Factors Affecting Customer Loyalty to Application Service Providers in Different Levels of Relationships

Li-Ting Huang  
Chang-Gung University, Lthuang@mail.cgu.edu.tw

Jun-Der Leu  
National Central University, leujunder@mgt.ncu.edu.tw

Cheng-kiang Farn  
National Central University, ckfarn@mgt.ncu.edu.tw

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FACTORS AFFECTING CUSTOMER LOYALTY TO APPLICATION SERVICE PROVIDERS IN DIFFERENT LEVELS OF RELATIONSHIPS

Huang, Li-Ting, Chang-Gung University, 259 Wen-Hwa 1st Rd., Kwei-Shan, Taoyuan, Taiwan, R.O.C., Lthuang@mail.cgu.edu.tw
Leu, Jun-Der, National Central University, 300, Jung-Da Rd., Jung-Li City, Tao-Yuan, Taiwan 320, R.O.C., leujunder@mgt.ncu.edu.tw
Farn, Cheng-Kiang, National Central University, 300, Jung-Da Rd., Jung-Li City, Tao-Yuan, Taiwan 320, R.O.C., ckfarn@mgt.ncu.edu.tw

Abstract

Application service providers are trying their best to enhance existing customers' loyalty because of the prosperous and competitive market. Customers switch suppliers based on economic evaluation. Other suppliers easily imitate the competitive edge derived from price and cost factors. From social exchange theory and relationship management, psychological factors are important for industrial customer loyalty formation in addition to economical considerations. The comparative importance of psychological and economical considerations in variant context is further explored based on relational exchange theory and relationship development process. Results show that both psychological and economical factors influence customers' loyalty to ASPs, yet affective commitment is more important than continuous commitment. Paying more attention to psychological considerations may be good in B2B relationships. Value-added service and service quality deepen affective commitment in turn promote loyalty. Improving service quality is a necessary criterion for loyalty. Increasing investment size and reducing attractiveness of alternatives enhance continuous commitment. An important finding is that relationship age and frequency moderate the association among continuous commitment, affective commitment and loyalty. In the case of high relationship age/frequency, affective commitment is the major contributor, while continuous commitment primarily contributes to loyalty in the case of low relationship age/frequency. Implications and limitations are discussed.

Keywords: Loyalty, Commitment, Relationship Strength, Application Service Providers.
1 INTRODUCTION

Application service provider (ASP) is the next wave of IT outsourcing. Organizations are looking for external supports to optimize technical operations and business processes. The IDC report indicates that APEJ (Asia/Pacific excluding Japan) is the fastest growing market with a 2005-2010 compound annual growth rate of 19.7% among all IT services with outsourcing services (Wee, 2006). Facing the prosperous and competitive market, ASPs need to have a relatively large critical mass of users for sustaining benefits. So, they have to attract and retain customers by developing close customer relationship (Smith and Kumar, 2004). Although keeping long-term relationships becomes an imperative strategy, the fierce price competition and good service quality are currently the first things for retaining customers in application service industry. However, Ma et al. (2005) also pointed out that the cost-effective feature of ASPs is not sufficient to ensure business success. How do ASPs develop close long-term relationship with customers? This issue has gradually received attention. But, close affective attachment for maintaining long-term relationship is very important in consumer market. Yanamandram and White (2006) stated that a research stream in customer satisfaction/dissatisfaction on business-to-business (B2B) relationships still lags behind consumer marketing. It is worthwhile to figure out industrial customers’ loyalty from its essence. Accordingly, we wonder whether affective attachment is valuable for maintaining long-term B2B relationships. Does long-term relationship really benefit ASPs? Is only economic evaluation the main avenue for pursuing revenues? Will the relative importance of these two considerations vary in different types of relationship? Hence, we attempt to answer two key questions in this study and hope the answers could provide suggestions for ASPs about strategies of maintaining long-term relationships.

In order to further understand the ASP market, interviews with experts are conducted first. Then, self-administrative questionnaires are employed to collect data from customers to draw a whole picture about research questions.

The process of application for custom clearance of goods in the logistics industry was chosen. There are three reasons. First, the logistics information service is a mature segment of application service providers in Taiwan. Nearly all logistics companies outsource this process to ASPs because of government regulations. Second, the logistics information service market is getting more competitive. The fierce competition results from the specific industrial context and the upcoming deregulation on automatic customs service. Third, the possibility of switching providers is gradually increased. The process of application for custom clearance of goods is uniform and similar to a commodity. Customs service providers are trying to figure out how to build a niche market.

2 CONCEPTUAL BACKGROUND

2.1 Social Exchange Theory – the Investment Model

Social exchange theory indicates that individuals are willing to maintain relationships because of the expectation that to do so will be rewarding (Blau, 1968). Individuals voluntarily sacrifice their self-benefits and contribute these benefits to another individual with the expectation for more future retains and gains. Thibaut and Kelly (1959) proposed that whether an individual retains a relationship with another one depends on the comparison of current relationship, past experience and potential alternatives. The constant comparison of social and economic outcomes between a series of interactions with current partners and available alternatives determines the degree of an individual’s commitment to the current relationship. Following this line, Rusbult (1980) proposed the investment model. It is employed in many research areas including social, psychological and organizational
studies and offers a powerful explanation to commitment and stay/leave. The investment model emphasizes that evaluative criteria for maintaining relationship are the comparisons of satisfaction levels of the current relationship, the quality of alternatives, and the investments in the current relationship. An individual generates switching behavioral intention based on commitment, which is a function of these elements in the investment model. If customers think the benefit of switching supplier is less than of staying in current relationship, they tend to perform high loyalty, even if they are not fully satisfied with suppliers’ service (Jones et al., 2000).

2.2 Relationship Management (Satisfaction – Commitment – Loyalty)

The main thrust of relationship management is toward establishing and maintaining long-term successful relationships. Customer loyalty is a key to increase repurchase-rates and sales in a supplier-buyer relationship. In B2B relationship, loyalty reflects the intention to buy repeatedly from the same supplier and the intention of continuing the relationship with this supplier. Commitment, which increases the relationship strength between suppliers and customers and leads to loyalty, is central to the perspective of relationship management (Morgan and Hunt, 1994). A casual linkage of satisfaction, commitment and customer loyalty exists. Customers with cumulative satisfying experiences tend to remain affective loyalty to relationships and perform loyal behaviors (Allen and Meyer, 1990). Satisfied customers believe in suppliers’ behaviors in a certain way (Lewicki and Bunker, 1995), in turn, are more likely willing to engage in a further relationship and enhance relational commitment. Meyer and Allen (1987) first proposed that commitment is a multi-facet construct. It includes affective, continuous and normative commitment derived from psychological and economical perspective. Most researches following this typology focus on affective and continuous commitment. Affective commitment refers to the emotional attachment to and involvement in a relationship (Meyer and Allen, 1987). Customers with affective commitment will “want to” maintain the relationship. Continuous commitment is the result of customers’ evaluation of the cost associated with quitting and the profit associated with staying. Customers with continuous commitment will “have to” maintain the relationship. Suppliers should consider the effective strategy for maintaining a long-term relationship in both the desire for a relationship based on a psychological perspective and the dependency in relationship based on an economic perspective (Ruyter et al., 2001).

2.3 The Influence of Relationship Strength

From the view of relationship development process, studies treat relationship age as a moderator of the association of satisfaction, trust, commitment and loyalty (Homburg et al., 2003). Following the same line, Gundlach et al. (1995) proposed the concept of “self-enforcing cycle.” It includes two repeated phases. The first one is an economic phase referring to the investments of resources and the second one is a relational phase, which assists parties to develop attitude and expectation about the future (Gundlach et al., 1995). Two parties must be willing to invest in credible investments if they perceive clear economic and strategic benefits from the association (Rodríguez and Wilson, 2002). Because credible investments generate a sense of security and worthiness to this relationship, a transition from the economic phase to the relational phase begins. Confidence and predictability in suppliers are cumulated based on satisfactory transactions repeatedly. The relationship will gradually be strengthened and finally firms are more willing to make necessary commitments to continue the relationship and more likely to stay in the relationship (Swinarski et al., 2004). Accordingly, longer relationships are qualitatively different from shorter ones, so firms should develop specific strategy for respective short- and long-term relationships (Verhoef et al., 2002).

From the view of relational exchange theory, motivations of transactional and relational exchange are distinct (Homburg et al., 2003). Bendapudi and Berry (1997) stated that the motivation of maintaining relationships is either because they desire to continue a given relationship or because they have no other options but to stay in relationship. If firms analyze the position of their customers on a continuum of transactional to relational exchanges, they can benefit from identifying those customers
who are most receptive to maintain relationships (Bendapudi and Berry, 1997). Successful relational exchange is motivated by trust and commitment, while transactional exchange is motivated by satisfaction and evaluation (Garbarino and Johnson, 1999). This view is also supported in B2B relationships. Homberg et al.’s (2003) study presents that relationship between satisfaction and loyalty will be weaker in the highly relational exchange of B2B environment.

Combining these two points mentioned above, this study views the continuum of transactional to relational exchange as a process of relationship development because transactional exchange is the precondition of becoming relational exchange for maintaining long-term relationship. The relationship strength will be reinforced by age and frequency of relationship.

3 RESEARCH MODEL AND HYPOTHESES

An integrated model encompassing psychological and economical considerations assists us to investigate this issue of how to maintain customer loyalty in competitive ASP markets. Psychological consideration shape affective commitment and economical considerations form continuous commitment. This research model emphasizes the importance of psychological factors in B2B relationship, as presented in Figure 1.

Moreover, exploring different influences of psychological and economical factors to loyalty in distinct stages and types of relationships is a critical issue in this study, as presented in Figure 2 and Figure 3.

Figure 1. Research Model (Hypotheses 1-7)

Figure 2. Moderating Effect of Relationship Age (Hypotheses 8)
3.1 Preliminary Interview with Experience Practitioners

Preliminary interviews with two experienced experts with over 15 years in logistics information service areas and logistics industry were conducted. They proposed practical factors for retaining customers, such as the extent to which customers’ requirements are fulfilled or customized, as well as the importance of service quality, trust, price and value-added service. They stated that customers usually consider providers’ past, current and expected future performance. The past and current performance is determined by evaluation of cost and benefit, as well as the extent to which requirements are fulfilled or customized. Besides, they emphasize the influence of value-added service, since the expected future performance depends on clients’ perception of providers’ plans about service expansion.

3.2 Loyalty and Commitment

Commitment is positively correlated with loyalty (Rusbult, 1980). Bendapudi and Berry (1997) indicated that whether customers leave or quit a relationship could be explored from psychological and economical perspective. The psychological perspective suggests that affective responses such as satisfaction, trust, and attitudinal commitment will induce customers’ desires to stay in the relationship. The economical perspective suggests that continuance in terms of costs and benefits such as switching costs and attractiveness of alternatives induces customer to constrainedly maintain the relationship. Meyer et al.’s (1993) study empirically supports that affective and continuous commitment are positively correlated with loyalty. The result of Gounaris’s (2005) study reveals the same result to the relationship of affective commitment and loyalty. Hence, we propose:

\[ H1: \text{Affective Commitment to an application service provider is positively associated with Loyalty towards it.} \]

\[ H2: \text{Continuous Commitment of to an application service provider is positively associated with Loyalty towards it.} \]

3.3 Psychological Considerations

Customers with cumulative satisfied experiences tend to remain affective loyalty to relationship (Oliver, 1999). From the investment model, satisfaction is a primary determinant of commitment. Satisfied customers through cumulative transactions perceive little uncertainty and believe in suppliers’ behaviors in a certain way (Lewicki and Bunker, 1995). Finally, customers are more likely
willing to engage in further relationship and enhance relational commitment. Kim et al. (2004) found a positive relationship of customer satisfaction and loyalty in mobile telecommunication services. Some researchers argued that overall satisfaction is similar to overall evaluation of service quality in service context (e.g., Zeithaml and Bitner, 1996). Accordingly, service quality could be identically treated as satisfaction in service context. The empirical result shows that service quality have a positive association with customers’ positive attitudes and their likelihood of retention (e.g., Ranaweera and Neely, 2003). Hence, we propose:

**H3:** Service Quality of application service provider is positively associated with Affective Commitment.

**H4:** Service Quality of application service provider is positively associated with Loyalty towards it.

If a company offers differentiated services that are difficult for a competitor to match or imitate, customers are possibly willing to stay in current relationship (Bendapudi and Berry, 1997). In the preliminary interviews, experienced experts stated that customers view capabilities of providing advanced valued-services as expected future performance of service providers. If customers perceive that their needs are fulfilled with the differentiated services, they will have positive feelings and be more confident of providers’ competence currently and in the future. Hence, we propose:

**H5:** Perceived Value-added Service of an application service provider is positively associated with Affective Commitment.

### 3.4 Economic Considerations

Continuous commitment stems from an anticipation of high termination costs associated with quitting a given relationship (Morgan and Hunt, 1994). It results from a calculation of cost and benefit (Allen and Meyer, 1990). The investment associated with current relationship and perceived lack of alternative are antecedents of continuous commitment (Allen and Meyer, 1990; Wasti, 2002). From the perspective of investment model, customers tend to stay in the current relationship because they are afraid of losing benefits and costs derived from invested resources. Dissatisfactory customers still stay in current relationship because of low attractiveness of alternatives or lack of alternatives (Jones et al., 2000; Rusbult, 1980). Individuals tend to retain in current relationship because they have no better choice. Hence, we propose:

**H6:** Investment size of a firm in current relationship is positively associated with Continuous Commitment.

**H7:** Attractiveness of a firm’s Alternatives is negatively associated with Continuous Commitment.

### 3.5 Moderating Effects of Relationship Strength

Following the process of relationship development, Rodríguez and Wilson (2002) stated that two firms must be willing to invest in credible investments in the initial stage. These investments are necessary to dependability and reliability before an emotional investment comes to exist. During the process of strengthening closeness of relationship, commitments are progressively more important on customer loyalty. Eventually, a deeper emotional engagement will be expanded (Rodríguez and Wilson, 2002). Once firms feel that their relationship is going well, they are willing to commit to continue and stay in this relationship (Morgan and Hunt, 1994). Verhoef et al. (2002) indicated that relationship age increases a negative effect of continuous commitment and increases a positive effect of affective commitment. From the relational exchange theory, whether a customer retains current relationship mainly depends on economical consideration in the case of short history of exchange and infrequent transaction, since s/he does not cumulate sufficient emotional attachment to form affective commitment. During a long period, frequent and continuous interactions fulfill series of customers’ requirements and increase customers’ emotional attachment to providers (Bendapudi and Berry,
Accordingly, psychological considerations primarily drive customers to maintain relationships in the case of high relationship age and frequency, while economical consideration are main drivers to maintain relationships in the case of low relationship age and frequency. Hence, we propose:

**H8:** The effect of determinant to Loyalty is moderated by the degree of Relationship Age.

**H8a:** In the case of low relationship age, Loyalty to an application service provider is mainly contributed by the economical factors (as shown in top of Figure 2: Investment Size and Attractiveness of Alternative – Continuous Commitment – Loyalty).

**H8b:** In the case of high relationship age, Loyalty to an application service provider is mainly contributed by the psychological factors (as shown in bottom of Figure 2: Value-added Service and Service Quality – Affective Commitment – Loyalty).

**H9:** The effect of determinant to Loyalty is moderated by the degree of Relationship Frequency.

**H9a:** In the case of low relationship frequency, Loyalty to an application service provider is mainly contributed by the economical factors (as shown in top of Figure 3: Investment Size and Attractiveness of Alternative – Continuous Commitment – Loyalty).

**H9b:** In the case of high relationship frequency, Loyalty to an application service provider is mainly contributed by the psychological factors (as shown in bottom of Figure 3: Value-added Service and Service Quality – Affective Commitment – Loyalty).

## 4 RESEARCH DESIGN AND METHODOLOGY

### 4.1 Operationalization and Instrument Design

The instruments for constructs are adapted from literature and revised to fit our research context, as shown in Table 1. All items were anchored on seven-point Likert scales, from strong disagreement to strong agreement. The scales of loyalty, affective and continuous commitment, value-added service, service quality, investment size and attractiveness of alternatives were adopted from the works of Homburg et al. (2003), Allen and Meyer (1990), Kim et al. (2004), Ranaweera and Neely (2003), Wasti (2002) and Jones et al. (2000) respectively. To strengthen the face and content validity, a process of translation and reverse translation, a short interview with several colleagues and experts, and a pre-test were carried out.

<table>
<thead>
<tr>
<th>Construct Definition</th>
<th>Construct Definition</th>
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<tbody>
<tr>
<td><strong>Loyalty</strong></td>
<td>The degree of a firm’s intention to continue the relationship with a supplier and to expand the quantity and volume of this relationship (Homburg et al., 2003).</td>
</tr>
<tr>
<td><strong>Affective Commitment</strong></td>
<td>The degree of a firm’s affective attachment to continue a relationship (Allen and Meyer, 1990).</td>
</tr>
<tr>
<td><strong>Continuous Commitment</strong></td>
<td>The degree of a firm’s perceived cost associated with quitting relationship (Allen and Meyer, 1990).</td>
</tr>
<tr>
<td><strong>Value-added Service</strong></td>
<td>The degree to the type of convenience of value-added services (Kim et al., 2004).</td>
</tr>
<tr>
<td><strong>Service Quality</strong></td>
<td>The degree of a firm’s perception to which core service given by application service providers could fulfil its requirements, desires, goals, and so forth (Oliver, 1999).</td>
</tr>
<tr>
<td><strong>Investment Size</strong></td>
<td>The degree of a firm’s investment, which is intrinsic and extrinsic resources attached to the relationship that would disappear when relationship is ended (Rusbult et al., 1994).</td>
</tr>
<tr>
<td><strong>Attractiveness of Alternatives</strong></td>
<td>The degree of attractiveness, which a firm senses in other viable competing service providers in marketplace (Jones et al., 2000).</td>
</tr>
</tbody>
</table>

*Table 1. Operationalization for Constructs*
4.2 Data Collection

A package of questionnaires comprised of a cover letter, compliant questionnaire and a prepaid envelope were mailed to managers who are responsible for customs transactions in customs brokers and logistics forwarders. Of the 1,828 questionnaires sent out, in order to pursue the uniformity of responses, we asked respondents to choose a specific customer information service provider with whom they were currently involved. To improve the response rate, monetary incentives were conducted. After five weeks, 276 respondents were received with a 15.1% response rate. After scrutinizing returned questionnaires, 233 with completed and reasonable answers were used. Around 84% of respondents are with assets of less than NT$10 million. Over one half of the respondents have been working for more than 15 years. Numbers of respondents running business of sea shipment are twice as many as those running air cargo (shipping type). Among these respondents, customs brokers are triple of forwarders (business type). The characteristics of respondents fit with the profile of logistics industry related to customs service.

5 DATA ANALYSIS AND RESULTS

5.1 Measurement Model

We perform confirmatory factor analysis for accessing reliability and validity by LISREL 8.52. The formative constructs of “value-added service” and “investment size” are excluded because reliability and validity of formative constructs are not tallied. Three items are dropped because of low factor loading as compared to the acceptable level of 0.5. One is in the construct of “affective commitment” and other two are in “continuous commitment.” The factor loadings of all remaining indicators are all significant (p<0.01). The reliability and convergent validity are acceptable as compared to the threshold: 0.7 and 0.5 respectively. The discriminant validity is acceptable based on the rule that the correlations between any two distinct construct are lower than the square root of the average variance extracted of them (Fornell and Larcker, 1981). The results are shown in Table 2.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D.</th>
<th>CR</th>
<th>AVE</th>
<th>SQ</th>
<th>AA</th>
<th>AC</th>
<th>CC</th>
<th>LO</th>
<th>IS</th>
<th>VA</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQ</td>
<td>5.33</td>
<td>1.06</td>
<td>0.99</td>
<td>0.76</td>
<td>0.87</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>AA</td>
<td>4.42</td>
<td>1.40</td>
<td>0.93</td>
<td>0.82</td>
<td>-0.10</td>
<td>0.91</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC</td>
<td>4.24</td>
<td>1.25</td>
<td>0.93</td>
<td>0.67</td>
<td>0.50</td>
<td>-0.10</td>
<td>0.82</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC</td>
<td>4.10</td>
<td>1.45</td>
<td>0.93</td>
<td>0.65</td>
<td>-0.01</td>
<td>-0.13</td>
<td>0.02</td>
<td>0.81</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LO</td>
<td>5.30</td>
<td>1.03</td>
<td>0.96</td>
<td>0.82</td>
<td>0.79</td>
<td>-0.11</td>
<td>0.51</td>
<td>0.05</td>
<td>0.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IS</td>
<td>4.57</td>
<td>1.06</td>
<td></td>
<td>0.67</td>
<td>-0.08</td>
<td>0.53</td>
<td>0.08</td>
<td>0.54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VA</td>
<td>4.45</td>
<td>1.52</td>
<td></td>
<td>0.53</td>
<td>0.08</td>
<td>0.63</td>
<td>0.43</td>
<td></td>
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</tbody>
</table>

Notes1: SQ = Service Quality; AA = Attractiveness of Alternatives; AC = Affective Commitment; CC = Continuous Commitment; LO = Loyalty; IS = Investment Size; VA = Value-added Service.
Notes2: CR = Composite Reliability; AVE = Average Variance Extracted.
Notes3: Square root of AVE for each construct was shown in the diagonal of the correlation matrix.
Notes4: Constructs of IS and VA are consisted of formative indicators, so the values of CR, AVE and square root of AVE are absent.

Table 2. Correlation Matrix, Internal Consistency and Discriminant Validity

5.2 Hypotheses Testing

The structure model is analysed using Visual Partial Least Square (Fu, 2007) because of combination of reflective and formative constructs. Two steps are performed for testing hypotheses. First, main effects are examined (H1–H7). Then, moderating effects (H8a/H8b and H9a/H9b) are examined by comparative analysis of multi-group. The results of structural model testing with main effects are
shown in Figure 4. Except for H2, main effects are all significant and the directions are consistent with our predictions. The explained variance of affective commitment, continuous commitment and loyalty are 34%, 9% and 65%, respectively. Control variables of shipping and business type are both insignificant. The results reveal that value-added service and service quality are important antecedents of affective commitment along the psychological path. In economical consideration, investment size and attractiveness of alternatives are important antecedents of continuous commitment. However, loyalty is only directly influenced by affective commitment, rather than continuous commitment.

![Figure 4. Structural Model – Main Effect.](image)

The results of moderating effects of relationship age on the whole model are shown in Figure 5. The group with over 10 years of relationship age is named as High Relationship Age, otherwise, is named as Low Relationship Age. In the case of low relationship age, influences of affective and continuous commitment on loyalty are both insignificant, as shown in the top diagram of Figure 5. The significant levels of psychological and economical factors prior to commitment are also contrary to our expectations. In the case of high relationship age, affective commitment significantly affects loyalty, while the association of continuous commitment and loyalty is insignificant in accordance with our hypothesis, as shown in the bottom diagram of Figure 5. The result related to influences of psychological and economical factors prior to commitment are different from our expectation. Only the insignificant effect of attractiveness of alternatives on continuous commitment is as our expectation. As a result, H8 is partially supported.

![Figure 5. Moderating Effect – Relationship Age](image)

The results of moderating effects of relationship frequency on the whole model are shown in Figure 6. The firms transact with current ASP at most one time per day were classified into Low Relationship
Frequency group, otherwise into High Relationship Frequency. The effect of continuous commitment on loyalty is significant only in the case of low relationship frequency, while the effect of affective commitment on loyalty is significant only in high relationship frequency, as our expectation. However, the significant levels of psychological and economical factors prior to commitment are contrary to our expectation. The association between attractiveness of alternative and continuous commitment varies from different contexts, but it is contradict to our expectation. As a result, H9 is partially supported.

![Figure 6. Moderating Effect – Relationship Frequency](image)

### 6 DISCUSSION AND IMPLICATION

#### 6.1 Conclusions and Future Research

In the results of main effects (H1–H7), only H2 is unsupported. Value-added service and service quality are positively associated with affective commitment, in turn, affects loyalty. Service quality also directly influences loyalty. Investment size is positively associated with continuous commitment. Attractiveness of alternatives is negatively associated with continuous commitment. In the results of moderating effects, both of H8 and H9 are partial supported. Only the effects of affective and continuous commitment on loyalty vary in different context. The significant levels of antecedents of affective and continuous commitment do not change by variant context, except for “attractiveness of alternatives.” It may be possible that these two different paths carry on simultaneously, yet the influences of affective and continuous commitment on loyalty change as time goes on. The effects of attractiveness of alternatives on continuous commitment is getting weaker (form significant to insignificant) by the growing relationship age in accordance with our expectation.

Four interesting findings are proposed. **First**, constructs usually used in individual-level studies are appropriate for firm-level studies as well. The explained variance of loyalty (65%~75%) and affective commitment (34%~49%) in the models of main and moderating effect of relationship age/frequency is acceptable. Although the influence of service quality is prominent, the effects of affective commitment and continuous commitment should also be noticed, especially in the different context. Future studies could be conducted to increase generalizability of these constructs. **Second**, the influence of psychological factors on loyalty to ASPs is important, i.e. value-added service, service quality and affective commitment. It indicated that the importance of psychological issues in firm-level analysis is the same as in individual level. Psychological issues in firm-level analysis should be paid more attention in the future. **Third**, the effects of affective and continuous commitment are distinct in contexts with different level of relationship age/frequency. Affective commitment is positively related
to loyalty in the case of high relationship age/frequency, whereas continuous commitment is positively related to loyalty in the case of low relationship frequency. The results are in accordance with Garbarino and Johnson’s (1999) and Rodríguez and Wilson’s (2002) suggestions. Swinarski et al. (2004) hold the same position in their study of ASP context as well. Finally, path coefficients of economical factors are significant, but explained variance is lower than psychological factors, which ranges from 9% to 16%. Future studies can include more economical factors. In addition, the relationship of investment size and continuous commitment is significant in both case of low and high relationship age/frequency. The plausible reason may be the mixture of short-term investment and long-term investment. In the future, investment size can be categorized according to occasion.

6.2 Managerial Implication

Our findings lead to three suggestions for ASPs. First, psychological factors are as important as economical factors for retaining customers. The result reveals that the influence of affective commitment is greater than of continuous commitment in customs service segment. So, ASPs can consider seriously the antecedents and influence of affective commitment on keeping customer loyalty of long-term relationships. Second, service quality may be a necessary condition rather than a sufficient condition for a successful long-term relationship when the ASP industry is getting mature. Although the influence of service quality exceeds effects of other factor, ASPs cannot make difference and keep competitive only by providing good service. ASPs should look for other determinants for successful long-term relationship. Third, ASPs can design distinct methods of customer retention by the level of relationship age and frequency. The results demonstrate that continuous commitment is a primary antecedent for maintaining customer loyalty in the case of low relationship frequency, whereas affective commitment is dominant in the case of high relationship age and frequency. Firms can identify the status of each relationship by age and frequency and then make different strategy for it to increase customer loyalty and the possibility of continuing relationships.

6.3 Limitations

Due to limitations of this study, results should be treated with caution. First, imbalance sizes of groups with low and high relationship frequency may bias the empirical result of main effect of this study. Future studies may be conducted with a better procedure of data collection to solve this problem. Second, the industrial characteristics should be taken into account in the interpretation of the result because this study is conducted in customs service industry in Taiwan. The findings in this study should be cautiously applied to ASPs market in distinct industry segments. Future studies can be conducted by replicate or extend this study to other industry segments to make a generalized model with influences of psychological and economical considerations on loyalty to ASPs.

References


