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EMOTIONAL TRUST AND COGNITIVE DISTRUST: FROM A COGNITIVE-AFFECTIVE PERSONALITY SYSTEM THEORY PERSPECTIVE

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Abstract

The objective of this research is to identify the role of trust and distrust in online shopping mall business. To differentiate the status of distrust from low trust, cognitive-affective personality system theory was applied, through which five types of psychological units were proposed. The research model proposed seven hypotheses showing the processes through which the features of an online shopping mall – truthfulness and effectiveness of the website - affect trust, distrust levels, and behavior of individual customers. Assuming that trust and distrust are in psychologically different stages, the study further proposed that distrust, which emerges and diminishes rather cognitively, is the antecedent of trust. Then trust, which emerges and diminishes as an emotion-based variable, is posited as the antecedent of customer loyalty. To validate, a survey was conducted with 310 Korean online shopping mall users. Results show that six out of seven hypotheses are supported. From the result, we draw following discussions. First, trust and distrust are different in terms of their psychological status, and trust seems to be the more critical factor in the online business context. Second, both effectiveness and truthfulness are found to be important sources of customer loyalty. However, unlike our expectation, only effectiveness showed a direct association with customer loyalty while truthfulness had an indirect impact through trust.

Keywords: Trust, Distrust, Cognitive-affective personality systems theory, e-commerce, customer loyalty.

1 INTRODUCTION

The importance of trust in online businesses has long been acknowledged that it facilitates transactions among business parties (Moorman et al. 1993) with a hope that the other party would not behave opportunistically by taking advantage of the situation (Gefen et al. 2003). Psychologically, trust works as a sensitive antecedent of vital business factors such as familiarity (Gefen et al. 2003), subjective norm (Awad & Ragowsky 2008) and privacy concern (Kim 2008). Empirically, it evokes economic exchanges leading to high sales and profit volumes (Barney & Hansen 1994). To date, voluminous research on trust has been conducted to identify its antecedents (Ridings et al. 2002), dimensions (Mayer et al. 1995) and roles (Harris & Goode 2004) using a variety of theories. Without a doubt, trust is an important factor with a variety of impacts on online business.

More recently, the presence of distrust in online has attracted researchers for its strong negative impact on business transactions (McKnight et al. 2002). Distrust is a confirmed negative expectation regarding the other party's conduct (Lewicki et al. 1998) and a fear that the other party does not care about one's welfare and may act so as to harm him (Grover 1994). When distrust emerges, it strongly suppresses economic transactions between parties (Bigley & Pearce 1998). Especially in online, since transactions are not interpersonal, distrust easily blocks further business exchanges. In effect, avoiding distrust is a necessary condition to ensure the success of online business (Lewicki et al. 1998).

For their significant impacts on customer behaviors and the profits, it has been a high priority item for researchers and practitioners to understand how trust and distrust emerge and diminish, and how they are related with each other (Pavlou & Gefen 2004). In the past, for example, distrust has been posed as the opposite notion of trust (Lewicki et al. 1998). Nowadays, however, it is widely accepted that they are not necessarily opposite concepts (McKnight & Choudhury 2006). Trust and distrust may independently emerge from the same person (Lewicki et al. 1998) with different manifest mechanisms (Cho 2006).

In spite of these significant bodies of research in trust and distrust, very little work has been done to empirically distinguish distrust from low trust in a single online business context with a clear conceptual distinction. Incorporating distrust as a distinct entity from trust is important because it is the preceding condition for understanding trust and distrust. The importance of such a line of inquiry has been highlighted by recent research (Cho 2006) in that how the consumers' evaluations of a vendor's business operations respectively affect trust and distrust formations.

Therefore, the current research aims to identify the roles of trust and distrust in an online business context, focusing on distinguishing distrust from low trust. The chosen context is the online shopping mall because at present, it is one of the major consumer markets that have been experienced by over 90% of total consumers in most countries (Nielson report 2008). In the study, the concepts of trust and distrust are incorporated and compared by applying the cognitive-affective personality system theory. From this, we show that trust and distrust are the notions which emerge and diminish at the different psychological stages because they differently are positioned in the cognitive- and affective-dimensions. The managerial relevance of this research is straightforward that it helps researchers and managers to understand the dynamics of trust and distrust before they are finally revealed as customer behaviours.

The paper is organized as follows. A review of the base human mediating theory called cognitive-affective personality systems theory is explained. The theory is then applied to the online shopping mall context to derive a research model of trust and distrust. Seven hypotheses are derived to explain trust-distrust mediation processes wherein customer loyalty is selected as the objective construct. For the validation, a large survey data set from Korean Internet shoppers are collected and analyzed by using structural equation modeling. Finally, the theoretical contribution and practical implications are discussed.

2 THEORETICAL BACKGROUND

The cognitive-affective personality system theory explains how an individual psychologically mediates the impact of stimuli and subsequently generates distinctive complex behaviors (Mischel 1973). It has been developed to rationalize individual differences in social behaviors (Bandura 1986). The theory argues that individuals differ in how they categorize and encode situational stimuli, and in how such encodings activate and interact with cognitive- and affective- units of their mental states (Mischel & Shoda 1995). The theory focuses on the intrinsic psychological mediating processes between the stimuli and actions. Hence, the key characteristics of the theory can be summarized as follows: 1) it describes the internal chain reactions occurring in the mind set of the individual, and 2) it provides five specific units to represent each state of mediation.

In the theory, the mediating processes are represented by five types of relatively stable cognitive-affective units (Mischel & Shoda 1995). As shown in Figure 1, they are: encodings or construal of the individual (of self, other people, situations); expectancies (about outcomes and efficacy of the self); affects (subjective values, emotion); goals and values (for the construction and generation for social behavior); and self-regulatory strategies and plans in the pursuit of goals (Mischel & Shoda 1995). In the processes, first, external signals are transformed to the encoding unit. Then, encoding unit generates and activates the cognitive unit (i.e., expectation and belief) and affect unit. Finally, these three units interact with each other and generate the behavioral outcomes such as goals, values, and plans.

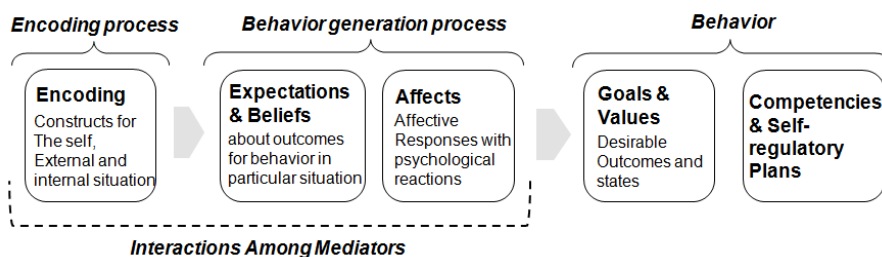


Figure 1. Cognitive-affective Mediating Process

Among the implications the theory provides, the causal relationship between cognition- and affect- units needs to be highlighted. Literally, cognition is the straightforward, conscious process of being aware of the event, understanding and reasoning of the concept and affect is a disposition or state of mind resulting from the reasoning and understandings which lasts for a certain period of time. While cognition is an immediate understanding to the exogenous stimuli, affect is the rather stabilized state of mind that is formed based on the individual's reasoning and judgment, which emerges and diminishes rather unhurriedly. Hence in the theory, cognition unit (i.e. expectation and beliefs) about the outcomes of their behaviors in a particular situation is formed first based on the encoded information; then, such expectations and beliefs shape affective responses with psychological reactions. In sum, in the mediating process, affect is considered to be located behind the cognition for their different forming mechanisms.

This idea of cognition-and-affect causality has been further exercised and developed in various research contexts for its effectiveness in explaining the information processing mechanism of an individual. For example, McAllister (1995) distinguishes cognition-based trust from affect-based trust to explain the interpersonal cooperation mechanism in organizations and argues that the cognition-based trust has a positive impact on the affect-based trust. Chang and Chen (2009) propose a cognition-affect-behavior framework to investigate the impact of interface quality and security on customer loyalty. All these studies support the observation that cognitive information processing works as the foundation of the affective mind set of humans.

The current study exercises this cognition-affect causality as a theoretical foundation for the following reasons. First, product information analysis is the most important business process for the online customers. Since they cannot examine the products by hands, they heavily rely on the product

information on the web and carefully analyze for the purchase decision making. Second, the trust and the distrust, which may emerge during the purchase, are the human mental states which are thoroughly conceptualized in the theory. By applying the theory to our research context, we investigate how trust and distrust emerge and diminish, and how they are related with other business factors.

3 RESEARCH MODEL AND HYPOTHESES

To develop a research model of trust-distrust in online business, the theory is applied to the online shopping mall context. Recently, electronic commerce has become one of the largest business sectors in industries (Nielson report, 2008). For its managerial significance, numerous studies have attempted to identify the roles of trust and distrust in online business to understand customer's behaviors and generate higher profits (McKnight et al. 2002; Pavlou & Gefen 2004). In this study, within the framework of cognitive-affective personality systems, site effectiveness and truthfulness are selected as the encoded stimuli existing in business environment. Then trust and distrust are placed as expectation and beliefs, and affect units respectively. In particular, we posit distrust as cognitive construct and trust as affect- emphasized construct. Finally, customer loyalty is selected as a dependent variable because it has been considered as a very important business objective in many prior studies (Srinivasan et al. 2002). In the following sections, the variables and their relations are described in detail.

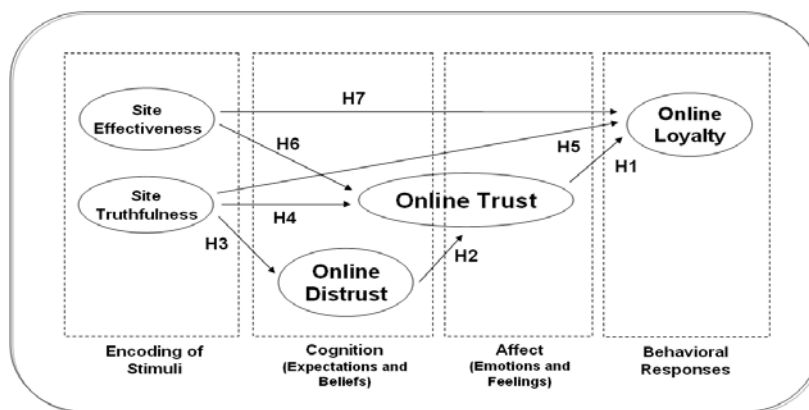


Figure 2. Research Model

3.1 Customer Loyalty

Loyalty refers to the overall attachment or deep commitment to a product, service, brand, or organization of a buyer (Oliver 1999). Loyal customers not only spend more but also act as enthusiastic advocates for the firm (Harris & Goode 2004). For these reasons, loyal customers are considered as the important profit source of online businesses (Flavián et al. 2006).

A group of researchers have attempted to integrate the behavioral aspect of loyalty to the attitudinal aspect (Gremler 1995). For example, Assael (1992) and Srinivasan et al. (2002) view loyalty as a "favorable attitude toward the brand (product, seller) resulting in consistent purchase over time." Keller (1993) defined it as "favorable attitude manifested by repeated purchasing." However, when researchers empirically validate customer loyalty, behavioral aspects have been the critical indicators of loyalty affecting feasibility of measurement. Therefore, the current study view customer loyalty as the final behavioral outcome of the interactions of psychological units and defines it as "overall attachment with favorable attitude manifested by repeated purchasing."

3.2 Trust

Trust refers to an expectation that the people one chooses to trust will not behave opportunistically by taking advantage of the situation (Gefen et al. 2003). Such expectation reduces transaction complexity by eliminating protective transaction layers such as confirmation and verification (Luhmann 1979), thus facilitating buyer-seller transactions in business (Hawes et al. 1989).

According to McAllister (1995), trust has both cognition- and affect- based dimensions. Cognition-based trust reflects technical competency and predictability (Rempel et al. 1985). It relies on rational evaluation, available knowledge, and good reasons (Jeffries & Reed 2000). Affect-based trust is rooted in emotional attachment and emotional bonds between individuals. People with affect-based trust make emotional investments in relationships and express genuine care and concern for the welfare of partners (Lewis & Weigert 1985).

In this work we adopt the view that trust is a construct with both aspects but give more emphasis on affect dimension. The main distinction between cognition-based and affect-based trust is whether the trust is sensitive to the expected, objective risks (Johnson & Grayson 2005). Cognition-based trust is knowledge-driven trust, which is sensitive to the calculated risks. However, affect-based trust is more personalized and emotion-driven trust, which is relatively insensitive to the objectively calculated risks. This distinction forms the characteristics of affect-based trust being more stable against external conditions compared with cognition-based trust. This stability strengthens the significance of trust in general. In other words, to be meaningful as trust, its stability should be satisfied. Positive cognition does not guarantee trust, but it should bring emotive reliance together to form trust. Therefore in this study, trust is defined as an emotional investment on the party who is believed not to behave opportunistically.

Among the many functionalities of trust, trust is a critical factor in building a relationship when there is uncertainty (Moorman et al. 1993). It is important not only for a single transaction, but also for establishing a long-term business relation (Dasgupta 1988). By trusting the other party, a lasting relationship can be initiated and maintained. Therefore, it can be argued that trust strengthens customer loyalty as many previous studies have proposed (Flavián et al. 2006; Harris and Goode 2004). As an important affective notion in human mediation process, high trust leads to high customer loyalty. Thus, the following hypothesis is formulated:

H1 – Trust is positively associated with customer loyalty in online business.

3.3 Distrust

Distrust is defined as a confirmed negative expectation regarding the conduct of another person (Lewicki et al. 1998). It is a concern that the other person does not care about one's welfare and may act so as to cause harm (Grovier 1994); it is also a belief that the other person is capable of doing harmful things (Sitkin & Roth 1993). More intuitively, distrust is described as a frantic, fearful, frustrated, and vengeful feeling (McKnight & Chervany 2001) and, sometimes, even as a paranoid character (Kramer 1996).

In the past, distrust is seen to be in the opposite side of trust (Lewicki et al. 1998). However, now it is widely accepted that they are not always in the opposite directions (McKnight & Choudhury 2006). The levels of trust and distrust in a certain situation do not always need to be negatively correlated (McKnight & Chervany 2001), implying that they are separate, even independent concepts (Luhmann 1979). For example, when both trust and distrust levels are high, for example, it is a high risk-high return situation where the transaction party is expected to deliver a high benefit; at the same time 'if' he behaves opportunistically, the expected disadvantage would be immense.

The main distinction between distrust and low trust is that whether it measures the size of the possible negative result or the probability of the event occurrence causing negative result. As explained, trust is a positive expectation regarding the behavior of the other party. The higher the trust level, the higher the chance that the partner behaves as he wishes. Low trust, accordingly, means a situation where the

probability an agreeable behavior from the partner is low. Distrust, on the other hand, represents the magnitude of the possible harmfulness caused by the partner. It is a calculated fear and anxiety. The higher the distrust level, the larger fear and anxiety would emerge. In this respect, it can be argued that distrust is a cognitively strong belief. The fear and anxiety in distrust are confirmative, calculated beliefs which emerge with hard evidence.

Since distrust is a cognitively strong belief, it affects the emotive beliefs of individuals during the stage of information processing. In this case, since trust is posited as a cognitively strong belief, it affects the level of trust, which is posited as the emotively strong belief. More intuitively, when an individual has fear and wariness about entering a transaction with the other party, it will reduce his positive expectations about the action of his partner. Therefore:

H2 – Distrust is negatively associated with trust in online business.

3.4 Truthfulness

In the current study, truthfulness of the website is defined as the level of closeness of the product information to the objective features of the product (Cukier et al. 2004). It is a promise that the product is exactly the same thing the consumers see on the website and a badge of integrity that only a small gap exists between the expected value and the real value (Rust et al. 1999).

From the theory perspective, the perceived truthfulness of the site is an encoded stimulus representing the functionality and performance of the website. When customers browse websites, they selectively examine the features of the sites and construe it as a stimulus. Thus, when they browse product information on the web and feel that the website is truthful, this stimulus will be encoded as high truthfulness. However, as described in the theory, once it is psychologically encoded into truthfulness, it affects other cognitions, emotions, and even behaviors of the person. Psychological interactions among individuals are complicated but have confirmative order in the process (Bandura 1986).

As explained, distrust is a cognitive belief for the possible losses that could be incurred by one party. When a customer purchases a product, he often experiences an economic loss when product information is incorrect. Untruthful information guides him to buy the unwanted, wrong product. Therefore, if the information is truthful, it relieves the fear and anxiety of the customer and reduces the level of distrust that the customer might have. From these, the following hypothesis is formulated:

H3 - Truthfulness of the website is negatively associated with distrust in online business.

Highly truthful websites guide customers into maintaining a high trust level. Trust is a positive expectation about the future action of the partner. When the website is truthful, the integrity that the website will deliver the product as promised will be satisfied. This integrity becomes the important source of trust (Vance et al. 2008). More generally and intuitively, if the product information on the web is truthful, the customers will more easily find the product they are looking for. This leads to positive expectations about the transaction on the web. From these, it is hypothesized that:

H4 – Truthfulness of the website is positively associated with trust in online business.

Finally, truthful information on the web builds customer loyalty through a repetitive purchase behavior (Keller 1993). If highly truthful information is presented in the website, it will satisfy customer needs for the accurate information, thereby encouraging them to make repeated visits and purchases. Truthfulness is one of the important functionalities of a website which should be the primary condition for its success, directly affecting customer behaviors regarding the purchase. Therefore, the following hypothesis is offered:

H5 - Truthfulness of the website is positively associated with customer loyalty in online business.

3.5 Effectiveness

In numerous studies, effectiveness of information systems has been described with a variety of definitions and conceptualizations (Gounaris et al. 2007; Pavlou & Gefen 2004). One reason behind

these varied perspectives is that effectiveness of any information systems often represents the various purposes of the subject information systems. Since each type of information system has different objectives and purposes, when its effectiveness is conceptualized, it often conveys those differences in functionalities and features.

However, for consistent and integrative conceptualization of the effectiveness, the current study adopts the goal-attainment view and defines the effectiveness as “the achievement level of the customer’s objective in his shopping” (Bonoma & Clark 1988). According to this view, effectiveness is achieved when performance meets or exceeds the goals of the organization. It is measured by the distance between what was expected and the actual results and incorporates the objectives of the decision maker. In the online shopping mall, the goal of the customer is to purchase the exact product they desire. Since customers cannot closely examine the products in an online shopping mall, purchasing the desired product is the most critical and important process.

Unlike truthfulness, effectiveness is not related with distrust because low effectiveness does not cause fear or anxiety. When the website is not effectively working, it may take customers more time and effort, but not cause fear. Thus, although customers may get annoyed and disrupted, these will not lead to worries or fear. However, high effectiveness of the website has positive impact on trust. When customers can easily purchase the product they want, they are likely to have high expectations about the transaction results, increasing trust level. More intuitively, a highly effective website is a seller’s gesture demonstrating care for the welfare of the customers. This caring attitude of the other party is one of the important features of trust (Grover 1994). From these, the following hypothesis is formulated:

H6 – Effectiveness of the website is positively associated with trust in online business.

High effectiveness of the website also increases customer loyalty. As mentioned, customer loyalty is a repetitive purchase behavior. If highly effective systems help customers purchase the exact product the customer wants with less time and effort, it will encourage customers to make repeated visits and purchases. Therefore we have the following hypothesis:

H7 – Effectiveness of the website is positively associated with customer loyalty in online business.

4 DATA COLLECTION AND ANALYSES

To test the hypotheses, the survey method was used. Instruments were developed as follows. For effectiveness and truthfulness, new scales were developed based on relevant literature due to the lack of the existing scale with the same concepts and views adopted in our study; key words were abstracted from major studies (Clark 2000; Cukier et al. 2004) and turned into complete sentences. To develop measures for trust, distrust, and loyalty, two methods were combined: adopting and refining the existing scales (Flavián & Guinalí 2006; Mcknight et al. 2002) and developing items from the keywords abstracted from major studies (Lewicki et al. 1998; Luhmann 1979). Initially, five or six items for each construct were developed. Then a pilot study was conducted with 57 undergraduate students at one of major university in Korea. By repeating numerous construct, face, discriminate, and convergent validity tests, questions were modified and finalized into 17 items: three items for effectiveness, four for truthfulness, three for trust, four for distrust, and three for loyalty. All these are listed in the Appendix.

With these items, a paper-based experimental survey was developed, in which respondents were shown popular online shopping mall websites, and asked questions about their perceived levels of effectiveness, truthfulness, and so on. For the main survey, a total of 310 responses were elicited from various types of online shopping mall users in Korea. An analysis of the data revealed that all the respondents were capable of responding to the contents of the survey. There was no significant gender or age bias. Most of them are experienced online shopping mall users, as shown in Table 1.

Age	Freq.	Gender	Freq.	Internet shopping Experience	Freq.	Monthly Shopping Frequency	Freq.
20-29	86	Male	150	Less than a year	53	0-1	86
30-39	91	Female	160	1-4 yrs	79	1.1-3	134
40-49	80	Total	310	5-8 yrs	107	3.1-10	73
50 <	53			8 yrs <	71	10 <	17
Total	310			Total	310	Total	310

Table 1. Age, gender, online shopping experience of the respondents

Construct	Indicator	Standardized Loading	Measurement Error	Composite Reliability	AVE (Average variance extracted)
Effectiveness	EV1	0.87	0.25	0.89	0.73
	EV2	0.89	0.20		
	EV3	0.80	0.36		
Truthfulness	TF1	0.73	0.46	0.86	0.60
	TF2	0.75	0.44		
	TF3	0.81	0.35		
	TF4	0.80	0.36		
Trust	TR1	0.79	0.38	0.90	0.75
	TR2	0.94	0.12		
	TR3	0.87	0.25		
Distrust	DT1	0.89	0.20	0.93	0.82
	DT2	0.97	0.06		
	DT3	0.84	0.29		
Customer Loyalty	CL1	0.81	0.34	0.93	0.77
	CL2	0.91	0.17		
	CL3	0.90	0.19		
	CL4	0.89	0.21		

Table 2. The results of the confirmatory factor analysis

In order to test the validities of the constructs, confirmatory factor analysis (CFA) was performed. All the fit statistics for the CFA model showed high levels achieved through the model (GFI=0.94, RMSR=0.025, AGFI=0.91, NFI=0.98, CFI=0.99, normed chi-square=1.69). The internal consistency and convergent validity of the constructs were then tested by examining the item-construct loading, composite reliability, and average variance extracted (AVE). Table 2 shows that most items exhibit the recommended level of loading values (0.7). The values of composite reliabilities are all higher than 0.7 (Nunnally & Bernstein 1994) and the values of AVE are all above 0.5 (Fornell & Larcker 1981). The discriminant validity is further examined using the square root of the average variance extracted (Fornell and Larcker 1981). In Table 3, all square roots of the AVE are greater than the off-diagonal construct correlations in the corresponding rows and columns. Also, correlations among constructs, which are all below 0.7, signal that multicollinearity is not a potentially serious problem in the model (Bagozzi et al. 1991). Lastly, an exploratory factor analysis (EFA) of the scale items reveals four factors with Eigen value over 1 and explains 78% of the variance in constructs. The first factor explains 43% and the last does 8% of total variance. The analysis result suggested that our collected data were not likely contaminated by common method bias (Podsakoff et al. 2003).

Construct	Means (S.D.)	Effectiveness	Truthfulness	Trust	Distrust	Customer Loyalty
Effectiveness	3.49(0.79)	0.85				
Truthfulness	3.21(0.69)	0.39**	0.77			
Trust	2.99(0.72)	0.55**	0.66**	0.87		
Distrust	3.28(0.81)	-0.13*	-0.19**	-0.26**	0.91	
Customer Loyalty	2.98(0.73)	0.55**	0.41**	0.61**	-0.19**	0.88

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

The bold numbers in the diagonal row are square roots of the average variance extracted

Table 3. Correlations of latent variables and evidence of discriminant validity

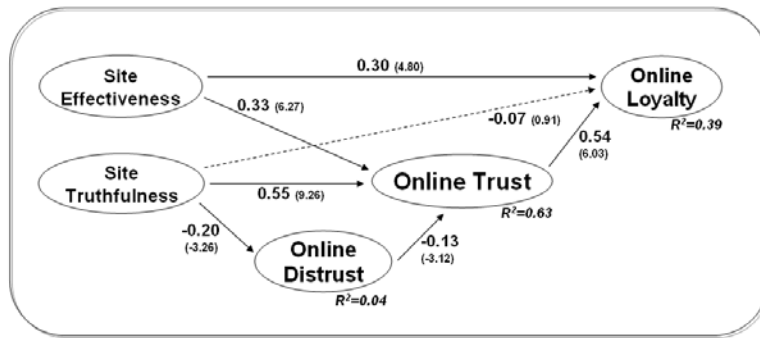


Figure 3. Results of LISREL run

Next, the structural model fit was tested with LISREL 8.71. The overall fit statistics of the model reveal an adequate fit level of the model to the data (GFI=0.94, RMSR=0.034, AGFI=0.91, NFI=0.98, CFI=0.99, normed chi-square=1.61). As Figure 3 shows, trust has a strong, positive impact on customer loyalty ($b=0.54$, $t=6.30$, $p<0.01$). Also, distrust shows a negative impact on trust. However, its impact is significant but not strong ($b=-0.13$, $t=-3.12$, $p<0.01$). Site truthfulness shows a strong impact on trust ($b=0.55$, $t=9.26$, $p<0.01$) and a moderate level of impact on distrust ($b=-0.20$, $t=-3.26$, $p<0.01$). However, impact on customer loyalty is not significant ($b=-0.07$, $t=0.91$, $p>0.1$). This result implies that truthfulness might be associated with expectation, beliefs, and affect units but may not be directly involved with behavior units. Effectiveness has significant impacts on both online trust ($b=0.33$, $t=6.27$, $p<0.01$) and customer loyalty ($b=0.30$, $t=4.80$, $p<0.01$) as hypothesized. Unlike truthfulness, effectiveness of the site shows a positive association with customer loyalty. In sum, six out of seven hypotheses are supported as summarized in Table 4.

	Hypotheses	Result
H1	Trust → Customer Loyalty	Supported
H2	Distrust → Trust	Supported
H3	Truthfulness → Distrust	Supported
H4	Truthfulness → Trust	Supported
H5	Truthfulness → Customer Loyalty	Not Supported
H6	Effectiveness → Trust	Supported
H7	Effectiveness → Customer Loyalty	Supported

Table 4. Summary of findings

In addition, mediation effects were examined. As shown in Table 5, truthfulness has strong indirect impact on customer loyalty through trust ($b=0.32$, $t=5.27$, $p<0.01$). However, its mediating impact on trust through distrust is significant ($t=2.41$, $p<0.05$) but not strong ($b=0.03$). Effectiveness shows an indirect impact on customer loyalty through trust ($b=0.18$, $t=4.61$, $p<0.01$) but the mediating impact of distrust on customer loyalty is weak ($b=-0.07$, $t=-2.83$, $p<0.01$). In sum, as in the direct effect analyses, mediating effects associated distrust show relatively small impact compared to trust.

Indirect effect	Mediated Path	Path coefficient (t-value)
Truthfulness-trust	Truthfulness-distrust - trust	0.03 (2.41)
Truthfulness - loyalty	Truthfulness- trust-loyalty	0.32 (5.27)
Effectiveness – loyalty	Effectiveness-trust-loyalty	0.18 (4.61)
Distrust - loyalty	Distrust-trust-loyalty	-0.07 (-2.83)

Table 5. Mediation effects

5 DISCUSSION AND CONCLUSION

The objective of this research is to identify the role of trust and distrust in online shopping mall business. To differentiate the status of distrust from low trust, cognitive-affective personality system theory was applied, through which five types of psychological units were proposed. An online shopping mall was selected as a research context because online environment stresses the importance

of trust for its business role of transaction facilitator (McKnight et al. 2002). Specifically, this study proposed seven hypotheses showing the processes through which the features of an online shopping mall affect trust, distrust levels, and behavior of individual customers. In the model, two important characteristics of online shopping mall- truthfulness and effectiveness- were proposed to be the exogenous variables serving as the sources of customer loyalty. Assuming that trust and distrust are in psychologically different stages, the study further proposed that both truthfulness and effectiveness have positive impacts on trust (H4, H6) and customer loyalty (H5, H7). However, between the two, only truthfulness has been hypothesized to have a negative impact on distrust (H3). With regard relationships among trust, distrust, and customer loyalty, the study first proposed that distrust, which emerges and diminishes rather cognitively, is the antecedent of trust (H2). Then trust, which emerges and diminishes as an emotion-based variable, is posited as the antecedent of customer loyalty (H1). To validate the hypotheses, a survey was conducted with 310 Korean online shopping mall users. Results show that all hypotheses except H5 are supported.

From the result, we draw following discussions. First, trust and distrust are different in terms of psychological status, and trust seems to be the more critical factor in the online business context than distrust. As shown in Figure 3, trust has very strong associations with effectiveness ($b=0.33$, $t=6.27$, $p<0.01$), truthfulness ($b=0.55$, $t=9.26$, $p<0.01$), and customer loyalty ($b=0.54$, $t=6.03$, $p<0.01$); however, it has a weak association with distrust (-0.13 , $t=-3.12$, $p<0.01$). All the relationships with distrust (i.e., truthfulness and effectiveness) are relatively weak ($b=-0.20$, $t=-3.26$, $p<0.01$; $b=-0.13$, $t=-3.12$, $p<0.01$). Consequently, trust is well explained by 60% of its antecedents, while distrust is explained by only 4%. In sum, from the view of the model, the role of trust seems to be clearer and more critical than distrust.

Second, both effectiveness and truthfulness are found to be important sources of customer loyalty. However, unlike our expectation, only effectiveness showed a direct association with customer loyalty while truthfulness had only an indirect impact through trust. The main difference between truthfulness and effectiveness lies in whether they reflect the intent or the capability of the website. Truthfulness reflects the frame of mind and intention of the website manager, and effectiveness reflects the ability or capability of the manager. Therefore, it seems that, the intent of the seller affects the psychological status of customers (i.e. trust) but not their behaviors (i.e. loyalty), while the capability of the seller affects both psychological and behavioral aspects of the customers.

5.1 Theoretical Contribution

The contributions of this research to trust-distrust literature are multifaceted. First, the concepts of distrust and low trust have been empirically differentiated. The study proposed that distrust is a relatively more cognitive notion while trust is more affective and incorporated with cognitive-affective personality system theory, leads the seven hypotheses which include distrust having a negative impact on trust and trust having a positive impact on customer loyalty. As shown, the hypotheses with trust-distrust are all supported with high model fit levels indicating that the distinction between trust and distrust is convincing. The study has shown that trust and distrust emerge and diminish in different stages with different mechanisms. This result contributes to literature by enriching the conceptualizations of trust and distrust, which has not been fully discussed in extant literature.

Second, two important features (i.e., effectiveness and truthfulness) in online shopping mall are identified and shown to be working differently in the personality systems of individuals. Effectiveness interacts with trust and customer loyalty, while truthfulness interacts with trust and distrust, but customer loyalty. Interpreting the results, effectiveness may reduce annoyance and inconvenience levels of customers but cannot relieve the fear and wariness. However, a too truthful website may reduce both inconvenience and fearfulness, while it does not seem to strengthen customer loyalty. These two factors may not be the only factors in the online business context but, as the results show, they are the two most important and representative factors affecting cognition and affection.

Lastly, we test the the cognitive-affective personality system theory in online business context. The systems theory provides a base framework for the information processing mechanism of an individual

and several online business studies adopt the theory (Chang & Chen 2009) to contrast the concept of cognition and affection, but few have validated it from a holistic perspective which covers from the initial stage (i.e., encoding of stimuli) to the final stage (i.e., customer behavior). This study's integrative view adds value because it enables researchers to comprehend the information processing mechanism of online customers seamlessly.

5.2 Practical Implications

This study provides several important implications for online shopping mall managers. First, it shows how online shopping mall managers can evoke trust and avoid distrust. They are separate concepts which are not necessarily opposites. In the study, we show the causality between trust and distrust, thereby enabling managers to practically manage trust and distrust. For example, to achieve high customer loyalty, high trust may be the more critical condition than low distrust. For managers, it is more efficient to focus on increasing trust than decreasing distrust. Moreover, since the causality indicates that distrust is the negative cause of trust and not the reverse, lowering distrust would be effective in increasing trust levels. In sum, this study suggests more than just a simple increase and decrease of trust and distrust, respectively, but shows how to effectively manage them for best results in online business contexts.

Second, as important antecedents of trust and distrust, we discuss the roles of effectiveness and truthfulness of a website. It shows that they have different impacts on customer loyalty. As such, managers should manage them to correspond to their business objectives. For example, the result indicates that truthfulness does not have a direct impact on customer loyalty, while effectiveness does. From this, managers can assume that truthfulness may be the important foundation for maintaining high trust although it does not critically affect customer behavior. If managers focus more on influencing customer behaviors rather than having a long term relationship with them (i.e., building trust), increasing the effectiveness of the website would be the more effective strategy than increasing truthfulness.

Lastly, this study provides a framework as to how exogenous stimuli affect customer behavior through trust and distrust. Since these psychological mechanisms are difficult to observe, providing such seamless framework can benefit practitioners in understanding customer behavior with evidences. Furthermore, it enables practitioners apply these strategies to businesses. For example, the result shows that distrust has an indirect impact on customer loyalty, while trust has direct impact. This indicates that controlling trust should be enhanced and that managers should be more critical of customer loyalty than controlling distrust. Therefore, if managers face resource constraints in reality, or in other words, if managers cannot control trust and distrust at the same time, it would be better to focus on controlling trust than distrust.

5.3 Limitation and Future Research

Several limitations in this research should be considered for future research. First, compared with trust, distrust has not been fully explained by its antecedents in the model. Statistically, the r^2 value of distrust is 0.04, indicating that less than 10% of total variance of distrust is explained with the structural model. One possible reason for this low r^2 may be that just one antecedent of distrust is suggested in the model. Therefore, it is suggested that future studies consider other exogenous variables which can be the sources of distrust. Second, only two website features in online shopping mall businesses were considered in the model. Possibly, there can be numerous other factors influencing trust, distrust, and customer loyalty.

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Appendix

Construct	Indicator	Question
Effectiveness	EV1	The customer reviews in this Web site provide helpful information.
	EV2	The customer reviews in this Web site provide the information I need.
	EV3	The customer reviews in this Web site provide appropriate information.
Truthfulness	TF1	The reviewers have true intentions
	TF2	The customer reviews do not contain any false information.
	TF3	The customer reviews contains accurate information.
	TF4	The customer reviews do not include any omission or distortion.
Trust	TR1	I can ensure the integrity of this Web site.
	TR2	I have faith in this Web site.
	TR3	I can transact with this Web site with confidence.
Distrust	DT1	I fear transacting with this Web site
	DT2	I feel insecure when transacting with this Web site.
	DT3	I am wary of transacting with this Web site.
Customer Loyalty	CL1	I intend to visit this Web site in the near future.
	CL2	I intend to purchase from this Web site repeatedly.
	CL3	I intend to patronize this Web site.
	CL4	This Web site would be my favorite site for shopping.