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Initial Online Trust Building: A Social Learning Theory Perspective

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Abstract: With the rapid expansion of e-commerce, trust has become a central research topic in online environment for its key role in affecting e-commerce success. Our study focuses on the initial online trust building for brick-and-click companies. Building upon social learning theory, we propose a framework to examine the learning processes and important antecedents to online trust building. To demonstrate the utility of the framework, we apply it to the initial online trust building for brick-and-click firms. Our results suggest that the social learning theory is a viable tool to understand customer's trust building process. Based on the effective learning processes identified for trust building, firms can allocate their resource accordingly.

Keywords: Initial online trust building, social learning theory, brick-and-click

1. INTRODUCTION

In e-commerce, creating general trust usually requires multiple interactions and good service over a period of time ^[1]. And when consumers are unfamiliar with the vendor's website, they are less likely to trust it and purchase products from it ^[2]. So the initial online trust (IOT), which refers to the trust a potential customer places on the online vendor before she engages in any trust behavior such as online transaction, is crucial to the relationship building between consumers and online vendors. The extant literature has largely focused on identified several factors (e.g. reputation, size, the look of the website) as antecedents of online trust ^[e.g. 3,4], however, the initial online trust building process has largely been neglected.

Accordingly, it is important to systematically identify the different ways by which the customer collects evidences and forms trust perception. Our first research question is: What are different processes through which a trustor collects trust evidences and builds trust based on these evidences? To answer this question, we propose a trust building framework based on social learning theory (SLT). We consider trust building to be a learning process. Four learning processes are identified. To demonstrate the utility of the framework, we apply it to the IOT building for brick-and-click firms because it is an important yet under-investigated area. Applying our proposed SLT-based framework to this context, our second research question is: What are trust building processes for initial online customers of a brick-and-click firm?

2. LITERATURE REVIEW AND THEORETICAL FOUNDATION

2.1 Initial online trust (IOT)

In this research trust is defined as the "willingness to be vulnerable" ^[5]. It consists of three dimensions of ability, benevolence, and integrity ^[4,5]. We adopt this definition and define trust in our study as the perceived ability, benevolence, and integrity of the trustee. IOT refers to the trust a potential customer places on the online vendor before she engages in any trust behavior ^[4]. It is the first stage of a consumer's trust in a vendor and a

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specific kind of general trust. Against the online environment, we define it as the trust that a potential customer holds towards an online vendor before the first purchase. It is the trust before purchase. It is obvious that before purchase consumers may have different knowledge on the vendor from different sources. For example, women generally go to virtual communities to give and receive social support [6]. In terms of brick-and-click firm, some consumers may have offline experience with it, while others without. And the two kinds of consumers may need different strategies to convince them to form trust. Therefore, it is necessary to differentiate consumers according to the different IOT building processes.

2.2 Trust building based on social learning theory

Extant research reveals two perspectives on trust building. One is context-dependent perspective, which argues that trust can differ between unfamiliar/familiar actors, and in the organizations of different nature [7]. The other is psychological process perspective. It identifies five cognitive processes of trust building, i.e. calculus, prediction, capability, intentionality, and transference processes, which explain the formation of trust after evidences have been collected. However, they do not solve the problem where customers collect trust information.

Then we integrate social learning theory (SLT) to solve this problem. From SLT perspective, trust, including IOT, is regarded as expectancy [8]. Hence, trust building process is essentially an expectancy formation process. In Bandura’s SLT [9,10], human behavior and its associated expectation can be learned through two ways: direct experience and modeling. Learning through direct experience requires the subject to be personally involved in the activity, and realize the consequences of her response, successful or punitive. Modeling is the process of learning by observing others responding to an environment and experiencing certain consequence. Modeling includes both vicarious learning (i.e., observing others) and symbolic learning (e.g. reading printed material).

Besides direct experience and modeling, learning can also occur from similar experiences [11]. If we cross-combine the directness of experience and the specificity of situation, we can have four combinations: direct experience in the same situation, direct experience in a similar situation, modeling in the same situation, and modeling in a similar situation. These four learning processes constitute the SLT-based framework which we use to explain trust building.

3. HYPOTHESES

We have established the SLT-based trust building framework. Then we apply it to IOT building for potential customers of a brick-and-click firm. Before IOT building on a brick-and-click company, consumers may have four types of experience which can help them to develop trust. They are website experience (direct experience in the same situation), offline experience with the company (direct experience in a similar situation), reputation (modeling in a similar, and possibly the same situation) and general experience with Internet – i.e., structural assurance (modeling, and possibly direct experience in a similar situation). Table 1 summarizes these experiences and the learned perceptions of the firm.

Table 1 Initial online trust building

	Same situation	Similar situation
Direct experience	Browsing experience with the website ➢ Perceived website quality, such as perceived ease of use	Purchase experience with the offline establishment ➢ Offline satisfaction Purchase experience with other companies online ➢ Structural assurance
Modeling	Other’s evaluation of the website. ➢ Partially reflected in reputation	Other’s evaluation of offline company ➢ Largely reflected in reputation Other’s evaluation of the Internet environment ➢ Structural assurance

Potential online consumers of a brick-and-click firm can be divided into two groups, the ones who have offline experience and the ones who have not. The former group of consumers has an additional channel on collecting trust evidences compared to the latter group with other things equal. Thus we derive the research model for consumers of a brick-and-click firm based Table 1 (see Figure 1). Though structural assurance, reputation, and perceived ease of use have been tested in the context of pure-play online companies^[3,4,12,13], we include them to compare the different effects in two groups.

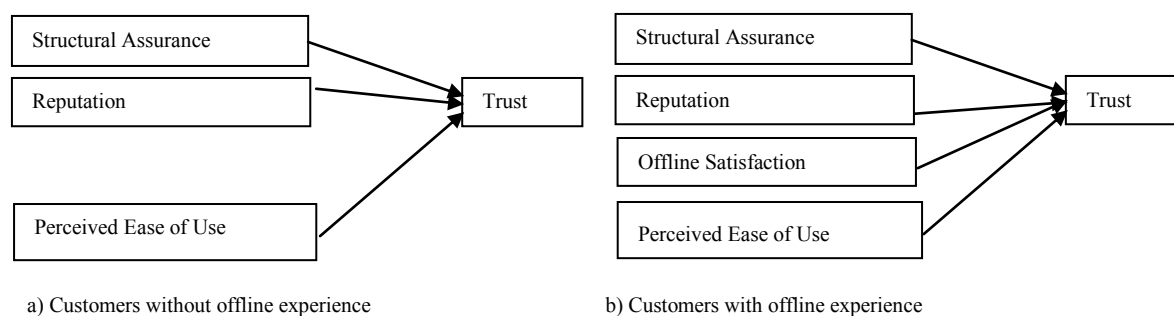


Figure 1 Research model for brick-and-click firms

3.1 Perceived Ease of Use of the Website as Learning Outcome

Perceived ease of use is defined as “the degree to which a person believes that using a particular system would be free of effort”^[14]. Applied to online behavior, it is extended to “the extent to which a consumer believes that getting product information from a website would be free of effort”^[15]. Good perceived ease of use needs substantial investment, which can be regarded as a sunk-cost-type of signal^[16]. Sunk cost is the cost incurred up front, regardless of future sales. The signaling theory suggests that a confident seller usually expects to recover the sunk cost in future sales. So they dare to invest on the website. On the contrary, a less confident one would not like to make such an investment. Then it is less possible that the website is with high quality. Like a physical storefront, it also holds that the care seller would like to provide a better purchase experience to consumers^[3]. So do the other aspects of the company. More importantly, McKnight et al.^[4] and Gefen^[3] did find empirical evidence that the web design affects a buyer’s trust. Thus we derive the hypothesis:

H1: For both customers with and without offline experience, the perceived ease of use of the website is positively related to customers’ trust in the online presence of the company.

3.2 Reputation as Learning Outcome

Reputation is defined as a collective representation of firm’s past actions and results that describes the firm’s ability to deliver valued outcomes as evaluated by third-parties^[17]. Potential consumers’ acknowledgement of the firm’s reputation is the modeling process. For the long physical standing of the reputation, it can influence potential consumers with offline experience largely. For one thing, reputation is an accumulation of the firm’s past behaviors. In trust building, “the past prevails over the present and future”^[18]. Reputation provides the needed historical information to make that assessment. If the firm’s reputation is good, it is likely to be trustworthy. For another, according to SLT, observation of other’s behavioral consequence can serve as an antecedent of the observer’s expectation when facing the same stimulus^[9]. It is a representative of vicarious experience to develop trust. Furthermore, reputation is a signal of trust with empirical evidences offered by Ganesan^[19], McKnight et al.^[4] and Grazioli and Jarvenpaa^[13]. Then we derive Hypothesis 2:

H2: For both customers with and without offline experience, the seller’s reputation is positively related to

customers' trust in the online presence of the company.

3.3 Offline Satisfaction as Learning Outcome

Offline satisfaction is in terms of the potential consumers with offline experience. The offline experience may result in different impression on the consumers. If they feel satisfied with the seller, the trust will be built in the offline setting^[19,20]. The same logic is in the online setting. Though the offline experience is direct experience in a similar situation instead of same situation, it is expected to affect the IOT because of the similarity. The SLT posits that "the similarity of the problem provides the dimension for the generalization of expectancies"^[11]. What's more, previous research^[21] finds that for brick-and-click companies one key spillover effect is the improved online trust if the goals and the coordination between online and offline establishment can be aligned. Because pleased experience with local company can reduce consumers' perceived risk on online transaction, online trust is increased simultaneously. Steinfield et al.^[21] give examples that illustrate when a local bookstore leverages its expertise to provide better services offline (e.g. book recommendation), its website attracts more users. Thus we derive Hypothesis 3:

H3: For customers with offline experience with the company, the offline satisfaction is positively related to their trust in the online presence of the company.

3.4 Structural Assurance as Learning Outcome

Except for offline experience, potential consumers may have online experience with other firms, too. Such experience, together with the knowledge of the overall safety situation of Internet, leads to the perceived structural assurance of the Internet, which encompasses the current technological safeguards, legal environment, and the online market management^[4]. Based on SLT, institutional trust can be regarded as a type of generalized expectancy of online environment. Rotter^[11] proposes two types of generalized expectancy: one is the same reward but different situation, another is different reward but similar situation. Both direct and vicarious online experience with other web stores is in the similar situation. Such experience can affect generalized expectancy. Generalized expectancy can affect specific expectancy when the situation is novel^[11]. Prior empirical studies also have shown that structural assurance fosters trust development^[4]. Thus, we derive Hypothesis 4:

H4: For both customers with and without offline experience, structural assurance positively affects customers' trust in the online presence of the company.

4. METHODOLOGY

4.1 Instrument development and pilot test

We carried out a survey study to test the research model. A questionnaire was developed based on extant studies. We adopted Spreng et al.'s^[22] overall satisfaction scale to measure a consumer's satisfaction. Instrument for other constructs were built on the foundation of prior researches with proper modification. The questionnaire used the seven-point Likert scale. All items are listed in *Appendix A*. We conducted a pilot study of 216 responses online. After data cleaning, 140 observations are usable. Carrying out exploratory factor analysis (EFA) for consumers with offline experience (105 of 140), the results show except TRUST1, all items loaded on the intended construct with a factor loading greater than 0.5; and the loadings on unintended factors were less than 0.4.

Table 2. Results of EFA for consumers with offline experience

	Component				
	1	2	3	4	5
SA1	0.753	0.122	0.044	0.332	0.001
SA2	0.772	0.216	0.076	0.004	0.091
SA3	0.841	0.178	0.090	0.084	0.012
SA4	0.800	0.257	0.022	0.147	0.112
REP1	0.156	0.843	0.023	0.075	0.048
REP2	0.019	0.793	-0.051	0.150	0.111
REP3	0.120	0.762	0.015	0.067	0.104
REP4	0.259	0.807	0.093	0.107	0.185
REP5	0.220	0.768	0.253	-0.017	0.080
REP6	0.160	0.866	0.149	0.035	0.110
PEOU1	-0.107	0.107	0.828	0.249	0.063
PEOU2	-0.062	-0.030	0.747	0.249	0.110
PEOU3	0.039	0.023	0.747	0.246	0.036
PEOU4	0.130	-0.031	0.702	0.347	0.111
PEOU5	0.169	0.152	0.853	0.060	0.130
PEOU6	0.095	0.204	0.847	0.036	0.146
TRUST1	0.097	0.148	0.421	0.718	0.089
TRUST2	0.107	0.055	0.190	0.817	0.163
TRUST3	0.152	0.105	0.208	0.831	0.087
TRUST4	0.049	0.090	0.274	0.716	0.276
TRUST5	0.210	0.074	0.253	0.740	0.211
SAT1	0.060	0.146	0.082	0.147	0.836
SAT2	-0.012	0.138	0.132	0.152	0.797
SAT3	0.022	0.079	0.084	0.217	0.876
SAT4	0.179	0.190	0.226	0.118	0.813

4.2 Main study

For the main study, we used two CD stores. *Sam Goody* and *Tower Records* were selected.

To ensure face validity of the modified questionnaire and the website, we conducted a focus group discussion with four students. Few subjects suggested that reputation item REP5 was not answerable if one does not know who the competitors are. Item REP6 was found to be too similar to REP1. Those two items were then dropped. Item TRUST1 was also dropped because of the loading problem.

For the main study, students from the same university were used. A message was sent out via the university email system to solicit student participation in the study. Two weeks later the same invitation letter was sent out again to solicit further participation. The survey website was online for three weeks. Besides browsing the website and answering the survey, subjects were asked to select a CD that they could possibly win as a prize. It is to motivate subjects to use the website essentially the same way a potential customer would. They were also asked to comment on the customer help information, shopping cart and payment, and return policy so as to further engage them in the online shopping experience. After the completion of the study, we randomly selected approximately 150 students, purchased corresponding CDs from a local store, and distributed them.

5. DATA ANALYSIS AND RESULTS

The main study collected 359 responses. After a data cleansing process, especially excluding the subjects who have bought from the focal companies, 253 records remained. The demographics of the subjects are reported in Table 3. Although using student subjects is considered a limitation, we expect it would not invalidate the result because 1) students are also consumers; and 2) we are not interested in the actual buying behavior, but only the

perceptions. Hence the design of the survey is unlikely to distort the trust perceptions.

Table 3. Distribution of subjects in the main study

Subjects	Age (s.d.)	Gender	Years using Web	Online shopping experience (times)	Store distribution ^a
Subjects with offline experience (N=126)	21.2 (3.3)	M=48% F=52%	7.4 (1.6)	2.1 (1.4)	Sam = 49% Tower = 51%
Subjects without offline experience (N=127)	22.1 (9.1)	M=44% F=56%	7.7 (2.3)	2.0 (1.5)	Sam = 46% Tower = 54%

^a Sam = Sam Goody, Tower = Tower Records

5.1 Measurement model

Following Anderson and Gerbing^[23], the measurement model was first tested before hypothesis testing. The objective of measurement model testing is to establish the construct (convergent and discriminant) validity.

To assess convergent validity, three criteria were used based on the suggestion of Anderson and Gerbing^[23]. First, the standardized factor loadings, which are indicators of the degree of association between the latent factor and each item, must be statistically significant. Second, the composite reliabilities, as well as the Cronbach’s alphas, should be larger than 0.8^[12]. Finally, the average variance extracted (AVE) for each factor should exceed 50%^[24]. As shown in Table 4, all items were retained and the convergent validity is established.

Table 4. Measurement model for two groups of subjects

Item	Customers with offline experience					Customers without offline experience				
	Smallest Std. loading	Smallest T-value	AVE	Composite Factor Reliability	α	Smallest Std. loading	Smallest T-value	AVE	Composite Factor Reliability	α
Structural Assurance	0.61	7.29	0.65	0.88	0.87	0.63	7.5	0.63	0.87	0.86
Reputation	0.80	10.52	0.75	0.92	0.92	0.73	9.09	0.62	0.86	0.86
Satisfaction	0.86	11.93	0.78	0.93	0.93	--	--	--	--	--
PEOU	0.78	10.17	0.71	0.93	0.93	0.74	9.47	0.68	0.93	0.93
TRUST	0.72	9.16	0.72	0.91	0.90	0.7	8.81	0.65	0.88	0.87

In this study, discriminant validity was verified with constrained confirmatory factor analysis suggested by Anderson and Gerbing^[23]. For every pair of factors, an ordinary confirmatory factor analysis was done first. After that, the correlation was set to unity (1.0) and the model was tested again. A χ^2 test is used to compare the results from the constrained and the original model. Discriminant validity is evidenced if the χ^2 difference is significant. Pair-wise constrained test found the chi-square differences to be all significant, hence the discriminant validity is established.

5.2 Hypotheses testing

The structural models were examined based on the measurement models. The model residual (RMSEA) and normalized indices (NFI, NNFI, CFI,) were satisfactory. GFI (GFI=0.85) was considered low. However, GFI is sensitive to sample size. We do a pooled test. The resulting indices show GFI=.91, suggesting that sample size is a factor. Figure 2 summarizes the LISREL test for hypotheses. For customers with offline experience, the offline satisfaction was found not to be a significant factor on IOT, i.e. H3 is not supported. Other hypotheses were all supported.

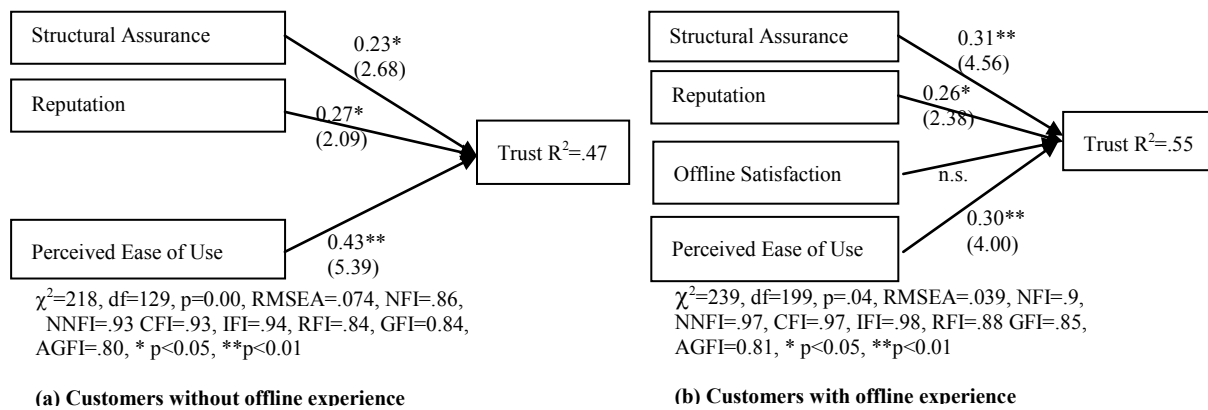


Figure 2. Standardized LISREL solution

6. DISCUSSION AND CONCLUSIONS

We proposed a SLT-based framework to study online trust and apply it on brick-and-click settings to show its utility. The results demonstrate large trust variance has been explained ($R^2=.47$ and $R^2=.55$ respectively), which indicates the relevance of these variables, and indirectly indicates the effectiveness of the framework. For consumers without offline experience, all the three hypotheses are significantly supported while for the ones with offline experience satisfaction with offline experience turned out to be insignificant surprisingly. There may be one reason for this. When a situation is new, a more general expectancy is more applicable than a specific expectancy [11]. Reputation seems to be a more general signal of a brick-and-click firm compared to offline experience. So it is still significant while the satisfaction is not.

On one hand, the SLT-based framework in this study can be used to examine trust building processes and the trust antecedents. On the other hand, the empirical results suggest the practitioners should allocate their resources on the consumers' effective learning processes to foster consumers' trust in online vendors efficiently.

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APPENDIX A

Questionnaire

Variable	Item	Description	Reference
Structural Assurance	SA1	The Internet has enough safeguards to make me feel comfortable using it to transact personal business	McKnight et al. 2002a
	SA2	In the U.S., I feel assured that legal structures adequately protect me from problems on the Internet (e.g., ability to bring up disputes with legal courts or a third parties such as Better Business Bureau).	
	SA3	I feel assured that technological structures (e.g., security technologies like data encryption) make it safe for me to do business on the Internet	
	SA4	In general, Internet is now a robust and safe environment to transact business	
Reputation	REP1	Based on what you have heard from other sources alone, but NOT on your personal experience, please indicate: From what I have heard, this company has a good reputation	Self-developed
	REP2	This company enjoys high public esteem	
	REP3	In the public opinion, this company is favorably regarded	
	REP4	According to what I heard, the reputation of this company is high	
	REP5	I heard this company is a reputable company (Dropped)	
	REP6	From what I have heard, this company has a higher reputation than its competitors (Dropped)	
Satisfaction	SAT1	Describe your feelings with respect to all aspects of your prior shopping experience with the corresponding PHYSICAL STORE of this company: Displeased – Pleased	Spreng et al. 1996
	SAT2	Unhappy – happy	
	SAT3	Disgusted – Contented	
	SAT4	Dissatisfied – satisfied	
Perceived ease of use	PEOU1	I would find this website flexible to navigate	Davis 1989
	PEOU2	I would find it easy to buy products on this website	Self-developed
	PEOU3	I would find it easy to locate information on this website	
	PEOU4	I would find this website to function the way I anticipated	
	PEOU5	Learning to use this website would be easy for me	Davis 1989
	PEOU6	This website is easy to use	
Trust	TRUST1	This web store is capable in fulfilling customers' order (dropped)	Bhattacharjee 2002
	TRUST2	This web store keeps promises, (e.g., allow me to return the CD according to the store return policy)	Grazioli and Jarvenpaa (2002)
	TRUST3	This web store can be relied upon	
	TRUST4	This web store cares about customers	
	TRUST5	In general, this web store is trustworthy	