

Factors Affect to Customer Loyalty in Logistics Industry

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Abstract: The purpose of this paper is to establish a conceptual framework to help the HK's third party logistics (TPL) providers exploring the degrees of affecting of determinants in logistics industry such as Innovation (IN), Timeliness (TM), Information Availability (IA), Service Variety (SV) and Continuous Improvement (CI) for Customer Loyalty (CL). The research results indicate that innovation and timeliness are the most critical determinants that have affecting to customer loyalty and people will put extra weight on innovation when deciding whether to continue the relationship with the current supplier in long term. On the other aspect, the results show that elder people and female will interest on continuous improvement when deciding whether to recommend their supplier.

Key words: innovation; timeliness; continuous improvement; customer loyalty **JEL codes:** M

1. Introduction

Nowadays, the capability and availability of a logistics company providing specific services have become vital for competition advantage and customer satisfaction with a company's products or services has been considered the critical component towards success and long-term competitiveness. Customer satisfaction is often viewed as one of the major factors for the customer retention and it is generally recognized that there is a positive relationship between customer loyalty and profitability. Currently, logistics practitioners might face severe competitions because customers may switch their supplier by competitor's promotion campaign. A growing number of instances shows that specific services the customers enjoyed in past might have become basic services they receive in present due to the rapid changes of customers' expectations and competitive marketing strategies (from order winners back to order qualifiers – Hill Terry, 2000).

The researcher has been working in logistics services industry for over thirty-five years. From his past experience, even if some customers of his company have received the tailor-made logistics services for a long time, they switched to other competitors once the prices were increased, indicating that logistics services industry is of high price sensitivity. This has made the researcher to wonder initially what the most key factors are for building up of customer loyalty. Would those key factors are service quality, economic evaluation, psychological factor or even customer relationship?

Having taken of literature review, researches revealed that buyers are usually more concerned about service quality than cost in outsourcing decisions (Jari Juga, Jouni Juntunen, and David B. Grant, 2010). Other researches

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also shows that cost improvements is the main driver of customer loyalty when the outsourced services are simple and their contracting periods are short, as loyalty is more dependent on the costs imposed to the customer's logistics system. An obvious shift in importance is reflected clearly when services increase in complexity and the contracting period becomes longer, customer loyalty is changing, driven by proactive performance improvement and cost improvement only acts as a subordinate role (Carl Marcus Wallenburg, 2009).

Furthermore, customer satisfaction has a positive related to the price tolerance (Anderson E. W., 1996; Herrmann A., Huber F., Sivakumar K. & Wricke M., 2004). An indication of the current lack of differentiation in logistics' service is that logistics service users tend to put importance on the quality of operational logistics services rather than price when selecting a logistics service provider (Langley C. J. Jr, van Dort E., Ross T., Topp U., Allen G. R. & Sykes S. R., 2006) and the logistics industry has also been paying efforts to shift from cost to service-based differentiation (Lai Fujun, Zhao Xiande & Wang Qiang, 2006).

Referring to the research results conducted by Taiwan's scholars (Huang L., Leu J., & Farn C., 2008), value-added service and service quality are the psychological factors shaping affective commitment to maintain customer loyalty. Affective commitment refers to the emotional attachment to and involvement in a relationship (Meyer & Allen, 1987). Customers with affective commitment will have an intention to maintain the relationship and affective commitment is positively related to customer loyalty limited in the case of high relationship age/frequency (over ten years). Due to the consideration in length of time/frequency, relation effect is viewed as the secondary element impacting to customer loyalty in this research.

This research trends on service enhancement elements, treating price and customer relationship as secondary components. Meanwhile, developing and providing specific services might also be highly costly. It needs additional resources and financial investment that may create huge pressures for small and medium-sized enterprises (SMEs). So, proper allocation of resources for specific services implementation is important and seriously in decision making for the top management.

2. Theoretical Framework

What is to make the customers of re-using services and push them introducing to others willingly? What are the key factors mostly influence the aims? It needs to dig for unambiguous understanding from literature review initially.

Customer satisfaction is one of the most important criteria for customer loyalty (Heskett, Sasser, & Schlesinger, 1997; Howard & Sheth, 1969). It supported a strong link between customer satisfaction and customer loyalty (Anderson & Sullivan, 1993; Bearden & Teal, 1983; Boulding, Staelin, Kaira, & Zeithaml, 1993; Fornell, 1992; Oliver & Swan, 1989).

Customer satisfaction exhibits positive outcomes prediction behavioral intention to re-use a service (Boulding et al., 1993; Cronin et al., 2000). It allows the company to achieve the retention of customer (Cronin & Taylor, 1992). Getty and Thompson (1994) suggested that satisfied customers would be most likely to share their experience and recommend the service to others. Customer satisfaction is highly related to word-of-mouth and customer loyalty (Anderson & Sullivan, 1993; Boulding et al., 1993; Yi, 1990).

According to Zeithamal (1987) and Zeithamal et al. (1996), service quality is closely related to customer satisfaction. Bolton & Drew (1991a) and Boulding et al. (1993) proposed that customer satisfaction is the consequence of service quality and the outcome of customer behavior. Service quality is closely related to

customer satisfaction and customer loyalty. Caruana (2002) stated that service quality is seen as an antecedent construct where service loyalty is the outcome of customer satisfaction. Wallenburg (2009) also claims service quality as a strong driver for customer loyalty.

Davis and Mentzer (2006), indicate that some intangible elements such as timeliness and information have a strongly relationship to affect loyalty in among with supplier and customer.

Innovativeness is also described as a helpful tool making logistics service providers to differentiate themselves with their competitors (Flint, Larsson, Gammelgaard & Mentzer, 2005; Wagner, 2008; Wellenburg, 2009). Innovation in services is essentially a valuecreatingactivity that drives market orientation and performance (Slater & Narver, 1995).

Timeliness, Information Available, Service Variety and Continuous Improvement have already been used as explicit behavioral first-order indicators or customer orientation indicators in logistics service provider customers' orientation which is predicted to have a positive effect on customer firm logistics improvement (Yu Tian, Alexander E. Ellinger & Haozhe Chen, 2009).

Based on the literature review and theoretical framework discussed, the researcher considers the Customer Loyalty is determined by the determinants such as Innovation, Timeliness, Information Availability, Service Variety, and Continuous Improvement, alongside some control variables such as gender and age of respondents and the company size.

So that, it devises customer loyalty questions to represent two different aspects of customer loyalty, namely the own repeating use (CL1), and introducing others to use (CL2).

Some factors of self-repeating use customer loyalty may be different from that of introducing others customer loyalty. It is an empirical question as to what factors will affect customer loyalty.

Based on the above assumption, it can develop the following hypotheses.

Hypothesis Development on Regression Model 1

Timeliness is traditionally considered a fundamental factor which a logistic company possess in order to retain a client. It gets strongly relationship to affect loyalty in between logistics service provider and customer. Therefore, it expects timeliness to be significant in the model 1 that as.

H1a: Timeliness is positively relates to customer loyalty of staying with current logistic supplier.

In this competitive commercial world, innovation has become a paramount important to a company in retaining clients by differentiate themselves with their competitors in order to gain competitive advantages and business success as well. Therefore, it expects that if a company provide their service in an innovative way, a customer can be retained. In this connection, it derives the following hypothesis.

H1b: Innovation is positively relates to customer loyalty of staying with current logistic supplier.

Hypothesis Development on Model Regression 2

For a person to introduce an existing logistic company to others, timeliness has already becomes a basic requirement. However, it is uncertain as to whether timeliness will significantly affects customer loyalty of introducing a supplier to others. It expects reasonably that if a logistic company continuously to improve its service and performance, a user will have confident to introduce to others. In this connection, it arrives the following hypothesis.

H2a: Continuous Improvement is positively relates to customer loyalty of introducing a current logistics supplier to others.

It contends that people with more experience in using logistic providers are in a better position to introduce a

logistic supplier to others. It is natural for us to deduct that experience is associated with the age of person. Therefore, it derives the following hypothesis.

H2b: Age of a logistic service user is positively relates to customer loyalty of introducing a current logistic supplier to others.

Therefore, it develops the following two models, namely Model 1 and Model 2.

Regression Model 1:

Customer Loyalty of repeating use with current logistic service provider (CL1)=

 $\alpha_0 + \alpha_1 IN + \alpha_2 TM + \alpha_3 IA + \alpha_4 SV + \alpha_5 CI + \alpha_6 GENDER + \alpha_7 AGE + \alpha_8 HC + \varepsilon$

Regression Model 2:

Customer Loyalty of introducing current logistic service provider to others (CL2) =

 $\alpha_0 + \alpha_1 IN + \alpha_2 TM + \alpha_3 IA + \alpha_4 SV + \alpha_5 CI + \alpha_6 GENDER + \alpha_7 AGE + \alpha_8 HC + \varepsilon$

where IN is Innovation, TM is Timeliness, IA is Information Availability, SV is Service Variety, CI is Continuous Improvement, and HC is Head Count of a company which represents company size.

3. Method for Study

This paper not only focuses on study of the determinants affect to customer loyalty in logistics service providers' perspective, but also concentrates to study Hong Kong's logistics industry in present. China or other regions are out of scope to be researched. The population of this research is the customers' frequently use of third party logistics services in Hong Kong. Since the population is so huge that there is no evidence of the exact size, random sampling method is not appropriate. This research has adopted the non-probability approach by referral sampling method. The population of this research is the decision makers of SMEs in logistics industry and also those customers who frequently use logistics services in Hong Kong. For the questionnaire design, this paper uses the 5-point Likert Scale for measurement. It includes a number of variables as predictors. It includes the number of employees in a respondent's firm (*SIZE*) as larger firms have a better information environment as well as more complex operations which may require more logistics services in their operation. It also includes age of a respondent (*AGE*) as a predictor variable as respondent who is elder might have more experience in using the logistic service. It includes gender (*GENDER*) as a control variable because a male and a female may adopt different views on the questionnaire questions. This paper is studied by the quantitative analysis with linear regression model.

4. Empirical Result

A total of 335 respondents participated in the survey. Among them, 56% were engaged in service industry, 28% were engaged in manufacturing industry, and 16% were professional. After the interview, the questionnaires recovered included 106 valid questionnaires and 229 invalid questionnaires. The invalid questionnaires were overwritten or no responded. Therefore, the valid ratio of the questionnaire is 31.6%, these results are shown in Table 1.

Tuble 1 Questionhuite Recovery				
Item	Frequency			
Recovery	335			
Valid	106			
Invalid	229			
Valid Ratio	31.6%			

 Table 1
 Questionnaire Recovery

4.1 Describes Statistics

Based on the results in Table 1, the number of samples used in this study is 106. Next, use these 106 samples for descriptive statistics.

First, the descriptive statistical results of gender and age are presented in Table 2. Of the 106 respondents, 46 males and 60 females accounted for 43.40% and 56.60%, respectively. In terms of age division, the number of respondents aged 20-29 years old is the lowest, only 2people, accounting for 1.89% of all valid respondents; 40-49 age group is the most interviewed, with 51 people, accounting for 48.11% of all valid respondents. Since this study hopes that the respondents have relevant knowledge of logistics business, the age of the respondents falls in the middle-high age. Therefore, the most respondents are 40-49 years old, 50-59 years old is the second, and 30-39 years old is the third, the number of people over 60 is the least.

Variable	Category	Frequency	Percentage	Cumulative Percentage
	Male	46	43.40	43.40
Gender	Female	60	56.60	100
	Total	106	100	
	20-29 Years Old	2	1.89	1.89
- Age -	30-39 Years Old	19	17.92	19.81
	40-49 Years Old	51	48.11	67.92
	50-59 Years Old	29	27.36	95.28
	Above 60 Years Old	5	4.72	100
	Total	106	100	

 Table 2
 Interviewer Describes Statistics in Gender and Age

As this study is mainly targeted at small and medium-sized enterprises (SMEs) in the logistics industry and those who often use third-party logistics services in Hong Kong, the described statistics of the sample of head count of a company(HC) are shown in Table 3. The head count of a company has the largest number of 155 people, the least is only 8 persons. The average number is 21.75.

Table 3	Interviewer	Describes	Statistics	in Head	Count	of a	Company	(HC)
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Content	Frequency
Max Value	155
Min Value	8
Average	21.75
Frequency	106

The correlation coefficient matrix reflects the relationship between the two variables and their related directions, but it cannot exactly indicate the degree of correlation between the two variables. Table 4 shows the correlation matrix of all variables in this study. Using * or ** to represent a significant level of correlation, * presents significant level is 0.05; ** presents significant level is 0.001; If there is no asterisk in the upper right of the value, it means that the correlation coefficient does not show significance. Observing Table 4, it finds that "Timeliness", "Innovation", "Information Availability", "Service Variety", "Continuous Improvement", positive correlation and significant to customer loyalty (CL). In addition, gender and "Age" also show a significant positive correlation with customer loyalty. However, this result is only a preliminary test and cannot be causally related to the influence of the variables. It is necessary to continue the regression analysis to obtain the complete answer.

	Gender	Age	CL	HC	IN	TM	IA	SV	CI
Gender	-								
Age	0.166	-							
Customer Loyalty	0.189*	0.202^*	-						
Head Count of a Company	0.064	0.044	0.134	-					
Innovation	0.111	-0.030	0.513**	0.038	-				
Timeliness	0.088	0.142	0.369**	0.064	0.125	-			
Information Availability	0.070	0.053	0.279**	-0.152	0.258^{**}	0.658^{**}	-		
Service Variety	0.053	0.055	0.270^{**}	-0.019	0.358^{**}	0.494^{**}	0.690^{**}		
Continuous Improvement	0.063	-0.047	0.297**	-0.102	0.317**	0.562**	0.762**	0.656**	-

Table 4 The Correlation Matrix

Note: * presents significant level is 0.05; ** presents significant level is 0.001

4.2 The Reliability Analysis

This section carries out a reliability analysis of the questionnaire questions to ensure the rationality of the research results. The purpose of reliability analysis is to measure the degree of error between the options of the questions and make the test results consistent. Errors can be divided into systematic errors and random errors. The reasons are roughly divided into errors generated by situation factors, respondents, testers, or measurement tools. Among them, random errors may affect reliability. In other words, if the error in the data collected is lower, the more consistent the situation is, the higher the reliability of the results and the more reliable the results. This article simplifies the analysis. According to the recommendations of Comrey & Lee (1992), the questionnaire answers the results of each question type. If the reliability coefficient is higher than 0.63, it means that the answer to this question is good. However, we construct reliabilities (Cronbach's Alpha) of the questionnaires from the source of references are in above content.

Therefore, we conducted a reliability analysis of the questionnaire questions. The results of the analysis are presented in Table 5. In Table 5, almost all the reliability coefficients are greater than 0.63, indicating that the results of the selection are good.

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Table 5 The Kenability Analysis						
Questionnaire questions	Reliability Coefficient	Cronbach's Alpha				
Innovation		0.776				
The major 3PL provider frequently tries out new ideas. (IN1)	0.780					
The major 3PL provider seeks out new ways to do things. (IN2)	0.695					
The major 3PL provider is creative in its methods of operation. (IN3)	0.617					
Timeliness		0.803				
The major 3PL provider's transit time is short. (TM1)	0.730					
Deliveries usually arrive on the date the major 3PL provider promised. (TM2)	0.684					
The major 3PL handles our back-orders quickly. (TM3)	0.779					
Information Availability		0.876				
The major 3PL makes price change information readily available. (IA1)	0.772					
The major 3PL makes service/product change information readily available. (IA2)	0.773					
It is easy to obtain order status information from the major 3PL (IA3)	0.917					
Service Variety		0.787				
The major 3PL has broad range of services. (SV1)	0.825					
The major 3PL has the capability to maximize-added value to our products. $(\mathrm{SV2})$	0.679					
The major 3PL has a strong domestic service provision network. (SV3)	0.613					
Continuous Improvement		0.923				
The major 3PL provider has a high level of responsiveness to our needs. (CI1)	0.918					
The major 3PL has a strong capability for continuous improvement. (CI2)	0.897					
The major 3PL has a strong capability for continuously bettering its service. (CI3)	0.854					

Table 5The Reliability Analysis

Source of the questionnaire in Innovation: Photis Panayides, "Enhancing innovation capability through relationship management & implications for performance", 2006. Source of the questionnaire in Timeliness, Information Available, Service Variety and Continuous Improvement: Yu Tian, Alexander E. Ellinger and Haozhe Chen "Third-party logistics provider customer orientation and customer firm logistics improvement in China", November 2009.

4.3 The Regression Result

After narrative statistics and reliability analysis, this study used 106 questionnaires with good interview results. Take this sample of 106 data, under the constructed regression equation, operate SPSS statistical software and performempirical analysis. We compiled the data generated by the SPSS program results in Table 6.

There are two regression equation models in this study. Therefore, "Model 1" in Table 6 represents regression equation 1, that is, CL1 is dependent variable, and five factors (innovation, timeliness, information availability, service variety, continuous improvement), head count of a company, age, and gender are independent variables; on the other hand, "Model 2" represents the result of regression equation (2), that is, under the same independent variable, the dependent variable is CL2. The values in Table 6 are the coefficients of the regression equation. The values in bracket represent the p-values of this variable after statistical operations. The upper right side of the brackets represents the degree of significance, with different asterisks representing significant levels, * presents p-value < 0.05, ** presents p-value <0.01, *** presents p-value < 0.001; Conversely, if there is no asterisk in the upper right of the bracket, it means that the variable has no significance, and the coefficient value of the variable has no meaning. In the following two subsections, the results of the regression equations 1 and 2 will be presented in Table 6, respectively.

Table	6 The Result of Regression	
Mode	Model 1	Model 2
Dependent Variable	CL 1	CL 2
Control Variable		
Innovation(IN)		0.152 (0.102)
Timeliness(TM)		0.199 (0.071)*
Information Availability(IA)	0.150 (0.307)	0.168 (0.112)
Service Variety(SV)	-0.107 (0.420)	-0.029 (0.818)
Continuous Improvement(CI)	-0.156 (0.207)	
Age	0.053 (0.518)	
Gender	-0.018 (0.898)	0.221 (0.095)*
Head Count of a Company(HC)	0.001 (0.259)	0.001 (0.715)
Independent Variable		
Timeliness(TM)	0.278 (0.019)**	
Innovation(IN)	0.672 (0.001)***	
Continuous Improvement(CI)		0.258 (0.028)**
Age		0.196 (0.012)**
R^2	0.413	0.240
Adjusted R^2	0.364	0.178

 Table 6
 The Result of Regression

Note 1: Bracket presents the p-vale

Note 2: * presents p-value < 0.05, ** presents p-value <0.01, *** presents p-value < 0.001.

4.3.1 The Result of Regression Model 1

According to the research method constructed by the regression model 1, two hypotheses are summed up, H1a and H1b, respectively. In H1a, we try to test that timeliness is positive to customer loyalty of staying with current logistic supplier; H1b try to test innovation is positive to customer loyalty of staying with current logistic supplier. Therefore, we select "Timeliness(TM)" and "Innovation(IN)" as independent variables, and the remaining variables (information availability, service variety, continuous improvement, head count of a company, age, and gender) belong to control variables.

Observe the results of Model 1 in Table 6, only the independent variables are significant, and none of the control variables are significant. The result is that the narratives of H1a and H1b are correct. It shows that the improvement of timeliness and innovation helps customer loyalty of staying with current logistic supplier. Interestingly, the presentation in table 6 has a higher degree of significance than timeliness, which shows that the innovative logistics service approach is more conducive to improving the customer loyalty of suppliers than timeliness.

In the era of Internet business, the application of big data makes logistics services more diversified. How to innovate services has become a major issue in the logistics industry. Therefore, in order to increase customer loyalty, the logistics industry not only pays attention to timeliness but also pursues innovation in services. We summarize the above results in Result 1 and Result 2

Result 1: Timeliness is positive to customer loyalty of staying with current logistic supplier.

Result 2: Innovation is positive to customer loyalty of staying with current logistic supplier.

4.3.2 The Result of Regression Model 2

We answer the hypothesis, H2a and H2b, constructed by regression equation 2 with Model 2 in Table 6. H2a try test that continuous Improvement is positive to customer loyalty of introducing; H2b try test that age of a logistic service user is positively relates to customer loyalty of introducing a current logistic supplier to others. Therefore, in regression equation 2, we use "Continuous Improvement (CI)" and "Age" as independent variables, and other variables are control variables. The results show that continuous improvement and age contribute to customer loyalty of introducing a current logistic supplier to others. H2a and H2b are accepted. This result shows that continuous improvement of service quality and content will contribute to logistics vendor loyalty and introduce other suppliers. On the other hand, as more and more elderly users of logistics services become more concerned with the quality of logistics services, they will introduce good logistics services to others. We summarize the above results in Result 3 and Result 4.

Result 3: Continuous Improvement is positive to customer loyalty of introducing a current logistic supplier to others.

Result 4: Age of a logistic service user is positive to customer loyalty of introducing a current logistic supplier to others.

Interestingly, in the control variables of regression equation 2, it is shown that "Timeliness(TM)" and "Gender" show positive significance. This means that logistics customers will introduce logistics services to others if they have knowledge of the timeliness of logistics services.

Gender is a special variable, which is represented by "0" and "1" in the regression model and belongs to the dummy variable. It's more interesting is that if the user of the logistics service is female, she will introduce the logistics service to others, which is 19.9% higher than that of male. We summarize the above results in Result 5 and Result 6.

Result 5: Timeliness is positive to customer loyalty of introducing a current logistic supplier to others.

Result 6: Female of a logistic service user is positive to customer loyalty of introducing a current logistic supplier to others.

5. Conclusion

As mentioned previously, Logistics service has been developing rapidly in today's service industry. To satisfy customers' needs and to retain their success has become the most critical elements for a logistics service company's survival and business growth. On the other hand, it is generally believed that it is of paramount importance that supplementary services are bundled with the core products/services in order to gain competition advantages. The improvements of supplementary services are considered to be elevating the efficiency and effectiveness of the operation of a company, thus gaining market share, and such supplementary services may also be adopted from other industries (Lovelock Christopher, 1993).

Focusing on the objectives of this thesis, this research adopts five attributes for the variable of logistics value-added services; (Innovation, Timeliness, Information Available, Service Variety and Continuous Improvement). It finds that there is a positive relationship between the value-added services and the customer loyalty in HK's logistics service industry.

All the means of the independent variables of questionnaires are above 3.

Both of the Adjusted R-square of Model 1 is around 36% while the Adjusted R-square of Model 2 is around

18%, indicating a good fit of models. The selection of the attributes of Logistic services in the thesis is correctly.

The result clearly indicates that some of the determinants are significant in the two models.

In Model One with Dependent Variable CL1 (Customer Loyalty of staying with a supplier), the coefficient of Innovation is positive and significant at 0.01 level. The coefficient of Timeliness is positive and significant at 0.05 level with highest Mean (M = 4.26, SD = 0.81) in the questionnaires. However, Innovation gets a higher beta value of 0.583 than Timeliness gets a beta value of 0.262. It is interesting to see that the result indicates that customers, on average, consider Timeliness the most critical thing for logistics services they use in daily operation (as Timeliness is of highest mean of 4.26) but, in the model with standardized coefficients, standardized coefficient of Innovation is higher than that of Timeliness, indicating that innovation carries a higher weigh than Timeliness when deciding whether to continue the relationship with the current supplier in the long term as Timeliness has been treated as the most basic requirement for the logistics service selection.

Therefore, it can conclude that hypotheses H1a and H1b are supported.

In Model Two with Dependent Variable CL2 (Customer Loyalty of introducing an existing supplier to others), the coefficient of Timeliness is positive and significant at 0.1 level. The coefficient of Continuous Improvement is positive and significant at 0.05 level. The coefficient of Age is positive and significant at 0.05 level, indicating that customers with higher age tend to be more likely to recommend their supplier firm to others. In this model, Innovation is no longer significant at 0.1 level. Meanwhile, Timeliness is of a beta value of 0.230, Continuous Improvement is of a beta value of 0.325, and Age is of a beta value of 0.236.

The result reveals that Continuous Improvement, Age of Customer become the dominant factors when deciding whether to recommend their supplier firm to other seven though they know Timeliness is an important factor for logistics services. An explanation for the finding that an elder customer tend to introduce their supplier to others is that an elder customer has more experience in using the suppliers and they tend to know more about various suppliers, therefore an elder customer is in a better position to introduce a supplier to others.

The result supports the finding obtained by previous research (David L. Cahill, 2006) that proactive improvement, which mainly increases loyalty through mediation by service quality, turns out to be the main driver and have the greatest effects on customer loyalty.

Referring to the research conducted by Taiwan's scholars (Huang L., Leu J., & Farn C., 2008), value-added service and service quality are the psychological factors shaping affective commitment to maintain customer loyalty. Affective commitment refers to the emotional attachment to and involvement in a relationship (Meyer & Allen, 1987).

Customers with affective commitment tend to maintain the relationship and affective commitment is positively related to customer loyalty when their relationship is more than 10 years. This is consistent with the result of this research that age is an important determinant of customer loyalty in Logistics Services industry.

Therefore, it can conclude that hypotheses H2a and H2b are supported.

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