

Factors Impacting Customers' Initial Trust in E-businesses: An Empirical Study

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Abstract

Developing customers' initial trust in e-businesses is critical for many online vendors, especially for startup companies. As an effort to understand initial trust in the business-to-customer e-commerce context, this study uses previous studies and logical reasoning to define initial trust and examines its predictors. Empirical results explaining the factors impacting customers' initial trust in e-businesses are also presented. The results indicate that website quality, among others, has the most significant impact on customers' initial trust in e-businesses.

1. Introduction

Initial trust is regarded as a critical factor for many e-businesses to succeed in the business-to-customer e-markets, especially startups, because it creates initial relationships with customers. Some researchers, therefore, examined initial trust in the e-commerce context [19, 23, 24, 25]. McKnight et al., in their conceptual study, proposed a model of initial trust formation in new organizational relationships [26], and operationalized initial trust with trusting beliefs [24]. This study follows McKnight et al.'s approach to initial trust and proposes a refined model.

This paper, first, conceptualizes initial trust in the e-commerce context. Next, empirical results examining the factors impacting customers' initial trust in e-businesses are presented. Finally, the implications, limitations and conclusions of this study are presented.

2. Trust

In the e-commerce context, trust has been defined rather narrowly (e.g., Bhattacharjee [4] defined trust as trusting beliefs) or broadly (e.g., McKnight et al. [24] defined trust as trusting beliefs and trusting intentions). To understand initial trust, this study refines the broader and more comprehensive model of trust and focuses on studying trust at the micro-level.

In the e-commerce context, based on the target (trustee), the study of trust can be categorized as macro-

level or micro-level. The macro-level study of trust deals with what McKnight et al. [24] called institution-based trust. The target of this type of study is the environment (e.g., legal, technical or social environment of e-commerce). This type of trust is critical because it provides the threshold for customers to enter e-markets.

The micro-level study of trust is different from the macro-level study in that the target of the former is an individual e-business. This level of study is also important because customers' trust in an e-business is a critical factor that may hold customers in the relationship with the company [7]. In this paper, we focus on this micro-level study of trust and refine the concept of customers' trust in e-businesses.

At the micro level, two different types of trust need to be distinguished: personality-based and process-based. The process-based trust is based on the characteristics of a trustee, or an e-business (i.e., the process of identifying a trustee's characteristics). On the other hand, the personality-based trust is not directly related to a trustee's characteristics, but is derived from a trustor's characteristics. In this sense, Lee and Turban [20] proposed this type of trust (they called it individual trust propensity) as a moderating factor.

The process-based trust is the focus of this paper and will be used to examine initial trust in the e-commerce context.

3. Initial Trust

McKnight et al. conceptualized process-based trust as trusting beliefs and trusting intentions [23, 24, 25]. The theoretical background of their definition of trust is the framework of Fishbein and Ajzen [8]. Following the original framework of Fishbein and Ajzen [8], however, we argue that the introduction of a new concept, trusting attitudes, improves the conceptualization of trust.

3.1. Theoretical Foundation

Fishbein and Ajzen [8] view attitudes as an aggregate of three components: beliefs, attitudes, and intention. They also maintained that the three components should be measured separately. According to the framework, belief

is a person's feeling that an object has certain attributes, attitude is a person's favorable or unfavorable evaluation of an object, and behavioral intention is a person's subjective probability that he or she will perform the behavior in question. They argue that a person's actual behavior is influenced by his or her intention. They also argue that a person's intention is shaped by his or her attitude that in turn is affected by his or her belief.

We view the process of building behavioral intention as an incremental development process, not as a direct causal relationship. For instance, a certain level of trusting belief may not directly result in the same level of trusting attitude. This can be explained logically by reviewing the definitions of the constructs. Trusting beliefs are a person's simple perceptions of a trustee. For instance, a person may build trusting beliefs easily with initial contact. In this process, little or no mental activity may be involved. The initial contact, however, may not result in as much trusting attitude as the trusting belief. Building a certain level of trusting attitude requires a reasonable amount of effort (time and experience) and a type of leap of faith. Trusting intentions are at the highest level because it involves risks. By definition, trusting intentions imply no trustor's control or power over the trustee [10, 24] and this situation puts the trustor into a risky situation. The process, therefore, can be understood in terms of passive (trusting belief), confirmative (trusting attitude), and active (trusting intention). Table 1 summarizes the types of process-based trust.

Table 1. Types of trust

Trusting Belief	Trusting Attitude	Trusting Intention
Passive	Confirmative	Active
Trustor's feelings about trustee	Trustor's confidence in and affect for trustee	Trustor's willingness to be involved in a relation with trustee
It can be developed in a short period of time.	It usually requires longer time and leap of faith	Trustor needs to assume risks
Temporary (it may be fragile)	Relatively permanent	It leads to trustor's behavior
Initial trust	Robust trust	Contingent trust

3.2. Initial Trust

Other types of trust shown in Table 1 need to be examined further, but in this paper we focus on initial trust and propose that trusting belief can be used as a surrogate for initial trust. In fact, McKnight et al. used trusting belief as a proxy for initial trust in their empirical study [24]. In their initial model, they defined trusting belief with four factors: competence belief, benevolence

belief, honest or integrity belief, and predictability belief [26]. In this paper, however, we propose a model of trusting belief with two factors: customers' belief that a company has competence (competence) and customers' belief that a company has goodwill (goodwill). The goodwill dimension includes the integrity factor of the McKnight et al.'s model [26] and the predictability dimension is omitted from our model because it does not seem to fit the trusting belief framework proposed in this paper. For instance, predictability belief of the McKnight et al.'s model seems to involve more mental effort on the part of a trustor. In general, people use sources to make a prediction and getting and arranging sources requires a significant amount of (mental as well as physical) effort and time.

In an empirical test, for instance, McKnight et al. were not able to provide evidence to support the four-factor model of trusting belief [24]. In addition, their model with the three factors (competence belief, benevolence belief, and integrity belief) did not produce a good fit.

Some researchers [3, 6, 27], on the other hand, proposed two-dimensional models of trust (trustworthiness): competence and goodwill. Their definition of trust is similar to what is being adopted in this paper and what is being referred to as trusting belief or trustworthiness.

Following the two dimensional model, the integrity dimension is incorporated into the goodwill dimension because the former is conceptually a part of the latter. The other dimension proposed in the McKnight et al.'s model (i.e., predictability belief) may be closer to trusting attitude because of its characteristics (e.g., a trustor needs more effort). Following this logic, some researchers [18] proposed that one of the trusting attitude dimensions (i.e., customers' confidence in e-businesses) captures the predictability dimension.

In sum, this study confirms the key aspects of the trusting belief construct that were identified by McKnight et al. [24], but uses two dimensions (i.e., competence and goodwill) that will be used to measure initial trust. Next, the factors impacting customers' initial trust in e-businesses will be examined.

4. Model of Initial Trust Development

In the e-commerce context, especially business-to-customer, researchers proposed a number of factors that would affect trust. For instance, Jarvenpaa and Tractinsky [15] proposed and empirically tested that perceived size and reputation of an online store are positively associated with a customer's trust in the store. Fung and Lee [9], in their conceptual study, proposed that initial trust is impacted by information quality, web interface design, and company reputation. Stewart [29]

maintained that the concept of transference may be one of the key factors that impact trust and some researchers proposed transference-related factors such as third party seals [23]. Other researchers proposed similar factors [13, 14, 23], and these factors can be sorted into three categories: customers' perceptions of the company's profile, customers' perceptions of the supporting organizations related to the company, and customers' perceptions of the company's website quality. Among the factors, those that seem to affect initial trust are summarized in Table 2. For instance, familiarity is positioned under the company profile dimension because it implies a trustor's prior knowledge of a company which the company profile dimension is supposed to capture.

Table 2. Factors impacting initial trust

Sources	Company Profile	Supporting Organization	Website Quality
Jarvenpaa & Tractinsky [15]	Size Reputation		
Fung & Lee [9]	Company reputation		Information quality Web interface quality
Stewart [29]		Transference	
McKnight et al. [23]	Reputation building Links to other sites	Third party seals	Perceived site quality
Gefen & Straub [14]			Social presence
Gefen et al. [13]	Familiarity	Structural assurance	Perceived ease of use Situational normality

Some researchers proposed that other factors influence initial trust (trustworthiness): namely, institution-based factor [24], disposition to trust [12, 24], and privacy and security perceptions [28]. These factors are not included in this study because they do not fit the framework of this study. First, in this study, institution-based factors are considered as a threshold of the customers' acceptance of e-commerce in general. Once a customer feels that the e-commerce environment is safe technically, legally, and socially in general, she will take the next step to find a reliable online vendor or an e-business. In this case, we propose, no direct causal relationships exist between institutional factor and customers' initial trust in a specific e-business. Second, we also propose that disposition to trust does not have direct causal impact on customers' initial trust in an individual e-business. Instead, we propose that initial trust has a moderating effect on the relationships between initial trust and its predictors because it is based on a trustor's characteristics, not a

trustee's. Third, privacy perceptions and security perceptions are another form of trust. For example, privacy perceptions mean whether a customer believes that the privacy policy of a company is trustworthy. This would be a type of tautology if we had included these factors in our model.

With this clarification, we propose that the three factors impact customers' initial trust in e-businesses and the model of customers' initial trust development is shown in Figure 1.

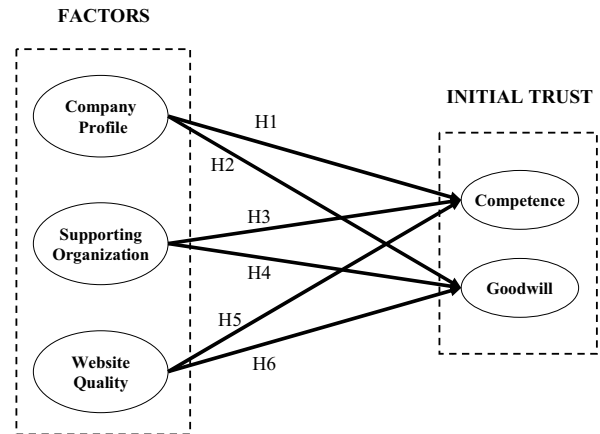


Figure 1. Model of initial trust development

4.1. Initial Trust

Initial trust, in this study, is defined as one that invokes and maintains an initial relationship before the relationship becomes a committed one. Practically, it is the customers' belief that an e-business has competence and goodwill. Competence is a customers' belief that an e-business has ability to do business, and goodwill is the customers' belief that a company has intention to help customers.

4.2. Company Profile

Company profile is defined in terms of a company's size, reputation and history. Size and reputation have been proposed as factors impacting trust [15]. We propose that company history is also an important factor that impact initial trust because customers may feel that a company has ability and intention if it has been in the market for a long time. We also propose that these three factors have a common feature and thus can be grouped into a factor (i.e., company profile). Based on the calculative process paradigm [7, 30], we propose that company profile has an impact on customers' initial trust

in e-businesses. In other words, if a company has a high profile (big size, good reputation, and long history), a customer may feel that the company has competence and goodwill.

H1: For customers in an initial relationship, customers' positive feelings about a company's profile have a positive effect on customers' beliefs about the company's competence.

H2: For customers in an initial relationship, customers' positive feelings about a company's profile have a positive effect on customers' beliefs about the company's goodwill.

4.3. Supporting Organization

Customers' perceptions of supporting organizations, in this study, are defined as customers' feelings that such organizations as assurance service organizations (e.g., BBB) or the parent company of a company are trustworthy, have a close relationship with this company, and support this company. Similar constructs have been proposed as the factors that impact trust. For instance, Cheung and Lee [5] proposed that third party recognition is one of the factors that impact trust. We propose a broader term, supporting organization, that implies various organizations that support a company.

The transference process [7, 29] explains the relationship between supporting organization and initial trust. According to this logic, based on trust in a known party, a trustor can build trust in the target if the target company has a close relationship with the known party [29]. Therefore, we propose the following hypotheses:

H3: For customers in an initial relationship, customers' positive feelings about a company's supporting organizations have a positive effect on customers' beliefs about the company's competence.

H4: For customers in an initial relationship, customers' positive feelings about a company's supporting organizations have a positive effect on customers' beliefs about the company's goodwill.

4.4. Website Quality

Perceived website quality is customers' perceptions about a company's website. It is about how well a website provides useful information (information quality) via an efficient and reliable process (system quality). In the e-commerce context, an efficient website makes it

possible to complete transactions easily and quickly with a personalized and enjoyable mechanism and the well-organized information about the products. In this sense, Katerattanakul [16] conceptualized website quality in terms of support of information search, support of enjoyment, and support of transaction.

Logically, a high quality website provides a customer with a chance to identify with a company's ability and intention to do business. This process is called identification process and some researchers proposed that website quality or similar factors (e.g., perceived site quality [24]) impact trust. We also propose that website quality has an effect on customers' initial trust.

H5: For customers in an initial relationship, customers' positive feelings about a company's website quality have a positive effect on customers' beliefs about the company's competence.

H6: For customers in an initial relationship, customers' positive feelings about a company's website quality have a positive effect on customers' beliefs about the company's goodwill.

5. Instrument Design

The scales to test the hypotheses were developed (initial trust and part of company profile) or adopted from previous studies with minor modifications (company profile, supporting organization, and website quality).

5.1. Initial Trust Scale

The items to measure initial trust were developed for this study and the development process details are presented elsewhere [17]. Table 3 displays the items used for initial trust in this study. The competence items (C2, C3, and C4) measure customers' feelings about whether a company has the ability to provide high quality products (C2), the ability to support safe and reliable transactions (C3), and the capacity and resources to deliver high quality products (C4). Similarly, the goodwill items measure how customers feel about a company's honesty (G3), intention of supporting customers' welfare (G4), and sincerity of keeping promises (G6). These items provided acceptable level of reliability and validity (refer to [17] for details).

Table 3. Items for initial trust

Code	Item
C2	I believe that the goods and/or services that the company provides must be of high quality.
C3	I believe that the company has the expertise to provide mechanisms for safe and reliable transactions.
C4	I believe that the company has the capacity and resources to provide high quality goods and/or services.
G3	I believe that the company is honest with customers all the time.
G4	I believe that the company is interested in customers' welfare.
G6	I believe that the company is truly sincere in keeping promises made to customers.

5.2. Company Profile Scale

The company profile scale was designed based on the definition of the construct. Originally 9 items were developed to capture the construct's intended aspects (i.e., size, history, and reputation). These items were adopted mostly from previous studies [7, 11, 15]. Additional items (i.e., company history) were generated to capture the definition of the construct more completely. A pretest was conducted to validate the items and produced the final five items which are shown in Table 4. The items are deemed to capture the construct's intended features: reputation (CP3), history (CP4, CP5), and size (CP7, C8).

Table 4. Items for company profile

Code	Item
CP3	This company is widely known to people for having a good reputation.
CP4	I have heard about this company for a long time.
CP5	This company has been in the market for a long time.
CP7	This company is big.
CP8	This company is the industry's largest provider of these kinds of goods and/or services.

5.3. Supporting Organization Scale

The scale by Cheung and Lee [5] was modified to measure the supporting organization construct. A pretest provided acceptable reliability and validity of the scale and the items are shown in Table 5. These items measure customers' feelings about whether supporting organizations are trustworthy (SO1, SO2) and protect customers' interest (SO3).

Table 5. Items for supporting organization

Code	Item
SO1	There are many reputable supporting organizations available for assuring the trustworthiness of Internet vendors
SO2	I think supporting organizations are doing a good job.
SO3	Existing supporting organizations are adequate for the protection of Internet shoppers' interest.

5.4. Website Quality Scale

The unidimensional 5-item scale by Wolfinbarger and Gilly [31] was used to measure the website quality construct. A word in an item was modified to capture the status of initial relationship. A pretest resulted in an acceptable level of reliability and validity of the scale. The items are shown in Table 6. This scale seems to capture the construct's proposed features: information (WQ5, WQ10), process (WQ11, WQ12), and transaction (WQ13).

Table 6. Items for website quality

Code	Item
WQ5	The website has good selection.
WQ10	The website provides in-depth information.
WQ11	The level of personalization at this site is about right, not too much or too little.
WQ12	The site doesn't waste my time.
WQ13	It seems to be quick and easy to complete a transaction at this website.

6. Methodology and Results

A survey questionnaire was used to collect the data for this study. The questionnaires were distributed to selected undergraduate students of a university in the southeastern United States. About 400 students were instructed to visit one of the four selected e-business websites and then to complete the questionnaire. The websites were carefully selected ensuring that the subjects had not visited them before. Three hundred and nineteen students returned the questionnaires. The responses were examined to screen out invalid data. For instance, responses of the students who had some experience with the target companies were removed from the data set because their responses were considered not relevant for

testing initial trust. Statistical analyses were also conducted to remove problematic data (e.g., outliers). The screening process resulted in 300 cases.

After the screening process, the data revealed that about forty six percent of the respondents were female. A majority of the respondents were between 18 and 30 years old (92%). More than half of the respondents reported that they used the Internet several times a day (63.6%) and had purchased products through the Internet at least once before (64%). Reviewing the data, we concluded that the data were useful for further analyses.

Each scale was tested for its validity and reliability. Structural equation modeling (SEM) techniques [2] were used to test the validity of each construct (convergent and divergent validity), and all the scales were accepted with satisfactory levels of validity. Cronbach's coefficient alpha was also used to test the reliability of each scale. All the scales had acceptable levels: competence (.87), goodwill (.87), company profile (.74), supporting organization (.87), and website quality (.83).

After validation, the data were used to test the main model. Structural equation modeling was used to test the hypotheses of the model. The results of the test are shown in Figure 2. Fit measures supported a very good fit of the model (Chi-square = 205.38 with 143 degrees of freedom at $p < .001$; GFI = .931; CFI = .977; RMSEA = .038 with a good confidence interval at $p = .958$). All the regression weights were statistically significant at $p = .05$ (Table 7).

Table 7. Regression weights

Regression*	Estimate	Standardized	P
C \leftarrow CP	.222	.156	.003
G \leftarrow CP	.298	.169	.003
C \leftarrow SO	.112	.138	.011
G \leftarrow SO	.174	.172	.003
C \leftarrow WQ	.733	.732	.000
G \leftarrow WQ	.800	.643	.000

C: Competence, G: Goodwill, CP: Company Profile, SO: Supporting Organization, WQ: Website Quality

The results also showed that website quality had stronger effects on initial trust than the other predictors. The standardized regression weight of competence (C) regressed onto website quality (WQ) was .732, and that of goodwill (G) was .643. On the other hand, other exogenous variables (company profile and supporting organization) had statistically significant effects on initial trust, but the effects were weaker than that of website quality.

The squared multiple correlations (SMC) of the model revealed that there was evidence of the strength of the relationships in the hypothesized structural model (SMC of goodwill was .626 and that of competence was .723). That is, about sixty three percent of the variance

associated with the goodwill construct was accounted for by the three predictors (i.e., company profile, supporting organization, and website quality). The three predictors also accounted for 72.3 percent of the variance associated with the competence construct.

With good fit indices and acceptable effect size (i.e., SMC), the regression weight statistics supported all the hypotheses proposed in this study. Therefore, we can conclude that there was evidence that the three factors (company profile, supporting organization, and website quality) have an impact on initial trust. Furthermore, the study showed that website quality may have a more significant effect on initial trust.

7. Implications

This paper defined initial trust based on the framework by Fishbein and Ajzen [8] and identified some factors that impact customers' initial trust in e-businesses. Empirical results testing the relationships between initial trust and its predictors were provided. According to the results, there was evidence that company profile, supporting organization, and website quality can be critical factors that potentially impact customers' initial trust in e-businesses. Furthermore, we found that website quality had stronger effects on initial trust than other predictors did. Therefore, building a high quality website may be very important to e-businesses.

Company profile was also identified as one of the factors impacting initial trust. Even though the effects of company profile on initial trust was less than that of website quality, it was evident that company profile would nonetheless affect initial trust in the context of e-commerce. Therefore, e-businesses need to work towards developing a high level of company profile in terms of reputation, size, and history. For established businesses, company profile needs to be given additional emphasis while for new businesses that lack a track record, advertising may be one way to raise their company profile.

Supporting organization had also statistically significant effects on initial trust, but its effect on competence was relatively weak (it was not significant at $p = .01$). This might be because the subjects felt that depending on others meant the company was less competent. However, using supporting organizations seemed to affect the subjects' beliefs that the company had good intention to do business. This result suggests e-businesses use supporting organizations to influence initial trust, however, the businesses should be mindful of the potential differential impact on goodwill and competence.

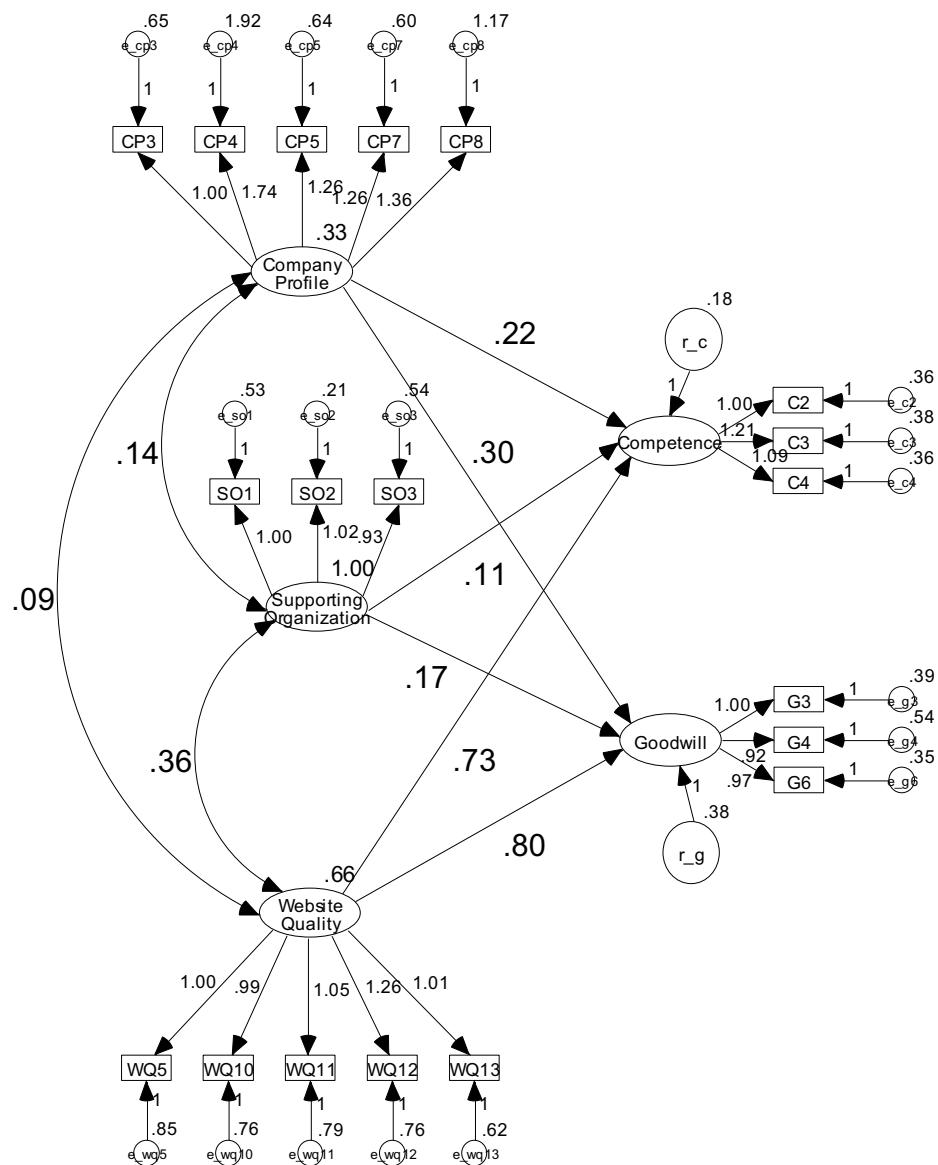


Figure 2. Tested model of initial trust development

This study also opens further research in terms of e-commerce trust, especially customers' initial trust in e-businesses. First, this study used a new instrument to measure customers' initial trust in e-businesses that was based on the concept of trusting belief [26]. Conceptually, trusting belief has been proposed with three or more dimensions [22, 26]. However, an empirical study by McKnight et al. [24] failed statistically to support the four-dimensional model and the three dimensional model resulted in a poor fit. In contrast, this study proposed two dimensions of trusting belief and the model showed a good fit. The trusting belief scale, however, requires more research.

Second, in this study, we proposed that initial trust is influenced by three important factors (company profile, supporting organization, and website quality). These factors have been proposed empirically or theoretically as the factors that impact trust (e.g., [9, 13, 14, 15, 23, 29]). This study confirms the previous studies and provides more articulated results. The results revealed that all the predictors had significant effects on both competence and goodwill while supporting organization had a relatively weaker effect on competence. These findings, however, need to be tested with other samples in future studies to provide broader validity.

8. Limitations

Some limitations are inherent in this study. The use of undergraduate students as subjects in this study was based on the assumption that students are likely customers of e-businesses. McKnight et al. [24] argued that students could be the surrogates in this context because they are in a similar individual decision-making situation and closer to the online consumer population in terms of age and education. However, focusing on a specific group (undergraduate students) may be a problem in terms of generalizability (e.g., the majority of the subjects may be in the early 20s).

Second, using a convenience sample was also a limitation of this study, which decreases representativeness. According to the principle of probability sampling, a sample is representative of the population if all members of the population have an equal chance of being selected in the sample [1]. This study was based on a convenience sample that is not quite representative of the wider e-business customer population.

Third, the design of the study was limited to a situation where customers would visit the websites by chance without previous knowledge about the companies. In most cases, before accessing the website, customers would have some previous information about the

company (reputation heard from others, company history read from newspaper, etc.). This study did not cover the latter situation and thus no conclusions could be provided for that situation.

Fourth, each subject was forced to navigate one of the websites. Even though the subjects participated voluntarily in the survey, the real life situation would likely be different. In real circumstances, customers navigate websites to fulfill their needs (e.g., for fun, for information search, etc.). If they don't have to navigate websites, they will not. Therefore, the setting of this study was contrived and may not be generalized to explain all situations.

Fifth, this study used cross-sectional analyses that may not explain every aspect of the trust development process. Trust is created, developed, maintained, and/or declines over time [21] and therefore, depending only on cross-sectional analysis may not be enough to understand the trust development process. This study explained what factors had effects on initial trust, but did not justify whether the factors really directed customers to build initial trust.

In a way, these limitations were necessary in order to build an initial model of trust development. However, to further validate and expand the model, additional studies are necessary with more controlled research designs, random samples, and longitudinal data. For instance, randomly selected general samples may be used to test the validity and reliability of the constructs and the model with more natural settings.

9. Conclusions

The findings of this study were based on certain assumptions such as: a) the majority of e-business customers are educated and young [24], b) some customers visit websites without previous knowledge about the company, and c) the subjects' participation in this study would be similar to that of the real world situation. Given these assumptions, the results provided evidence that website quality had the largest effect on customers' beliefs that an e-business had competence and goodwill. Other predictors, company profile and supporting organization, had lesser effects. Especially, supporting organization had a relatively weak effect (regression weight = .112, $p = .011$) on competence.

The findings of this study are expected to contribute to research and practice. However, the results of this study must be used with caution since the findings were based on data gathered under limited conditions. Future studies are expected to validate the findings of this study with different samples and research design.

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