CREATING CUSTOMER LOYALTY IN BUSINESS-TO-BUSINESS MARKETS

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Abstract

The purpose of this research is to suggest and empirically test a customer loyalty model in a business-to-business (B2B) market. This research investigates the development and role of dependence and trust in relationship management from the customer's view and their impact on loyalty. Regarding social exchange theory, we argue that relationship maintenance should not only include economic restriction-regarding relationships, which are extracted from dependence, but also loyalty - regarding relationships, which are extracted from trust. As such, this research suggests that dependence and trust are mediators by which to understand the confusing relationship between buyers and sellers. According to the research findings, we can conclude that customers develop restriction - regarding and loyalty - regarding relationships with sellers. The influence of customer variables (CRSI, social sticking, and RCCs and customer expertise) on CC and AC is mediated by restriction and loyalty motivations (dependence and trust). Interaction satisfaction plays an important role in moderating the effects of dependence and trust on loyalty. A survey study conducted with 522 firms in the timber distribution industry showed that customer relationship specific investment, social sticking, relationship conclusion costs and customer expertise have effects on calculative and affective loyalties via dependence and trust. It also shows that interaction satisfaction significant the positive effect of dependence on calculative loyalty and the positive effect of trust on affective loyalty. This research contributes to the relationship marketing literature by creating a customer loyalty model in B2B markets and also offers managerial implications.

Keywords: Dependence, Trust, Loyalty, Relationship marketing, B2B marketing

1. Introduction

If firms want to developed business-to-business (B2B) markets and increase their market share and profits, relationship maintenance is very important. Firms have to satisfy customers in each interaction, thereby create a long-term relationships and keeping customers from changing. However, previous relationship marketing research has focused on the value of relationship marketing from the seller's view (Barnes, 1997). Barnes (1997) shown that no relationship exists between a buyer and seller unless the buyer feels that a relationship exists. Therefore, our research directs, why buyers want to maintain relationships with sellers and as such, the findings will help marketers to create customer loyalty. Previous studies have focused on developing restriction - regarding relationships (Anderson & Narus, 1990). However, previous research neglected to consider the active role of the customer in the relationship development, which results in loyalty - regarding relationships (Bendapudi & Berry, 1997). According to the social exchange theory, we emphasize that loyalty -regarding relationships are extracted from trust. Customers are sacrificing short term benefits in order to maintain long-term relationships and such relationships are actively begun by the customers (Bendapudi & Berry, 1997). Customer dependence and trust in the seller are important in relationship marketing and can improve transaction relationships (Palmatier, Dant, Grewal, & Evans, 2006). This research suggests that dependence and trust are mediators that underlie the confusing relationships between customers and suppliers. Loyalty refers to the necessity for long-term relationship maintenance (Geyskens, Steenkamp, Scheer, & Kumar, 1996) and can be studied as an result of the relationship maintenance (Moorman, Zaltman, & Deshpande, 1992; To & Li, 2005). This research includes calculative and affective loyalty's (CC and
AC, respectively) as result variables in the relationship maintenance model. Previous studies have studied the effects of dependence and trust on loyalty in B2B marketing (Wetzel, Ruyter, & Birgelen, 1998), the impact of customer variables on loyalty have not been empirically tested (Bendapudi & Berry, 1997). Thus, customer variables, customer relationship specific investment (CRSI), social sticking, relationship conclusion costs (RCCs), and customer expertise, are tested to dependence and trust in the model. Maintaining relationship is a continuous process, so interaction factors should play an important role in this process. The Industrial Marketing and Purchasing (IMP) Group shows that in industrial markets the buyer–seller relationship is affected by the interaction process (Giannakis, Croom, & Slack, 2004). Since interactions are important in creating relationships, the impact of interaction factors, such as interaction satisfaction on loyalty still needs more investigating (Bendapudi & Berry, 1997). Previous studies have shown that interaction satisfaction from the interaction process leads to loyalty (Turnbull, Ford, & Cunningham, 1996) and that routines of interaction improve expectations of the cooperation (Anderson & Tuusjärvi, 2000).

The purpose of this research is to create a customer loyalty model and study the mediating role of dependence and trust in relationship maintenance. We also try to investigate the moderating effects of interaction satisfaction on the development of loyalty. This research will contribute to the relationship marketing literature in several aspects. First, this research presents the effect of creating loyalties on customer variables. Second, it empirically tested the theoretical customer loyalty model according to two pathways: restriction-based and loyalty-based relationships. Third, it described the mediating role of dependence and trust in the effects of customer variables on loyalties. Finally, it showed that interaction satisfaction improves positive effects of dependence and trust on loyalties.

2. Theoretical background and research framework

2.1. Restriction-based versus loyalty-based relationship maintenance

Bendapudi and Berry (1997) suggested two customer motivations: 1. after analyzing gains and losses, customers are motivated to maintain relationships because they want to reduce risks of exchanging firms. This is called restriction-regarding relationship maintenance. 2. Customers desire to continue the relationship because Customers are motivated to maintain relationships. This is called loyalty regarding relationship maintenance (Gilliland & Bello, 2002). In relationship marketing, dependence is studied to be a restriction motivation (Anderson & Weitz, 1992) and trust is studied to be a loyalty motivation (Doney & Cannon, 1997). From an economic view according to restriction - regarding relationship, firms rely on suppliers to offer resources and, thus, become relationship cooperators. Dependence rises from the motivation for which firms exchange with other firms that control essential and limited resources (To & Li, 2005). Dependence is determined separately from interdependence. Interdependence is determined as a dyadic relationship between relationship cooperators, covering each firm's dependence on a cooperater (Kumar, Scheer, & Steenkamp, 1995). Dependence is determined a firm's to maintain a relationship with a cooperater to achieve its goals (Kumar et al., 1995). That is, interdependence focuses two-way directions in regard to the cooperators' dependence upon each other while dependence studies a one-way direction in the relationship (e.g., a buyer's dependence upon a supplier). Our research focuses on the latter construct. This research studies the timber industry in Iran, for which suppliers have comprehensive purchase in price negotiations and resource control as the resources are scarce. In this industry between buyers and suppliers asymmetrical interdependence exists, that creates a buyer's dependence on the supplier (Heide & John, 1988). Thus, this study focuses on customer's view and studies customer's dependence on the supplier, instead of the interdependence between the customers and suppliers. On the other hand, this research studies loyalty regarding relationship maintenance from the social exchange view. Luo, (2002) state that the social exchange theory has been applied to marketing studies. The social exchange theory suggests cooperation and mutual reciprocity when trying to understand relationships with customers (Metcalfe, Frear, & Krishnan, 1992). Social exchange refers to the interpersonal relationships that exist between buyers and suppliers (Metcalfe et al., 1992) and emphasizes the relationship extracted from close social interactions, such investment, and result in long-term loyalties. Relationship loyalty can be studied to be a relationship output (Morgan & Hunt, 1994), which is the core component of the social exchange theory (Thibaut & Kelly, 1959). Barnes (1997) shown that the buyer–seller relationship does not exist unless buyers feel the relationship to exist. Such an offer suggests the importance of examining the
relationship maintenance from a buyer's view. Thus, regarding on the economic and social exchange views, we studied how customer variables influence loyalty's via restriction and loyalty motivations. The customer variables include two relationship-regarding variables (CRSI, and social sticking) and two non -relationship- regarding variables (RCCs and customer expertise). CRSI, social sticking and RCCs are key variables that influence relationship maintenance (, while customer expertise is an important variable that impacts consumer decision Morgan & Hunt, 1994)-making (Alba & Hutchinson, 1987). The consequences of the motivations for relationship maintenance are separated into two loyalties: AC and CC.

2.2. Customer variables

CRSI refers to a customer's feeling of an investment made by a supplier. The investment includes time, resources and affect in personal relationships that are made by the supplier to maintain relationships and make a customer not easily exit the relationship (Jones, Mothersbaugh, & Beatty, 2000). CRSI is different from social sticking as the former refers to customers' feeling of relationship investment while social sticking emphasizes customers' loyalty and friendship toward suppliers. In the relationship maintaining process, customers have direct or indirect interactions with suppliers. Therefore, suppliers show relational selling behaviors (Crosby, Evans, & Cowles, 1990). The latter occurs when suppliers create ties with customer families and friends (Bendapudi & Berry, 1997). Either form of interaction develops social links that improve interaction qualities (Crosby et al., 1990) with suppliers. RCCs refer to exchanging costs (e.g., time and money) that relationship cooperators have to pay if they end relationships with their current cooperators and create relationships with new cooperators (Jones, Mothersbaugh, & Beatty, 2002). RCCs include economic, psychological and physical costs (Jackson, 1985). High RCCs delay customers from exchanging to new cooperators and increase customer dependence on relationship cooperators (Morgan & Hunt, 1994). We consider RCCs to be a customer factor instead of an interaction factor (Bendapudi and Berry, 1997). RCCs occur when customers end a relationship. Such costs do not exist if they continue transactions with suppliers. The higher the ability of the customers to search or adjust to a new supplier, the lower their RCCs are, regardless of their transaction cooperators (Fornell, 1992). Customer expertise refers to customer knowledge about products offered by firms (Mitchell & Dacin, 1996). For example, the customer can recall what products are offered by the supplier and the features of the products. Loyalty refers to the customers which are willing to maintain long-term relationships with suppliers (Morgan & Hunt, 1994). CC refers to the level of loyalty that customers are willing to make investments, relationship benefits, and conclusion costs (Anderson & Weitz, 1992). That is, customers analyze the benefits and maintaining relationships and the costs and risks of creating new relationships to determine (Li, Browne, & Chau, 2006). As such, both cooperators in the relationship know their own weaknesses and rely on the cooperators resources to improve performance. They also try to create a balance or empower themselves in the dyadic relationship when they have opportunities (Matopoulos, Vlachopoulou, Manthou, & Manos, 2007). Thus, the motive for maintaining the relationship is negative (Geyskens et al., 1996). Buchanan (1974) determined AC as an affective attachment to an organization' goals and values. AC refers to the customers that are willing to maintain a positive long-term relationship with suppliers regarding on personal connections (Konovsky & Cropanzano, 1991). Suppliers can create customer AC through attachment, which arises from frequent positive interactions and satisfied customer expectations. This attachment creates customer trust and a strong desire to maintain a relationship (To & Li, 2005). Thus, customers with higher AC are more willing to maintain positive relationships with suppliers.

3. Hypotheses

3.1. Effects of customer variables on loyalty: the mediating role of dependence

Dependence refers to a customer's dependence on a supplier and is determined as the customer needs to maintain a relationship with the supplier to achieve desired goals (Ganesan, 1994). Due to a need for economic resources, then the customer forms a restriction - regarding relationship with the supplier that a customer maintains a relationship with a supplier (Andaleeb, 1996). Research has shown the importance of dependence in the relationship maintaining process (Gilliland & Bello, 2002). CRSI in B2B transactions is not only increases cooperators' exchanging costs, but also creates close relationships and creates synergy for both parties (Schilling, 2000). Suppliers need various investments, including personal relationship investments, to maintain relationships with customers. Investments in customer relationships result in positive relationships.
Through such investments, customers can obtain information and make good decisions. Thus, when customers feel that suppliers are making an effort to CRSI, their dependence on the supplier will increase (To & Li, 2005). Therefore, it is expected that CRSI is positively related to customer dependence on the supplier. Regarding on the economic view, customers rely on a supplier to obtain valuable outputs sometimes, these outputs are not satisfactory (Levinger, 1979) as customers feel that the social ties are better than alternative relationships (Anderson & Narus, 1990). Thus, positive social interaction results lead to higher dependence on the cooperator. When customers feel higher social sticking to the supplier, then they are develop dependence on the supplier (Bendapudi & Berry, 1997). White and Yanamandram (2007) further showed that social sticking impacts customer dependence and subsequently lead to CC. Thus, it is expected that social sticking is positively related to dependence on the supplier. Suppliers offer quality products, competitive prices and other benefits to create up RCCs. Customers often face economic loss and much inconvenience by closing relationship with current cooperators and finding new cooperators (White & Yanamandram, 2007). To and Li (2005) also show that RCCs are positively related with customer dependence on the supplier. Wirtz and Mattila (2003) showed that customers with more expertise prefer a larger consideration set. Their knowledge decreases their loyalty and reduces their dependence on cooperators' advice. In contrast, to evaluate service quality and product performance, it is difficult for customers with less expertise. Thus, they have a higher feeling of risks in decision making (Heilman Bowman, & Gordon, 2000) and rely on their cooperator's advice (Sharma & Patterson, 2000). Thus, it is expected that customer expertise is negatively related to customer dependence on the supplier. Dependence in the relationship maintenance process is determined by both parties' resources and power. The customer with less power or less resources has greater dependence on the supplier and usually pays higher RCCs. Thus, these customers would consider the restrictions of maintaining relationships and calculate gains and losses accordingly. Such situations force the customer to calculate the benefits sacrificed and losses acquire related with leaving (Geyskens et al., 1996). Thus, it is expected that customer dependence on the supplier is positively related to CC (Gilliland & Bello, 2002). Research has shown that dependence does not lead to AC (Breugel, Olffen, & Olie, 2005) and that dependence reduces the motivation to create relationships on affective grounds (Hibbard, Kumar, & Stern, 2001). Suppliers with a higher power do not need customer cooperation, trust or loyalty and increase the opportunistic behavior (Anderson & Weitz, 1992). On the other hand, customers with a higher dependence on the supplier do not trust in and make any loyalty to the supplier (Kumar et al., 1995). Wetzels et al. (1998) show that if buyers feel a dependence on sellers, they place less emphasis on affective involvement with sellers and more on costs and benefit considerations. Thus, customer dependence on the supplier is expected to be negatively related with AC. Therefore, the following hypotheses are formulated:

**H1.** Dependence is affected positively by (a) CRSI (b) social sticking and (c) RCCs, but (d) negatively affected by customer expertise.

**H2.** Dependence (a) positively affects CC, but (b) negatively affects AC.

### 3.2. Effects of customer variables on loyalty: the mediating role of trust

Morgan and Hunt (1994) suggested trust as a key mediating variable as it directly affects relationship loyalty (Rodríguez & Wilson, 2002). Customer trust in the supplier is extracted from customer feelings toward the supplier in several aspects, such as CRSI, social sticking, RCCs and customer expertise. From the social exchange view, relationships are developed via interactions. Such interactions are creating long-term relationships. Social exchange facilitates problem solving and overcome communication barriers. It also reflects the degree of trust in the relationship cooperator (Hakansson & Ostberg, 1975). Interpersonal relationships improve trust between cooperators (Metcalf et al., 1992). Thus, when a customer feels that an increased amount of CRSI is being made by the supplier, the then the customer is trust the supplier. Thus, CRSI is positively related to customer trust in the supplier. Further, social link increase customer trust in suppliers (Gounaris, 2005; Liang & Wang, 2006). Social links refer to interpersonal links between a customer and a supplier. These ties influence customer feelings and behavior toward a supplier (Bendapudi & Berry, 1997). Bendapudi and Berry (1997) show that social sticking can reduce or eliminate the opportunistic behavior on the part of the relationship cooperator and as a result, improves trust in the cooperator. When a customer creates a close social connection with a supplier, he is more likely to develop trust in the supplier. As such, it is expected that social sticking with the supplier is positively
related to customer trust in the supplier. Low RCCs show low economic, psychological and physical costs in regard to ending a relationship. Under low RTC conditions, customers are flexible in regard to exchanging alternatives available in the market and they show less affective involvement in the relationship with the existing supplier (Smith, Ross, & Smith, 1997). Customers will be less likely to initiate a long-term relationship with and form trust in a supplier. In contrast, when RCCs are high, customers face a constrained situation and remain in the relationship with their cooperator (Friman, Giarling, Millett, Mattsson, & Johnston, 2002). To adapt such a situation, customers tend to solve problems and are disinclined to exhibit responses that are destructive to the relationship when problems occur (Ping, 1993). High RCCs facilitate long-term relationship orientations and improve cooperation intentions (Doney & Cannon, 1997). Positive social exchanges make customers show more affective involvement in the relationship (Gounaris, 2005; Kanagal, 2009). Under such situations, customers are willing to create a long-term relationship (Dwyer et al., 1987) and develop trust in a supplier. Thus, it is expected that RCCs are positively related to customer trust in a supplier. Researchers show that expertise affects perception processes (Bettman, 1979) and product evaluations (Rao & Monroe, 1988). If a customer possesses high product knowledge and is willing to engage in transactions with a supplier, then the customer recognizes the existence of a valuable transaction relationship. Such a relationship facilitates the creation of trust in the long run, consistent with the social exchange theory (Dwyer et al., 1987). It is expected that customer expertise is positively related to trust in the supplier. Ganesan (1994) shows that trust reduces opportunistic behavior in transaction processes. As such, CC becomes unnecessary as customers believe that suppliers will not do anything unexpected to hurt the relationship. Trust improves relationships and makes relationship cooperators less likely to calculate benefits and costs and more willing to sacrifice (Bendapudi & Berry, 1997). On the other hand, buyer trust in the sellers positively affects in the long-term relationship maintenance (Doney & Cannon, 1997). Customer affective involvement will increase as trust in the supplier increases (Geyskens et al., 1996). Trust is studied loyalty motivation and positively impacts AC (Ramsey & Sohi, 1997). Thus, trust is expected to be negatively related with CC and positively related with AC (Bloemer & Odekerken-Schröder, 2006). Taken together, the previous arguments create the following hypotheses:

**H3.** Trust is affected positively by (a) CRSI (b) social sticking (c) RCCs and (d) customer expertise.

**H4.** Trust (a) negatively affects CC, but (b) positively affects AC.

### 3.3. The moderating effect of interaction satisfaction

Firms form positions after comparing expectations and feelings from interactions with relationship cooperators (Szymanski & Hise, 2000). When interaction satisfaction increases, as they are aware of the costs and risks inherent in ending the relationship because cooperators are less likely to exit. As it assumes that relationship development is a gradual and continuous process because, interaction satisfaction should reinforce the positive effect of dependence on CC. 2) shown that the interaction satisfaction improve the positive effect of dependence on C Metcalf et al. (199C and the interaction satisfaction produces a normative coordination of interdependence and the norm of reciprocity leads to loyalty because transaction cooperators are satisfied with the cooperation. Thus, we suggest that interaction satisfaction moderates the positive effect of dependence on CC. That is, the effect of dependence on CC will be significant when interaction satisfaction increases. H5a is formulated as follows:

**H5a.** Interaction satisfaction will have significantly positive effect of dependence on CC.

According to the view of relational exchanges, suppliers create, develop, and maintain relational exchanges with buyers (Morgan & Hunt, 1994). Interaction satisfaction would affect the motivation and the relationship exchanges, and may have an impact on the relationship between trust and AC. When relationship cooperators gain economic benefits and noneconomic satisfactions through cooperation, they are engage in social exchanges with their cooperator (Dwyer et al., 1987). Social exchanges should help the development of trust in and AC to the supplier. As a result, when interaction satisfaction increases, customer trust in the supplier increases (Swann & Gill, 1997) and AC to the supplier improves. Thus, satisfactory interaction will significant the relationship between trust and AC. H5b is develop as follows:

**H5b.** Interaction satisfaction will have significantly the positive effect of trust on AC.
Fig. 1 show conceptual framework, which suggest that dependence and trust mediate the effects of customer variables on loyalties.

4. Methodology

4.1. Sample and data collection

The timber distribution market in Iran has been grown over past few years. Timber suppliers must maintain good relationships with customers to gain larger market shares and profits. Thus, customers in this market are selected for this research purpose. Survey packets, including a cover letter, a survey catalog, were mailed to potential respondents. Our sample frame consisted of 2600 customers of timber suppliers in Iran and those customers maintain good relationships with their suppliers. 70% of the customers in each district (northern, middle, southern, and eastern) of Iran were randomly selected. In total, 1800 surveys were mailed. The response rate was 67%. However, 156 questionnaires were incomplete, resulting in 1044 usable questionnaires. Comparing the first 10% respondents and the last 10% of the respondents estimated nonresponse bias respondents. The results shown that this was not a problem in the current study. Respondents are business owners or senior managers, of which 85.6% are male and 14.4% female. The industry category was divided as follows: 52.2% builders, 17.8% contractors, and 30% other timber related manufacturers. The firms represented in the sample varied in size, as measured by employees (b5, 26.6%; 6–20, 40.3%; 21–50, 22.2%; 51–100, 9.1%, >100, 1.7%). With respect to the number of major suppliers, over 63% of the firms shown that they have more than 3 major suppliers (1, 8.1%; 2, 10.%, 3, 18.9%; >3, 61.2%).

4.2. Measures

All of the items in the suggested model were measured using multi-items scales drawn from previous studies. Adapted from Jones et al. (2000), CRSI was measured by a four-item scale, the four items of social sticking measure was adapted from Smith (1998), three item RCCs construct, adapted from Jones et al. (2002), four-items was adapted from Mitchell and Dacin (1996), Dependence construct was using a five-items scales presented by Ganesan (1994). Following Morgan and Hunt (1994), trust was measured by a three-item, CC was measured with three items presented by Gustafsson, Johnson, and Roos (2005), AC was measured with three items presented by Gustafsson et al. (2005). The three items were designed to estimate the customer pleasure in being a customer of the supplier. Following Ganesan (1994), interaction satisfaction was measured by a four-item.

5. Analysis and results

Following procedures suggested by Bagozzi, Yi, and Phillips (1991), this research conducted two analysis phases. First, the measurement model is estimated with confirmatory factor analysis (CFA) to test reliabilities and validities of the research constructs. Then, the structural model is used to test the strength and direction of the suggested relationships among research constructs.

5.1. Measurement model

We measured the psychometric properties of using a CFA that combined each factor measured by reflective scales (Bagozzi et al., 1991). The CFA results show 3 items for CRSI, 4 items for customer expertise, 3 items for social sticking, and 2 items for RTC, 3 items for interaction satisfaction, 4 items for dependence, 2 items each for trust, CC and AC. Complex reliability presents the shared variance among a set of observed variables that measure an underlying construct (Fornell & Larcker, 1981). All complex reliabilities for the constructs were above 0.778, which shows acceptable levels of reliability for each construct (see Table 1). In addition, each of the Cronbach alpha values passed the threshold value of 0.8 suggested by Nunnally (1978), which suggests that for each of the constructs, there is a reasonable degree of internal consistence between the corresponding indicators. Measures of fit assess how well a CFA model reproduces the covariance matrix of the observed variables. The measurement model showed significant levels of fit: \( \chi^2 = 820.136, \text{d.f.}=460, \text{goodness-of-fit index (GFI)}=0.917, \text{adjusted GFI}=0.894, \text{non-normed fit index (NFI)}=0.934, \text{comparative fit index (CFI)}=0.971, \text{incremental fit index (IFI)}=0.971, \text{Tucker–Lewis index (TLI)}=0.966, \text{and standardized root mean square residual (SRMR)}=0.035, \text{root mean square error of approximation (RMSEA)}=0.040 \) (Table 1). Results also support for the convergent and discriminant validity. As evidence of convergent validity, each item loaded significantly on its respective construct (Anderson & Gerbing, 1988). Evidence of discriminant validity exists when the square root of the average of variance extracted in each construct passes the coefficients showing its correlation with other constructs (Fornell & Larcker, 1981) (see Table 2).
5.2. Structural model

In Structural model, two alternative models were tested and compared. Model 1, customer variables, dependence and trust of loyalties, supposing that the mediating role of dependence and trust are not required. Model 2 adds two more paths to the hypothesized model as previous research has shown that social sticking has a direct effect on AC (Cater & Zabkar, 2009;) and that RCCs have a direct effect on CC (Jones, Reynolds, Mothersbaugh, & Beatty, 2007; White & Yanamandram, 2007).

5.2.1. Model fit

In this research we consider both model and select one of the best-fitting model. Therefore, to fit statistics, we use four parsimony measures (Chang, et al; 2012) i.e., Akaike information criterion [AIC], consistent Akaike information criterion [CAIC], expected cross-validation index [ECVI] and parsimonious normed fit index [PNFI]). For the measures of AIC, CAIC and ECVI, lower value shows a better fit and a more economical model. For the measure of PNFI, greater value shows a better fit and a more economical model. Table 3 furnishes the fit statistics for the hypothesized and two alternative models. The hypothesized model shows a better fit in terms of the fit statistics and the measures of AIC, CAIC, ECVI and PNFI. Specifically, for the parsimony measures, the hypothesized model shows lower values of AIC, CAIC, ECVI and a greater value of PNFI than those of the two alternative models (Chang, et al; 2012). The results of comparing the hypothesized model with Model 1 suggest that dependence and trust mediate the effects of customer factors on loyalties. In addition, the results of comparing the hypothesized model with Model 2 suggest that the direct effects between social sticking and AC and between RCCs and CC are insignificant. The fit of the data to the suggested model was quite good ($\chi^2$=995.492, d.f.=367, p<0.001; $\chi^2$/d.f.= 2.725, GFI=0.886, TLI=0.932, CFI=0.938 and RMSEA=0.054).

5.2.2. Hypothesis testing

Table 4 shows the results of the hypotheses tests and Fig. 2 furnishes a graphic estimated in the path diagram. All the hypotheses research are supported. Our findings suggest that CRSI ($\gamma_1$=0.375, t=8.542, p<0.001), social sticking ($\gamma_2$=0.376, t=8.515, p<0.001), RCCs positively influence dependence ($\gamma_3$=0.413, t=9.475, p<0.001) while customer expertise has negatively affects dependence ($\gamma_4$=-0.285, t=-7.148, p<0.001), supporting H1a, H1b, H1c and H1d. In addition, dependence has a positive and significant impact on CC (\(\beta_1=0.236\), t=4.125, p<0.001), but a negative and significant impact on AC (\(\beta_2=-0.415\), t=-7.405, p<0.001), supporting H2a and H2b. On the other hand, CRSI ($\gamma_2$=0.170, t=3.769, p<0.05), social sticking ($\gamma_3$=0.629, t=10.548, p<0.001), RCCs ($\gamma_4$=0.109, t=2.456, p<0.05) and customer expertise ($\gamma_5$=0.091, t=2.098, p<0.05) positively influence trust, supporting H3a, H3b, H3c and H3d. Moreover, trust has a negative and significant impact on CC (\(\beta_2=-0.229\), t=-3.842, p<0.001), but a positive and significant impact on AC (\(\beta_3=0.376\), t=6.439, p<0.001), supporting H4a and H4b.

5.2.3. The moderating effect of interaction satisfaction

We divided the sample into a high interaction satisfaction group and a low interaction satisfaction group to study the moderating effects of interaction satisfaction on the relationships between dependence, trust, and loyalties. The results of the path coefficient growth and equality restriction tests showed that the $\beta$ coefficients describing the relationships between dependence and CC were significantly different between the two groups (coefficient growth=0.162, p<0.001; $\chi^2$ difference=52.479, p<0.001) (Table 5). Interaction satisfaction significant the positive impact of dependence on CC, supporting H5a. Further, the tests also showed that the moderating effect of interaction satisfaction on the relationship between trust and AC (coefficient growth = 0.129, p<0.001; $\chi^2$ difference=48.348, p<0.001) (Table 5). The effect of trust on AC is significant by interaction satisfaction, supporting H5b.

6. Discussion

The purpose of this research investigates the mediating role of dependence and trust in the effects of customer variables on loyalties. The findings supported suggested model. Research findings shows that, customer variables (CRSI, social sticking, and RCCs and customer expertise) affects CC and AC via both dependence and trust. First, CRSI is positively related with customer dependence and trust in suppliers. With suppliers’ effort and time distinguishing, suppliers know customers’ needs and preferences in developing relationships with customers. Therefore, those investments help improve customers’ performance and handle market uncertainty. Thus, the higher CRSI, the more dependence they have on their suppliers to maintain the relationships (Jones et al., 2002). But CRSI improves interpersonal relationships, which defeat
communication barriers (Metcalfe et al., 1992) and, thus, create customer trust in the supplier. Second, social sticking is positively related with dependence and trust (Bendapudi & Berry, 1997). Suppliers should create relationships through indirect interactions with their customers' families and friends or social interactions with their customers. These interactions significant their social links with customers. Further, RCCs are positively related with dependence and trust. By the conclusion of relationships, customers rely on existing relationships to avoid the costs and risks (To & Li, 2005). To increase conclusion costs, suppliers should develop the product lines and services which will result in higher barriers for customers seeking to exit the relationship (Stremersch & Tellis, 2002). In addition, our findings show that higher RCCs help the long-term relationship development and increase the degree of trust. Customer expertise is negatively related with customer dependence on suppliers. Therefore, for customers with higher expertise to compare products among various competing suppliers, reduce their dependence on suppliers. Customers with less expertise rely more on their suppliers' to reduce the feeling risks of purchasing (Locander & Hermann, 1979). If a customer is willing to perform transactions with the supplier, then the customer values the relationship, facilitates the development of trust. Our findings show that dependence is positively related with CC and negatively related with AC. The results suggest that customer dependence on suppliers is determined by resources (Kumar et al., 1995). When customers feel their dependence on suppliers, they maintain relationships with suppliers regarding restriction motivation and consider gains and losses, which results in CC (Ganesan, 1994). Therefore, dependence allows customers to enter into continuing transactions on expected gains and losses than regarding on affective considerations (Wetzels et al., 1998). Hence, AC will be delayed (Breugel et al., 2005). Trust is negatively related with CC and positively related with AC. Trust reduces opportunistic behavior and, thus, CC becomes unnecessary (Ganesan, 1994). When a customer's affective involvement in the relationship increases due to loyalty motivation, CC decreases (Bloemer & Odekerken-Schröder, 2006). In addition, this research shows that trust positively affects AC, which is consistent with previous research findings (Cater & Zabkar, 2009). Moreover, our findings suggest that interaction satisfaction significantly and positively affect the dependence on CC and trust on AC. Interaction satisfaction reflects customers feeling about suppliers regarding on their past interactions. Higher interaction satisfaction reduces customer costs in information searches, comparison and monitoring. Positive interactions significant cooperation and adaptation between cooperators (Metcalfe et al., 1992). Suppliers should ensure that a customer is proud with each interaction and transaction as interaction satisfaction creates not only short-term profits, but also long-term relationships, which facilitate the pursuit of profit maximization. However, due to sufficient information available, attractive alternatives to customers increase. In addition, response time is important to customers due to low cost and high quality products and services. Suppliers consider how to share information and respond in a real time to meet customer needs. Information sharing between relationship cooperators can improve production and distribution efficiency (Straub, Rai, & Klein, 2004). Through supply chain management and information sharing, firms can increase interaction satisfaction.

7. Strategic implications

In this study, among the customer variables investigated, RCCs and social sticking had influence on dependence and trust, respectively. Thus, firms should put more efforts on these two variables to create dependence, trust and, loyalty. Suppliers should develop the core competencies that customers rely to ensure that they are capable in the market and not easily replaced. On the other hand, social sticking is most important customer variable in creating trust. Firms should have frequent contact with customers and look out for the customers' interests in order to strengthen social sticking to the customers. Firms may also consider utilizing technology to increase their social sticking to the customers. By creating electronic network with customers, suppliers can receive orders in time, reduce much excessive work, and increase customer RCCs. In addition, marketers should be aware of how interaction factors influence the created relationships between dependence, trust and loyalties.

8. Limitations and future research directions

The limitations of this research are as follow: First, this research focuses on the buyer's feeling of the relationship maintenance and creating loyalty. Buyers and suppliers may have different feelings of interaction satisfaction, leading to different result of expectations. Thus, future research should investigate the impact of such differences between the buyers' and suppliers' feelings on the effects observed in this research. Second, this research uses timber distributors as samples. Customer relationship
maintenance factors and methods may vary in different industries. Future research can study the suggested model in other industries. In addition, although the results support our hypothesized relationships between social sticking, dependence and loyalty, future research may be to investigate a mediating effect of loyalty on the relationship between social sticking and dependence.

9. Conclusion

According to the research findings, we can conclude that customers develop restriction-based and loyalty - regarding relationships with sellers. The influence of customer variables (CRSI, social sticking, and RCCs and customer expertise) on CC and AC is restriction and loyalty motivations (dependence and trust). Interaction satisfaction plays an important role in moderating the effects of dependence and trust on loyalty.

References


43. Luo, X. (2002). Trust production and privacy concerns on the internet a
framework based on relationship marketing and social exchange theory. Industrial Marketing Management, 31(2), 111–118.


Fig. 1. Proposed model (Chang, 2012)
\[ \chi^2 (368) = 995.492, \quad p<.001; \quad \chi^2/d.f.=2.725, \quad GFI =0.886, \quad TLI =0.932, \quad CFI=0.938, \quad \text{RMSEA}=0.054 \]

**Fig. 2. Hypothesized model**

**Table 1**

**Analysis of measurement model.**

<table>
<thead>
<tr>
<th>Constructs</th>
<th>MLE estimates</th>
<th>Complex reliability</th>
<th>AVE</th>
<th>Cronbach’s α</th>
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<tr>
<td></td>
<td>Factor loading ((\lambda_x/\lambda_y))</td>
<td>Measurement error (\delta/\varepsilon)</td>
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<td></td>
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<tr>
<td>CRSI1</td>
<td>0.780***</td>
<td>0.644</td>
<td>0.867</td>
<td>0.609</td>
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<tr>
<td>CRSI2</td>
<td>0.891***</td>
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<tr>
<td>CRSI</td>
<td>0.853***</td>
<td>0.470</td>
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<tr>
<td>SS</td>
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<td>0.855</td>
<td>0.585</td>
<td>0.886</td>
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<tr>
<td>SS1</td>
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<tr>
<td>SS2</td>
<td>0.798***</td>
<td>0.532</td>
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<tr>
<td>SS3</td>
<td>0.811***</td>
<td>0.512</td>
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</table>
RECs | 0.899*** | 0.684 | 0.899
---|---|---|---
TC1 | 0.899*** | 0.685 | 0.952
TC2 | 0.899*** | 0.684 | 0.899
CE | 0.899*** | 0.684 | 0.899
CE1 | 0.899*** | 0.685 | 0.899
CE2 | 0.899*** | 0.684 | 0.899
CE3 | 0.899*** | 0.684 | 0.899
D | 0.899*** | 0.685 | 0.899
D1 | 0.899*** | 0.684 | 0.899
D2 | 0.899*** | 0.685 | 0.899
D3 | 0.899*** | 0.684 | 0.899
D4 | 0.899*** | 0.685 | 0.899
T | 0.899*** | 0.684 | 0.899
T1 | 0.899*** | 0.685 | 0.899
T2 | 0.899*** | 0.684 | 0.899
CL | 0.899*** | 0.685 | 0.899
CL1 | 0.899*** | 0.684 | 0.899
CL2 | 0.899*** | 0.685 | 0.899
AL | 0.899*** | 0.684 | 0.899
AL1 | 0.899*** | 0.685 | 0.899
AL2 | 0.899*** | 0.684 | 0.899
IS | 0.899*** | 0.685 | 0.899
IS1 | 0.899*** | 0.684 | 0.899
IS2 | 0.899*** | 0.685 | 0.899
IS3 | 0.899*** | 0.684 | 0.899

Note: CRSI = customer relationship specific investment; SS = social sticking; RECs = relationship end costs; CE = customer expertise; D = dependence; T = trust; CL = calculative loyalty; AL = affective loyalty; IS = interaction satisfaction.

*** p<0.001

Table 2

<table>
<thead>
<tr>
<th>Constructs</th>
<th>AVE</th>
<th>Alpha</th>
<th>CRSI</th>
<th>SB</th>
<th>RECs</th>
<th>CE</th>
<th>D</th>
<th>T</th>
<th>CL</th>
<th>AL</th>
<th>IS</th>
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<td>0.588</td>
<td>0.759</td>
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<td>0.759</td>
<td>0.759</td>
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<tr>
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<td>0.822</td>
<td>0.759</td>
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<td>0.759</td>
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<td>CE</td>
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<td>0.947</td>
<td>0.139</td>
<td>0.133</td>
<td>0.096</td>
<td>0.821</td>
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<td>0.759</td>
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<tr>
<td>D</td>
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<td>0.893</td>
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<td>0.594</td>
<td>0.552</td>
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<td>T</td>
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<td>0.588</td>
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<td>0.079</td>
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<td>IS</td>
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<td>0.914</td>
<td>0.486</td>
<td>0.447</td>
<td>0.318</td>
<td>0.203</td>
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<td>0.798</td>
<td>0.798</td>
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</table>

Note: CRSI = customer relationship specific investment; SS = social sticking; REcs = relationship end costs; CE = customer expertise; D = dependence; T = trust; CL = calculative loyalty; AL = affective loyalty; IS = interaction satisfaction; Diagonal elements are the square root of the average variance extracted of each construct; Pearson correlations are shown below the diagonal.

Table 3

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<th>Model</th>
<th>χ²</th>
<th>d.f.</th>
<th>Δχ²</th>
<th>Δd.f.</th>
<th>GFI</th>
<th>TLI</th>
<th>CFI</th>
<th>RMS EA</th>
<th>AIC</th>
<th>CAIC</th>
<th>ECVI</th>
<th>PNFI</th>
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<td>independence model</td>
<td>10,235.8</td>
<td>43</td>
<td>-</td>
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<td>0.216</td>
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<td>Path coefficients</td>
<td>Hypotheses</td>
<td>Test results</td>
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<tr>
<td>( \gamma_{11} ) Customer relationship investment \rightarrow Dependence</td>
<td>0.373***</td>
<td>H1a</td>
<td>Supported</td>
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<td>Supported</td>
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<td>0.626***</td>
<td>H3b</td>
<td>Supported</td>
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<tr>
<td>( \gamma_{13} ) Relationship end costs \rightarrow Dependence</td>
<td>0.411***</td>
<td>H1c</td>
<td>Supported</td>
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<td>H3c</td>
<td>Supported</td>
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<td>( \gamma_{14} ) Customer expertise \rightarrow Dependence</td>
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<td>( \gamma_{24} ) Customer expertise \rightarrow Trust</td>
<td>0.089*</td>
<td>H3d</td>
<td>Supported</td>
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<td>H2a</td>
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<td>( \beta_{32} ) Dependence \rightarrow Affective loyalty</td>
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<td>( \beta_{41} ) Trust \rightarrow Calculative loyalty</td>
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<td>( \beta_{42} ) Trust \rightarrow Affective loyalty</td>
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<td>H4b</td>
<td>Supported</td>
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*** p<0.001.
* p<0.05.

Table 5

Moderating effects of interaction satisfaction

<table>
<thead>
<tr>
<th>Main effects</th>
<th>Interaction satisfaction level</th>
<th>Test of path coefficient growth</th>
<th>Difference in χ² value</th>
<th>H</th>
<th>Test results</th>
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<tr>
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<td>Low (n=287)</td>
<td>High (n=235)</td>
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<tr>
<td></td>
<td>β coefficient</td>
<td>β coefficient</td>
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<tr>
<td>Dependence→Calculative loyalty</td>
<td>0.088</td>
<td>0.246</td>
<td>+0.158</td>
<td>52.475***</td>
<td>H5a Supported</td>
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<tr>
<td>Trust→Affective loyalty</td>
<td>0.239</td>
<td>0.363</td>
<td>+0.124</td>
<td>49.119***</td>
<td>H5b Supported</td>
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</table>

***p<0.001