifts on time will ruin the customer's perception about the vendor's integrity. Realistic claims supported by actual performance will lead to customers forming positive beliefs about vendor's integrity.

Propositions

The propositions put forth in this section can be explained using the concept of expectation incongruencies. For instance, website hygiene elements are usually expected to be present in any website. The absence of such elements will lead to a negative incongruency and hence will negatively influence customer's trusting beliefs. Therefore, we propose that the absence of website hygiene factors will negatively influence a customer's trusting belief and since their presence does not lead to any incongruencies, the presence of such elements will have a neutral impact on the customer's trusting beliefs. Further, website motivation elements are not by default expected by the customer to be present in the website. The presence of such elements also results in expectation incongruency but in this case it would be a positive incongruency and therefore, will positively influence customer's trusting beliefs. Furthermore, the website motivation-hygiene factors are factors that affect a customer's trusting belief through their presence and their absence i.e., a customer's trusting beliefs is positively influenced by the presence of these factors and is negatively influence by the absence of these factors. Finally, website de-motivation elements are not desired by the customers and hence their presence will result in a negative incongruency. Therefore, the presence of website de-motivation elements will negatively influence the customer's trusting beliefs. In a nutshell, various website design factors can positively or negatively influence the various dimensions of customer's trusting beliefs. Therefore, it becomes pertinent to study the effect of each website design factor on customer's trusting belief relating to the PIR's operational competence, operational benevolence and operational integrity.

It is important for the vendors to make their core competencies visible to the customers. In case of PIRs, the website is the main medium of business communication and transactions between the PIR and his customers (Udo & Marquis, 2001). Hence, it is of utmost importance for PIRs to ensure that their website presents their competencies in a manner that makes it (competencies) clearly evident to their customers. Therefore, we put forth eight propositions to study the influence of the presence and absence of the website design factors on customer's trusting beliefs about the PIRs competence.

- P_{1a}: The absence of hygiene related website elements negatively influence the operational competence of the PIR
- P_{1b}: The presence of hygiene related website elements does not influence the operational competence of the PIR
- P_{2a}: The absence of motivation related website elements does not influence the operational competence of the PIR
- P_{2b}: The presence of motivation related website elements positively influence the operational competence of the PIR
- P_{3a}: The absence of motivation-hygiene related website elements negatively influence the operational competence of the PIR
- P_{3b}: The presence of motivation-hygiene related website elements positively influence the operational competence of the PIR
- P_{4a}: The absence of de-motivation related website elements does not influence the operational competence of the PIR
- P_{4b}: The presence of de-motivation related website elements negatively influence the operational competence of the PIR

It is essential to ensure that the benevolent behaviors of the PIRs are made visible to the customers. Since the website is the only interface between the customer and the PIR, an effective website design can highlight the benevolent behaviors of the PIR to the customer. Therefore, there is a need to study the effect of various website design factors on the customer's perception about the PIR's operational benevolence.

- P_{5a}: The absence of hygiene related website elements negatively influence the operational benevolence of the PIR
- P_{5b}: The presence of hygiene related website elements does not influence the operational benevolence of the PIR
- P_{6a}: The absence of motivation related website elements does not influence the operational benevolence of the PIR
- P_{6b}: The presence of motivation related website elements positively influence the operational benevolence of the PIR
- P_{7a}: The absence of motivation-hygiene related website elements negatively influence the operational benevolence of the PIR
- P_{7b}: The presence of motivation-hygiene related website elements positively influence the operational benevolence of the PIR
- P_{8a}: The absence of de-motivation related website elements does not influence the operational benevolence of the PIR
- P_{8b}: The presence of de-motivation related website elements negatively influence the operational benevolence of the PIR

Since pure Internet vendors do not have a physical presence, it becomes especially important for them to present their intentions to be honest through their website. For example, the website can pop up a window that clearly and briefly states in advance the purposes for which the information collected from the customer will be used. Further, the website can state the security layers present so that the customer will not hesitate to divulge personal information. An effective website design will help an PIR to clearly depict his stand on integrity. Therefore, it is important to study the effect of the website design factors on the customer's perception of the PIR's operational integrity.

- P_{9a}: The absence of hygiene related website elements negatively influence the operational integrity of the PIR
- P_{9b}: The presence of hygiene related website elements does not influence the operational integrity of the PIR
- P_{10a}: The absence of motivation related website elements does not influence the operational integrity of the PIR
- P_{10b}: The presence of motivation related website elements positively influence the operational integrity of the PIR
- P_{11a}: The absence of motivation-hygiene related website elements negatively influence the operational integrity of the PIR
- P_{11b}: The presence of motivation-hygiene related website elements positively influence the operational integrity of the PIR
- P_{12a}: The absence of de-motivation related website elements does not influence the operational integrity of the PIR
- P_{12b}: The presence of de-motivation related website elements negatively influence the operational integrity of the PIR

Discussion

Websites play diverse roles in today's commercial world. The diversity ranges from merely providing information to conducting full-fledged business over the Internet. In the case of PIRs, all business activities, such as providing catalogs of goods, selling goods and services, providing technical support, and obtaining feedback from customers have to be performed only through their websites (Udo and Marquis 2001). PIRs need to be aware of the fact that well planned and well-designed websites will have a significant impact on customer trust (Lee and Turban 2001; Udo and Marquis 2001). Researchers have identified and categorized web elements that influence website design effectiveness in a number of ways (Song and Zahedi 2001; Udo and Marquis 2001; Zhang et al. 2000; Zhang et al. 1999). Abundant research has been performed on trust in various contexts such as inter- and intra-organizational trust (McKnight et al. 1998; Kramer 1999; Mayer et al. 1995; McKnight and Chervany 1995), business-to-customer transactions (Sirdeshmukh et al 2002; Lee and Turban 2001), and social psychology (McAllister 1995; Gabarro 1987). However, very little research has been performed to study the impact of website design factors on the customer's trusting beliefs about a PIR. This paper argues that a cautious and well-informed utilization of website design elements can significantly influence the customer's trusting beliefs about a PIR. A significant contribution of this article is explaining the influence of website design factors on customer's trusting beliefs by synthesizing a model of constructs and processes from diverse trust and website design related research streams. In the process of bringing together the constructs of the model, this study has enhanced the existing categorization of website design factors and has adapted the dimensions of trusting beliefs from the current literature on trust to a PIR setting.

This study is confounded by a number of factors. First, trust as considered in this model is unidirectional, i.e., we do not examine the development of mutual trust between parties. Second, drawing from the works of Sirdeshmukh et al. (2002), we believe that the root for the individual differences lies in the fact that the perceptual interpretation of an attribute is affected by a person's neutral point (anchor) for that attribute compared with other attributes as explained by cue diagnosticity theory (Skowronski and Carlston 1987). Whether a factor is a hygiene factor or a motivation factor depends on an individual's anchor point for that factor. Due to the individual differences in customers' perceptions about website elements, PIRs need to identify the set of website hygiene, motivation, motivation-hygiene and de-motivation factors of their target audience while designing their websites to ensure website design effectiveness. Third, the scope of this study does not include all the constructs that influence the customer's trusting beliefs. Only the significant dimensions of trusting belief have been considered.

In order to obtain support for the various propositions put forward in this study, significant empirical work is required. Reliable and valid instruments need to be developed in order to test the proposed categorization of website design elements. Further, instruments need to be developed to test the proposed influence of various website design elements on the customer's trusting beliefs. Furthermore, the model needs to be tested for interactive effects. Finally, the impact of individual differences on the proposed relationships needs to be examined.

Development and operationalization of this proposed model would benefit both researchers in building knowledge in this area and PIR in designing trust generating websites. The academic community can benefit from the conceptual framework as it provides a foundation for future research in this area. From a practitioner's standpoint customer's trusting behaviors are of utmost importance. Past research has shown that customer's trusting behaviors are significantly influenced by customer's trusting

intentions, which are in turn influenced by customer's trusting beliefs (McKnight and Chervany 1995) about the PIR. Therefore, it is pertinent that PIRs give considerable attention to behaving and presenting themselves in ways that are consistent with their customers' trusting beliefs. PIRs present themselves and display their behaviors almost always through their websites. This makes it critical for them to pay attention to website design elements, which ultimately have a significant role in portraying their trustworthiness. While the categories in the website hygiene group are the necessities for a website, the categories in the website motivation group can be traded based on the resources available with the PIR. The categories in the website motivation-hygiene group might be either inclined toward website hygiene group or website motivation group. Based on the inclination of the categories, the PIR needs to decide the priority to be assigned to each of them. Further, since there is no pre-determined set of website design elements that can generate customer trust in every situation, the PIRs need to analyze the needs/beliefs of their target customers and choose a set of elements that will build and maintain their trustworthiness images in the eyes of their customers in order to determine what their target customers consider as hygiene, motivation, motivation-hygiene, or de-motivation factors. The implications of this study will provide a basic framework that will assist the PIRs in developing successful websites that focus on winning the target customers' trust.

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