系統信任對顧客忠誠之影響：組織信任與人際信任之中介效果

Influence of System Trust on Customer Loyalty: The Mediating Effect of Organizational and Interpersonal Trust

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摘要：許多行銷上的研究指出，顧客對公司及公司代理人的信任度，會影響顧客的忠誠度。本研究建構不同層次的信任理論模式 (含系統信任、組織信任、人際信任)，與顧客忠誠度建構成為整合性因果關係模式，藉以探討各變項間之交互影響關係。本研究以直銷商為實證對象，蒐集了 252 份有效樣本，並以最小平方法 (Partial Least Squares; PLS) 進行實證，結果顯示各層次信任對顧客忠誠度具有正向影響 (p<0.05)，同時系統信任對顧客忠誠的影響中，組織信任 (p<0.001)、人際信任 (p<0.05) 具有中介效果。

關鍵詞：系統信任、組織信任、人際信任、顧客忠誠

Abstract: Many marketing studies have shown that customer trust towards a company and its representatives can influence customer loyalty. This study establishes different types of the trust theory model, which contains system trust, organizational trust and interpersonal trust. This model combines customer loyalty with an integrated causal relationship model to examine mutual influencing relationships among variables. This study adopts direct selling distributors as subjects and collects

252 valid questionnaires. The Partial Least Squares (PLS) method is applied. Analytical results indicate that system trust positively affects customer loyalty (p<0.05). Similarly, organizational trust (p<0.001) and interpersonal trust (p<0.05) have mediating effects between system trust and customer loyalty.

1. Introduction

Scholars have varying views regarding trust. Doney and Cannon (1997) see trust as a feeling resulting from credibility and benevolence. Credibility emphasizes the object of trust of trading partners, and boosts the expectation that a trading partner will honor verbal commitments or enter into a contract. Meanwhile, benevolence involves trading partner concern with happiness and willingness to pursue common interests. Zucker (1986) defined trust as "the belief of an individual or group that another individual or group will keep their promise."

Customer relationship management (CRM) has recently been a popular topic in the service industry. Firms are focused on establishing long-term and stable relationships with customers. While some customers may suspect a service provider of fraud, they typically cannot prove fraud due to lacking sufficient evidence or information. Consequently, how service providers earn customer trust is an important issue. Trust effectively reduces trading risk and can be the antecedent of loyalty. High trust can increase customer loyalty and simultaneously reduce customer exchange costs (Chow and Holden, 1997). Therefore, generating customer trust and loyalty is an important objective in the service industry.

Bove and Johnson (2000) demonstrated that when a customer develops a close relationship with specific service personnel, their trust in those service personnel may be transformed into a high degree of loyalty. Price and Arnould (1999) asserted that when service personnel are devoted to developing trusting relationships with customers, the customers generally come to believe that those service personnel will not do anything to harm them. Consequently, even when a company increases some prices of their goods, the customers will not choose other companies. Trust is an important factor in generating customer loyalty in the service industry.

Previous studies of trust focused mainly on establishing trust models to identify antecedent variables that influence trust, identifying the influence of trust on interpersonal relationships and

organizational performance, and conducting related empirical studies on strategic alliances and marketing relationships. Researches on the service industry frequently discuss interpersonal trust between customers and business personnel, and the organizational trust of consumers towards an enterprise (Bradach and Eccless, 1989; Kennedy *et al*., 2001).

However, the relationships among different types of trust have seldom been examined. Moreover, some studies have found that different types of trust positively influence customer loyalty (Pavlou, 2002; Singh and Sirdeshmukh, 2000). Thus, it is natural to ask whether different types of trust exert mediating or moderating effects on customer loyalty. For instance, promoting interpersonal and organizational trust in societies with low levels of trust like China (Fukuyama, 1995) may increase system trust. Answering this question is the goal of this study and its contribution to the literature. This study takes direct selling distributors as its research subjects and employs customer loyalty to measure the different types of trust and explore the influential relationships among customer loyalty and different types of trust. Moreover, this study presents suggestions for the direct selling industry.

2. Literature Review

The literature of this study explored on the different types of trust namely system trust, organizational trust, and interpersonal trust and their relationships. This study also explored the relations between trust and customer loyalty to strengthen the hypotheses.

2.1 Different Types of Trust

Previously, Western studies of trust generally had three orientations. The first orientation was analyzing personal trust. Studies with this orientation focused on personality and personal attributes. The scholars producing such investigations believed life experiences and personal attributes influenced their opinions of trust (Rotter, 1967). The second orientation was examining trust in interpersonal relationships through rational calculations and the emotional links involved in interpersonal relationships. These studies generally focused on interpersonal trust (Lewis and Weigert, 1985), and then explored the dynamic process and antecedent variables of interpersonal trust via psychology or social psychology. The third orientation involved viewing trust from a social perspective. Scholars argued that restrictions of the legal system, culture and ethics comprised the foundations of trust (Fukuyama, 1995; Luhmann, 1979; Zucker, 1986). Analysis on this level, explored trust in human societies (organization) or systems from a microscopic perspective and analyzed the influence of trust throughout a social system. Scholars have differing opinions regarding this type of trust. Luhmann

(1979) called it system trust, while Zucker (1986) defined it as institution-based trust.   Luhmann considered this type of trust to be the result of the legal system, and believed that legal system restrictions affect trust.   That is, people are typically afraid of performing behaviors that violate trust. People generally, trust others because they believe in the validity of social mechanisms. Another opinion holds social trust to have cultural roots.   People trust others because of internalized culture (Fukuyama, 1995).   This study examines trust based on literatures findings and classifies trust into three different types: system trust, organizational trust and interpersonal trust.

2.1.1 System Trust (ST)

Because most societies are continually improving, most people originally trust the people with which they are familiar.   System trust is gradually replacing this view.   For participants in economic activities, aside from transaction and mutual trust, participants also trust the economic system. Customer system trust is influenced by their belief that third parties will publicize information regarding those who break trust (Milgrom *et al*., 1990) and punish untrustworthy behavior (Hardin, 1992).   Lewis and Weigert (1985, p. 973) define as "trust in the functioning of bureaucratic sanctions and safeguards."   Pennington *et al*. (2003) defined system trust as a belief that proper impersonal structures have been implemented enabling one party to anticipate successful transactions with other parties.   System trust can be described in two ways: (1) structural assurances—which include safeguards, such as regulations, laws, guarantees, and contracts, that make the party feel safe in depending on the other party, hence enabling trust, and (2) situational normality—which makes the situation appear normal and reduces transaction uncertainty.

Shapiro (1987) posited that third parties should supervise transactions and restrict systems that destroy trust to protect customers.   Suitable third parties include system trust departments, such as governmental departments, associations and legal organizations (Lane and Bachmann, 1996). Luhmann (1979) found system trust to be unrelated to personal attributes, but rather related to system operational mechanisms.   Luhmann assumed that all parties in transaction-based relationships adhered to specific standards.   Customers apply system trust, which prioritizes systematic guarantees of contracts and laws, to systematic regulatory departments and group trust. Similarly, customers trust these departments and organizations to support customer rights by strictly controlling honest behaviors and punishing dishonest behaviors.   System trust is context-specific because it refers to customer's views regarding the regulation of a particular activity system.   Thus, a purchasing manager may have relatively low system trust in the auto-parts sector, but relatively high system trust in the stationary-supply sector (Grayson *et al*., 2008).

Based on the literature findings, this study divided the measurement of the construct, into two parts, namely, the opinions of direct selling distributors towards the Taiwan Fair Trade Commission (TFTC) and the Taiwan Direct Selling Association (TDSA), respectively. The TFTC and TDSA are responsible for the selling behaviors of direct selling companies and distributors, with the ultimate objective of protecting transaction safety.

2.1.2 Organizational Trust (OT)

Kennedy *et al*. (2001) argued that promoting customer trust toward salespersons and manufacturers changes the relationships among the three parties. Trust comprises the foundation of long-term trade relationship. Organizational trust is composed of consumer policies towards an organization and the key influences involved in behavioural trust. Organizational trust also helps organizations and customers maintain long-term relationships (Bradach and Eccles, 1989). Therefore, understanding the factors influencing trust between organizations and consumers is extremely important. When no relationship exists between consumers and organization, consumers face high uncertainty and risk in making a transaction. Organizations thus should strive to increase consumer trust. Organizational trust encompasses the entire trust relationship between consumers and an organization. Believing in a firm's system and scope as well as holding confidence in a firm's employees, can reduce consumer trading uncertainty and stimulate future trading behavior. Customer trust in an organization derives from accumulated employee experience. However, customers trust the entire organization rather than individual employees. The organizational trust examined in this study is customer trust in an organization.

2.1.3 Interpersonal Trust (IPT)

Interpersonal trust comprises the foundation of interactions between individuals, and includes individual cognition and emotions related to specific incidents, processes or individuals. Interpersonal trust is formed over a long period, and results from the accumulated experiences of both parties that gradually form a trust system (Dwyer *et al*., 1987; Hardin, 1992). Rotter (1980) asserted that a close relationship exists between the level of interpersonal trust and socio-economic status. For instance, children from families with high socio-economic status generally have high levels of interpersonal trust, whereas those from low social status families feel that they have little reason to trust others due to personal dissatisfaction and their realization of the benefits enjoyed by those with power and denied to themselves. The levels of interpersonal trust and reliability are strongly related. Individuals with high interpersonal trust seldom lie or deceive others and seldom steal.

Lewis and Wiegert (1985) observed that cognitive and emotional trust underlie interpersonal trust. Cognitive trust is produced when a trustor analyzes the evidence regarding the trustworthiness of a trustee. Meanwhile, emotional trust is the emotional attachment of the trustor to the trustee, and their willingness to trust another party.　Individuals with high interpersonal trust rarely suffer cognitive dissonance, mental disorders or adaptation difficulties.　Additionally, people like and respect individuals with high interpersonal trust because such individuals provide others with respect and opportunities.　Such individuals typically have many friends and good interpersonal relationship skills. Zucker (1986) labelled trust obtained from mutual trading experiences and that obtained from secondhand information regarding another party process-based trust.　In this study interpersonal trust denotes trust produced from interactions between two individuals.　Trust is generated when mutual understanding and familiarity exist.　Moreover, interpersonal trust is measured as the level of trust that direct selling distributors have in their up-line distributors.

2.2 Interrelationships among Different Types of Trust

Lane and Bachmann (1996) examined business management relationships between German and English firms.　They discovered that developing long-term partnerships is impossible in the context of a low-level trust system. System trust influences organizational trust.　Luhmann (1979), who investigated system trust and interpersonal trust from a social perspective, believed that system trust could influence interpersonal trust.　When customers have high broad-scope trust, their narrow-scope trust will also increase because the customer perceives an increased need for strong personal relationships (Grayson *et al*., 2008).　Based on the findings presented in the literature, this study examines whether organizational trust and interpersonal trust have moderating effects on the relationship between system trust and customer loyalty in the service industry.

Trust can reduce trading risk and serve as an antecedent of loyalty.　High trust can increase customer loyalty and simultaneously reduce customer exchange costs (Chow & Holden, 1997). When customers have high system trust, their organizational trust and interpersonal trust will also be high due to an awareness that market trust contributes towards the establishment of interpersonal relationships (Brenkert, 1998; Platteau, 1994).　When customers have low system trust, their organizational trust and interpersonal trust will also be low because of an awareness that market trust does not contribute to the establishment of interpersonal relationships (Brenkert, 1998; Lane and Bachmann, 1996; Platteau, 1994).

2.3 Interrelationship between Customer Loyalty (CL) and Trust

Customer loyalty involves a long-term relationship encompassing customer retention and favorable attitudes (Fornell, 1992).　Customer loyalty exists when a buyer repeatedly selects a specific brand or service.　According to statistics from Reicheld and Sasser (1990), profits can increase from 25% to 100% when the percentage customer retention increases by 5%.　Numerous scholars have indicated that loyal customers are a source of competitive advantage.　Generating customer loyalty thus is an important duty of business managers.　Selnes (1993) argued that customer loyalty is a behavioral response of consumers after purchasing a product or service.　Such responses include future repurchases or renewed service contracts.　That is, customers with low loyalty are more likely to switch to other brands or service providers, while loyal and satisfied customers are less likely to do so. On the other hand, transferring customer technical, economic and psychological factors and beliefs to another service providers is technically challenging and potentially costly.　Rosanas and Velilla (2003) argued that trust and loyalty are two sides of the same coin, and exist simultaneously between two persons (or among people).

Loyalty is a product of trust.　Numerous scholars define customer satisfaction as a transaction outcome and customer loyalty as a trust mechanism (Kennedy *et al*., 2001; Pavlou, 2002).　Chow and Holden (1997) determined whether trust is more important than product (quality or service) for customers making purchase decisions.　Their model utilized company trust, salesperson trust, and consumer purchasing attitude to measure customer loyalty.　Their analytical results indicated that trust toward a company and its sales people significantly increases customer loyalty (loyalty intention and loyalty behavior).　Sirdeshmukh *et al*. (2002) believed in the existence of a mutual relationship between customer trust and loyalty.　When customer trust in management and first line employees increases, customer loyalty follows. When service providers earned customer trust, customer perceptions was reduced and customer trust in the future behavior of the provider increased (Morgan and Hunt, 1994).

Consumers typically assess the service performance of a company after receiving services from the firm.　If the service performance is high quality or better than expected, and assuming consumers see the reasons for good performance as factors in positively evaluating a company, consumer loyalty to the firm will be positively influenced.　This study thus utilizes customer loyalty to measure the outcomes associated with different types of trust.

3. Research Model and Hypotheses

This study combines the findings of the literature and develops a causal integrated model.　The hypotheses were then established based from this model.

3.1 Research Model

This study includes four constructs: system trust, organizational trust, interpersonal trust, and customer loyalty.　Figure 1 illustrates the research model.

The research framework uses a narrow-scope of organizational trust and interpersonal trust as mediator variables (Grayson *et al*., 2008).　A mediator is a variable in a chain whereby an independent variable causes the mediator which in turn causes the outcome variable (Sobel, 1990). This study adds a mediator variable between the independent and dependent variables, as proposed by Baron and Kenney (1986), to test for mediating effects between system trust and customer loyalty. The test of the relationships among the three variables employs two mediating effects.　The first is the "complete mediating effect," where the independent variable does not significantly influence the dependent variable after the mediator is added.　Meanwhile, the second is the "partial mediating effect."　The relationship between the independent variable and the mediating variable, and between the mediating variable and the dependent variable should be significant.　In rival models A, B, and C, system trust is the independent variable, while customer loyalty, organizational trust and interpersonal trust are the dependent variables (Morgan and Hunt, 1994).　This approach uses the mediator variable
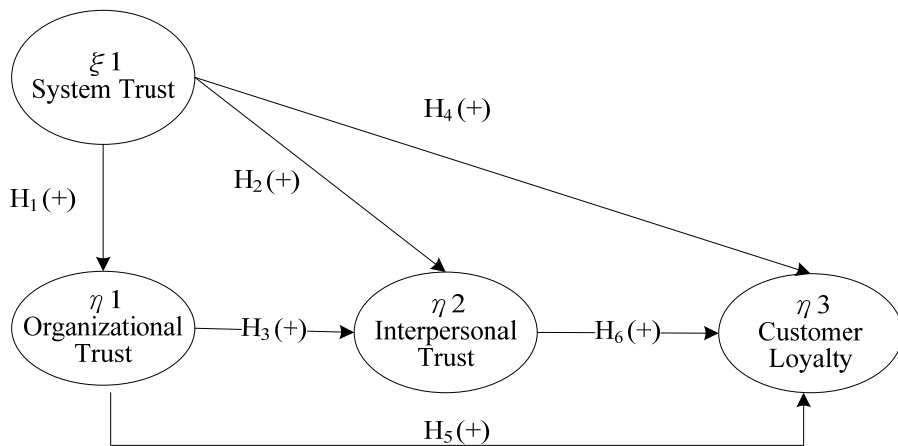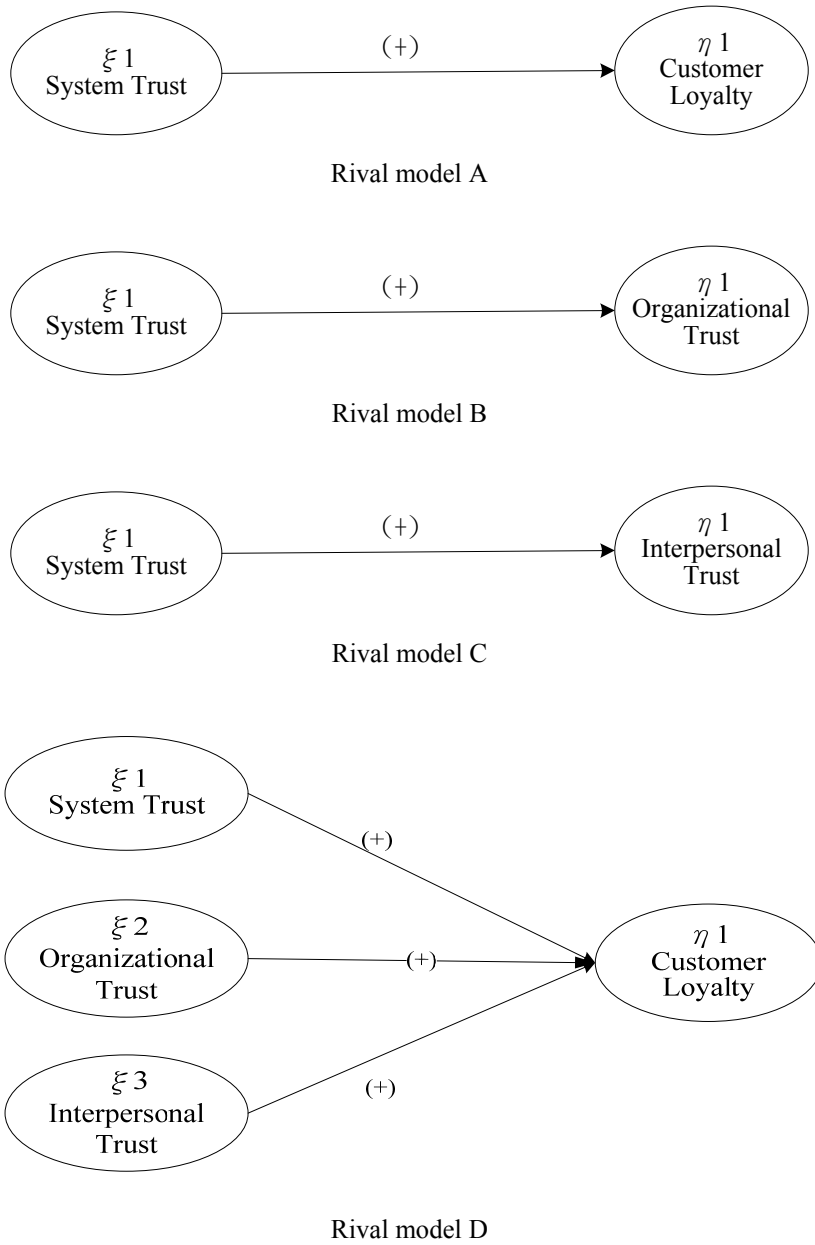

Figure 1　The research model

$\xi 1$
System Trust

$(+)$

$\eta 1$
Customer
Loyalty

Rival model A

$\xi 1$
System Trust

$(+)$

$\eta 1$
Organizational
Trust

Rival model B

$\xi 1$
System Trust

$(+)$

$\eta 1$
Interpersonal
Trust

Rival model C

$\xi 1$
System Trust

$(+)$

$\xi 2$
Organizational
Trust

$(+)$

$\eta 1$
Customer
Loyalty

$\xi 3$
Interpersonal
Trust

$(+)$

Rival model D

Figure 2　Rival research models

as the dependent variable for testing the key mediator variable between system trust and customer loyalty.　In the rival model D (Figure 2), system trust, organizational trust, and interpersonal trust are

the independent variables while customer loyalty is the dependent variable. These variables are employed to test the mediating effect via path parameter estimation.   System trust directly affects customer loyalty, organizational trust, and interpersonal trust in rival models A, B and C. Furthermore, system trust, organizational trust, and interpersonal trust directly affect customer loyalty in rival model D.

3.2 Hypotheses

Using the viewpoint of trust, Zaheer *et al*. (1998) divided trust into two types, interpersonal trust and organizational trust.   They demonstrated that interpersonal and interorganizational trust are related but distinct constructs, exert different effects on negotiation process and exchange performance. These studies indicated that different types of trust are interrelated. Therefore, hypotheses 1–3 are proposed.

H_1: System trust positively affects organizational trust

H_2: System trust positively affects interpersonal trust

H_3: Organizational trust positively affects interpersonal trust

Trust relationships between trading partners are typically established after a buyer has purchased a product (or service) from a seller for the first time.   Customer feelings and evaluations regarding the use of a product (or service) are the key factor determining whether they continue or stop their trust-based relationship.   Furthermore, buyer repurchase and recommendations are the outcome of high trust.   Chow and Holden (1997) examined whether trust is more important than the product itself (quality or service) for customers making purchase decisions.   This model employs company trust, salesperson trust and purchase attitude to measure customer loyalty.   The analytical results presented by Chow and Holden (1997) indicate that trust in a company and salespersons considerably increases customer loyalty.   Furthermore, Pavlou (2002) employed perception monitoring, agreement, legal and regulatory system and cooperative norms to measure trust in salespersons (credibility and benevolence). Similarly, salesperson credibility and benevolence were used to measure the outcome of trust (satisfaction, perception risk and customer repurchasing).   The test results indicated that salesperson credibility and benevolence significantly and positively affect the buyer repurchase willingness.   In this trust model, Pavlou (2002) established a new variable to measure seller trust.   Pavlou also reported that using institution-based trust leads directly to interorganizational trust but not overall trust. Moreover, since test results for familiarity with interorganizational trust were insignificant, familiarity is not a factor influencing B2B market trust.

According to this trust model, customer satisfaction and customer loyalty are used to measure trust outcome. This study adopted customer loyalty to measure the outcome of trust according to the studies of Ganesan (1994) and Morgan and Hunt (1994). Thus, this study proposes the following hypotheses.

H_4: System trust positively affects customer loyalty

H_5: Organizational trust positively affects customer loyalty

H_6: Interpersonal trust positively affects customer loyalty

4. Research Methodology

This section mainly explains the design of the questionnaire and the sampling method. It also discussed about the test results of the common method bias and the statistics used in this study.

4.1 Questionnaire and Sampling

A questionnaire was used to collect data with the first part of the questionnaire based on previous questionnaires and modifications made to fit the present study. Other parts of the questionnaire were based on past publications of the present authors. The questionnaire requested that respondents identify a specific direct selling company and distributor that they regularly interact with, and then consider their experiences with this company while completing the questionnaire. For the pilot test, 30 respondents were randomly selected from two direct selling companies and asked to evaluate the questionnaire content. The evaluation indicated that the content was valid but a portion of the questionnaire was corrected according to the respondent's suggestions and unclear questions were revised to increase reliability.

Of the 288 direct selling companies in Taiwan, only 33 were members of the Taiwan Direct Selling Association (TDSA). This study thus gathers a sample from 33 direct selling companies. A total of 810 questionnaires were distributed among these 33 firms. Direct selling companies helped contact and randomly distribute the questionnaires to their distributors.

Because all data are self-reported and collected through the same questionnaire during the same period of time with cross-sectional research design, common method variance, variance that is attributed to the measurement method rather than the constructs of interest, may cause systematic measurement error and further bias the estimates of the true relationship among theoretical constructs. Harman's single-factor test was conducted to test the presence of common method effect (Andersson and Bateman, 1997). All the research variables were entered into an exploratory factor analysis, using unrotated principal components factor analysis, principal component analysis with varimax

rotation, and principal axis analysis with varimax rotation to determine the number of factors that are necessary to account for the variance in the variables.   If a substantial amount of common method variance is present, either (a) a single factor will emerge from the factor analysis, or (b) one general factor will account for the majority of the covariance among the variables (Krishnan *et al.*, 2006).

The unrotated principal component factor analysis, principal component analysis with varimax rotation, and principal axis analysis with varimax rotation all revealed the presence of five distinct factors with eigenvalue greater than 1.0, rather than a single factor. The five factors together accounted for 70 percent of the total variance; the first (largest) factor did not account for a majority of the variance (33%).   The result showed no existence of single factor and centralization in the proportion of factor explanation.   Therefore, the possibility of same source bias in preliminary determination is low.

4.2 Survey Development

The survey items are presented in the Appendix.   The operationalization of trust was based on a definition shared by a number of scholars (Grayson *et al*., 2008; Selnes, 1993), who view trust as a belief that a firm or representative is benevolent, honest and will act in the best interests of the customer.   To measure system trust, interpersonal trust, and organizational trust, this study used the trust measures developed by Grayson *et al*. (2008) were applied with the following adaptations.   We measure the different types of trust held by down-line distributors towards up-line distributors and direct selling companies.   Furthermore, questions measuring customer loyalty were adopted from the questionnaire used by Selnes (1993).

4.3 Method and Procedure

The Partial Least Squares (PLS) method was used for the analysis.   This method by Wold (1966) and has been widely used for management studies (Wixom and Watson, 2001).   PLS is considered a mature estimation method, especially in estimating the path coefficient in causal models (Fornell *et al.*, 1990).   During PLS analysis, a structural model and hypotheses regarding constructs are first established.   Model constructs are then divided into formative and reflective indicators.   Each indicator or construct comprises a group of items.   The forecasting ability of the structural model is then assessed using the composite reliability (CR), discriminant validity, and explanatory capability of the model (R^2).

As PLS does not have a default data distribution, there is no need for data to conform to a normal distribution.   Similarly, PLS does not provide an estimation of the path coefficient of trust intervals and statistical significance.   To estimate the significance of the path coefficient, Bollen and Stine

(1992) recommend using the BootStrap method to estimate the significance of the path coefficient and this method was applied to test the significance of the model coefficients.

5. Results and Discussion

This section showed the data of the descriptive statistics.　Next, Partial Least Squares method was used to test the reliability, validity, and the relations of the constructs with the whole model.　Last, it discussed on the results of the hypotheses.

5.1 Sampling Characteristics

After almost three months of contacting direct selling companies, and following-up non-responses, all unqualified research subjects (such as users of the goods involved in the survey) were eliminated. A final valid sample of 252 questionnaires was obtained representing a return rate of 31.1%. Referring to Table 1, more distributors were married than single and direct selling offers the best entrepreneurial opportunities for distributors. Direct selling did not deter those lacking work

Table 1　Demographics of respondents

Variable	Classification	Career type distributor		Consumer type distributor		Total	
		n	%	n	%	n	%
Gender	male	53	32.7%	27	30%	80	31.7%
	female	109	67.3%	63	70%	172	68.3%
Marital status	married	95	58.6%	55	61.1%	150	59.5%
	single	67	41.3%	35	38.9%	102	40.5%
Age	20 years old and below	3	1.9%	1	1.1%	4	1.6%
	21~30 years old	37	22.8%	32	35.6%	69	27.4%
	31~40 years old	69	42.6%	40	44.4%	109	43.3%
	41~50 years old	35	21.6%	11	12.2%	46	18.3%
	51~60 years old	17	10.5%	6	6.7%	23	9.1%
	61years old and above	1	0.6%	0	0.0%	1	0.3%
Educational background	below senior high school	4	2.5%	2	2.2%	6	2.3%
	senior high school	50	30.8%	27	30%	71	28.2%
	college	102	63.0%	59	65.6%	167	66.3%
	master's and above	6	3.7%	2	2.2%	8	3.2%
Annual income	$12,500 and below	60	37.0%	50	55.5%	110	43.6%
	$12,501~25,000	63	38.9%	33	36.7%	96	38.1%
	$25,001~38,400	29	17.9%	7	7.8%	36	14.3%
	$38,401~50,000	3	1.9%	0	0.0%	3	1.2%
	$50,001 and above	7	4.3%	0	0.0%	7	2.8%

experience, and was considered a good part-time opportunity. Distributors are generally independent and develop at their own pace. Overall, 69.5% of respondents had at minimum completed junior college, while 30% had completed senior high school. Females accounted for 68.3% of respondents, while 31.7% were male. In the 41-50 year old age group, career-type distributors comprise a higher percentage of the sample than consumer-type distributors.

5.2 Measurement model results

All variables in the study were found to be statistically significant. Aside from the items "The Taiwan Fair Trade Commission (TFTC) and Taiwan Direct Selling Association (TDSA) understand consumer needs" and "The TFTC and TDSA keep their commitments", which had factor loadings of 0.601 and 0.672 respectively, all other factor loadings were 0.7 (Chin, 1998a). Table 2 lists the item loadings obtained by the model with all constructs. The analytical results indicate that all item reliabilities were acceptable.

Table 2   Individual item reliabilities

Construct	Item	Loading	Std. Error	t-value
System Trust (ST)	ST1	0.90	0.052	17.20
	ST2	0.75	0.093	8.05
	ST3	0.60	0.094	6.46
	ST4	0.89	0.054	16.32
	ST5	0.85	0.068	12.41
	ST6	0.67	0.087	7.65
Organizational Trust (OT)	OT1	0.90	0.039	23.11
	OT2	0.90	0.033	26.91
	OT3	0.88	0.033	26.22
	OT4	0.85	0.046	18.38
	OT5	0.75	0.052	14.28
	OT6	0.80	0.046	17.25
Interpersonal Trust (IPT)	IPT1	0.81	0.041	19.44
	IPT2	0.86	0.042	20.36
	IPT3	0.92	0.027	32.97
	IPT4	0.95	0.020	46.55
	IPT5	0.82	0.052	15.69
	IPT6	0.85	0.040	21.21
Customer Loyalty (CL)	CL1	0.83	0.046	17.80
	CL2	0.93	0.009	98.64
	CL3	0.89	0.018	49.72
	CL4	0.94	0.009	100.70

Under the composite reliability (CR) of the latent variables (Table 3), all model values lie between 0.907 and 0.946.　These values exceed the suggested value of 0.7 (Hair *et al.*, 1998), suggesting thatall four constructs have high reliability and internal consistency.　The average variance extracted (AVE) values of constructs listed in Table 3 are between 0.62 and 0.81.　Thus, the model exhibits good convergent validity (Fornell and Larcker, 1981).

Table 4 lists the discriminant validity of all of the study constructs.　The average variance extracted root mean square of all constructs exceeded the correlation coefficients among constructs; therefore, the constructs in the model have sufficient discriminant validity (Fornell and Larcker, 1981). Similarly, the correlated forecasting and explanation variables were integrated into the model to avoid errors associated with deleting the wrong principal component that cannot be induced by traditional principal component analysis.　By combining principle component analysis and path analysis, errors in identifying the most appropriate regression coefficient assemble of the forecasting and explanation variables are avoided.

5.3 Structural Model Result

The PLS method emphasizes the possibility of establishing formative indicators.　Because PLS is different from using the covariate of samples as the estimation method, the goodness of fit index (GFI) was not determined.　Thus, R^2 and path coefficients were the main indices used to determine the

Table 3　Reliability and average variance extracted (AVE)

Construct	Item	Mean	Std. Dev.	Composite Reliability	AVE
System Trust (ST)	6	4.86	0.90	0.907	0.62
Organizational Trust (OT)	6	5.60	1.07	0.942	0.73
Interpersonal Trust (IPT)	6	5.40	1.08	0.950	0.76
Customer Loyalty (CL)	4	5.69	1.11	0.946	0.81

Table 4　Correlations between constructs

Latent Variable	ST	OT	IPT	LOY
System Trust (ST)	0.78			
Organizational Trust (OT)	0.41	0.85		
Interpersonal Trust (IPT)	0.39	0.67	0.87	
Customer Loyalty(CL)	0.42	0.68	0.68	0.90

Note: Diagonal elements are square roots of the average variance extracted.

model goodness of fit (Chin, 1998b). The explanatory capability (R^2) of latent independent variables towards the overall model was divided among organizational trust (0.17), interpersonal trust (0.47), and customer loyalty (0.57). Although the R^2 of organizational trust was low, that R^2 of the other latent independent variables was greater than 0.47 (Figure 3).

System trust significantly, directly, and positively influences organizational trust, interpersonal trust, and customer loyalty with path coefficients of 0.414, 0.146 and 0.119, respectively (Table 5). Thus, hypotheses H_1, H_2, and H_4 are supported. Furthermore, organizational trust significantly, directly and positively influences interpersonal trust and customer loyalty, with path coefficients of 0.611 and 0.378, respectively. The trust of a direct selling company (e.g., image, system, and scale) positively influence customer loyalty. Similarly, customer trust in the firm influenced customer trust in firm personnel; therefore, hypotheses H_3 and H_5 are supported (Chow and Holden, 1997). Interpersonal trust significantly, directly, and positively influenced customer loyalty; the path coefficient was 0.380. Trust of up-line distributors promotes customer loyalty, and thus hypothesis H_6 is supported (Pavlou, 2002).

Table 6 lists the path effect of customer loyalty on system trust. The path effects include one single parameter estimation of direct effect 0.119 of ST→CL, and three paths, and parameters estimation of indirect effects, which are divided into 0.055 (0.146 × 0.38) of ST→IPT→CL, 0.156
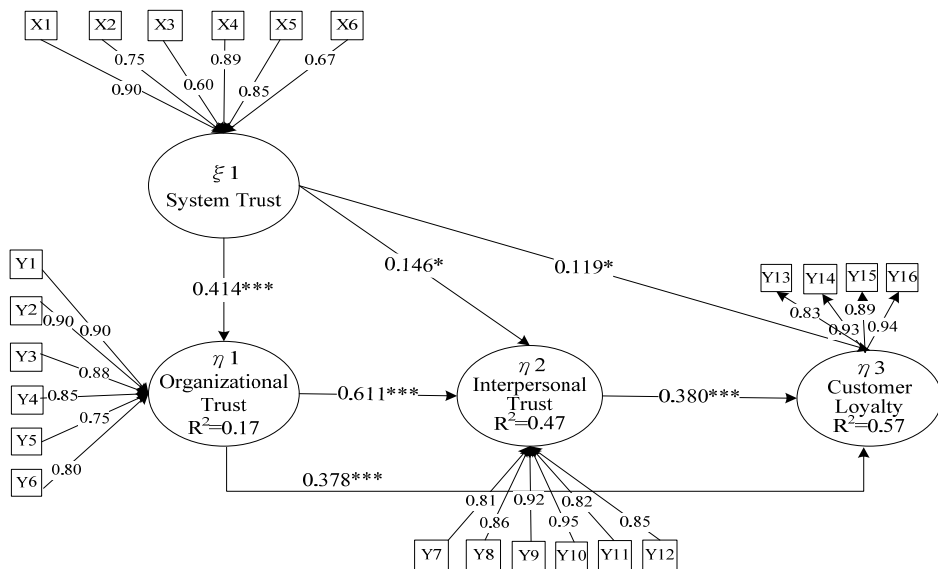

Figure 3   Hypotheses supported in the structural model

Table 5　Results of the structural model

Hypothesis	Path between	Path Coefficients	t value (bootstrap)	Result of Test
H_1	ST →OT	0.414***	7.646	Accepted
H_2	ST → IPT	0.146*	2.593	Accepted
H_3	OT → IPT	0.611***	9.753	Accepted
H_4	ST → CL	0.119*	2.325	Accepted
H_5	OT → CL	0.378***	5.146	Accepted
H_6	IPT → CL	0.380***	5.681	Accepted

Note: * p < 0.05, ** p < 0.01, *** p < 0.001

Table 6　Analysis of Competing Structural Models

Latent Variables	Path	Proposed Model	Rival Model A	Estimate Rival Model B	Rival Model C	Rival Model D
System Trust	Direct Effect					
(ST)	ST → CL	0.119*	0.434***			0.125*
	ST → OT	—		0.449***	—	—
	ST → IPT	—	—	—	0.439***	—
	Indirect Effect					
	ST → IPT →CL	0.055*	—	—	—	—
	ST → OT →CL	0.156***	—	—	—	—
	ST → OT → IPT → CL	0.096*	—	—	—	—
	Total Effect	0.426	0.434	0.449	0.439	0.125
Organizational	Direct Effect					
Trust	OT → IPT	0.611*	—	—	—	—
(OT)	OT → CL	0.378***	—	—	—	0.395***
	Indirect Effect					
	OT → IPT →CL	0.232***	—	—	—	—
	Total Effect	0.610				0.395
Interpersonal	Direct Effect	0.380***	—	—	—	0.378***
Trust	IPT → CL					
(IPT)	Total Effect	0.38.	—	—	—	0.378

Note: * p < 0.05, ** p < 0.01, *** p < 0.001

(0.414 × 0.378) of ST→OT→CL and 0.096 (0.414 × 0.611 × 0.380) of ST→OT→IPT→CL. Among these, the indirect effect of ST→OT→CL was highest (0.156 > 0.119, 0.096, 0.055). This indicates that system trust significantly influences customer loyalty and organizational trust. Furthermore, customer trust in the whole environment of the direct selling market (system trust) should be enhanced by organization trust (direct selling company) and interpersonal trust (distributors).

5.4 Mediating Effect of the Research Model

The analytical results demonstrate that the parameter estimates of the effect of ST→CL, the direct effect, and three indirect effects with a mediator were 0.119, 0.055, 0.156 and 0.096, respectively. Furthermore, the parameter estimates of the direct effect in rival models A, B and C (without a mediator) were 0.434, 0.449 and 0.439. Moreover, parameter estimation of the direct effect in rival model D (without a mediator) was 0.125. Clearly, by adding organizational trust and interpersonal trust as mediators, the direct effect in the research framework was ST→CL (0.119), which had lower parameter estimation than the direct effect in rival models A, B, C or D. Adding customer loyalty and trust to the research framework as mediators had a partial mediating effect.

5.5 Effect Analysis

The parameter estimation of ST→OT→CL is greater than the parameter estimation of ST→IPT→CL (0.156 > 0.055), indicating that organizational trust has a greater mediating effect than interpersonal trust in the direct selling industry. This finding is explained by customers trusting directselling companies more than sales personnel. Although Taiwanese consumers have positive views towards direct selling, they still have some doubts about the cheating behavior of distributor, and therefore favor prestigious direct selling companies and have only low trust in direct distributors. Additionally, the direct effects of OT→CL (0.378) and IPT→CL (0.380) exceeded those of ST→CL (0.119), indicating that in a low trust environment, organizational and interpersonal trust were more important than system trust in directly influencing customer loyalty.

6. Conclusion

Social scientists have analyzed system trust in a market environment (Lane and Bachmann, 1996). Additionally, they have utilized customer-trading subjects and established the constructs organizational trust and interpersonal trust (Doney and Cannon, 1997; Dwyer *et al*., 1987). This study employed customer loyalty as the dependent variable and customers (distributors) in the direct selling industry as

research subjects to examine the relationship between different trust types and customer loyalty.

Kennedy *et al*. (2001) argued that customer trust in sales personnel and repurchase intention are positively and significantly correlated. Sales personnel attitudes and behaviors influence customer product satisfaction and trust in sales personnel. Recently, along with law (Fair Trade Law) introduced by the Taiwanese government for the direct selling industry, consumer trust in the direct selling industry has increased. Distributor trust in direct selling companies and their products has increased, as has customer loyalty. This study also obtained the same result (H_4, H_5 and H_6). Organizational trust and interpersonal trust (0.378 and 0.380) directly affect customer loyalty, and had greater effects that that of system trust (0.119), indicating that in similar environments, customer trust of a trading company (organizational trust) and service provider was more important than the trust in the market environment (system trust). The annual turnover of the top ten direct selling companies in Taiwan (including Amway Taiwan Co. and Avon Taiwan Co.) exceeded 50% of the total annual turnover of Taiwan's direct selling industry (Taiwan Fair Trade Commission, 2007) indicating that organizational trust is more important than system trust.

System trust significantly and positively influences the three indirect effect paths of customer loyalty. Specifically, system trust significantly and positively influences organizational trust and interpersonal trust (H_1, H_2). Additionally, organizational trust positively affects interpersonal trust (H_3). The analytical results show that organizational trust and interpersonal trust have partial mediating effects on system trust and customer loyalty. System trust can effectively influence customer loyalty and organizational trust and interpersonal trust are still needed to promote customer loyalty.

In a market environment where system trust is decreasing, businesses have difficulties establishing customer organizational trust and interpersonal trust. Apart from looking for effective methods to establish customer confidence (i.e., establishing quality, price or service guarantees), businesses can use the established trading norms of the Taiwan Fair Trade Commission (TFTC) to establish a high trust social system. Strictly limiting member companies and instituting rules for employees (e.g., a code of ethics), and having the government regulate business are good methods of establishing long-term high-trust social systems and countries. Fukuyama (1995) asserted that national level of trust directly influences business scope and global competitiveness. Similarly, Fukuyama noted that group success depends on mutual trust and culture determined trust. Therefore, using religion-based trust, habits and other cultural mechanisms to promote a culture of trust also increases system trust.

The selling methods used by the direct selling industry are unique and highly influential and may cause people to misunderstand the direct selling industry. The most important direct selling product

characteristics not favored by consumers were quality, effectiveness and price (Wotruba and Pribova, 1996).　A few early direct selling companies used the illegal "head hunting" to obtain profits rather than simply rely on their products or services.　Therefore, this study suggests that direct selling companies work hard to prove their credibility, generate a good reputation (organizational trust), and train honest and trustworthy distributors (interpersonal trust) in order to gain customer trust and loyalty.

　　The study demonstrated that trust of the Taiwan Fair Trade Commission by direct selling customer (system trust) significantly influences their trust towards direct selling companies (organizational trust) and up-line distributors (interpersonal trust).　Besides improving the routine government regulation of the direct selling industry, the Taiwan Fair Trade Commission can request the cooperation of direct selling companies in educating their distributors.　Furthermore, the Taiwan Direct Selling Association (TDSA) can advocate beneficial direct selling concepts to the consumers such as organizing cooperative public welfare and academic activities with academic units.　Finally, studies regarding "trust" have all used cross sectional data which limits the study.　Adding vertical section data and focusing on a specific market in measuring the relationship between the two different types of trust will yield a more accurate result (Dwyer *et al*., 1987; Garbarino and Johnson, 1999).

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