

Interrelation between Customer satisfaction and loyalty in third-party logistics distribution

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Abstract

As a case study on third-party logistics enterprise of department stores in Taiwan, firstly, this paper puts forward the architecture which includes the key factors of customer satisfaction and loyalty of the logistics distribution based on the instance investigation and literature study. Secondly, using the Cronbach's alpha approach, the paper verifies the credibility and effectiveness of questionnaires which are used in the investigation and measured by liker – scale. Lastly, using the Correlations and regression-analysis, the paper illustrates that customer satisfaction have the positive significant effect on customer loyalty, and interaction between Customer satisfaction and loyalty with competitors, and price is a critical factor. If customers are not satisfied with the price, it is recommended to clients or priority, it is unlikely, not to talk about renewal or purchase other services.

Keywords: third-party logistics, customer satisfaction, customer loyalty

1. Introduction

In 1991, Muller proposed that customer satisfaction contribute to competitive advantage[2], and Kotler considered a profitable enterprise competitive weapon[10]. Many studies have proven that customer satisfaction will increase more loyal customers, and ultimately, to enable enterprises to gain more profit, is the goal of many companies, but also the management of the most important evaluation. many famous scholars proposed that increasing customer satisfaction will increase customer to purchase behavior[1], and the customer re-purchase behavior is a manifestation of loyalty behavior[3], customer satisfaction is loyalty antecedents, and showed a positive impact on loyalty. Therefore, third-party logistics enterprises in Taiwan's department stores as an example, surveys of customer satisfaction and customer loyalty through the relation between the two research and analysis, and finally, proposed conclusions.

2. Theoretical Foundation

2.1. Customer Satisfaction

In 1965, Cardozo was the first to propose the concept of customer satisfaction[1]. In 1978 Huppertz, Arenson and Evans considered that it's the exchange relation with the paying customers get the value of feelings of fairness[4]. In 1980, Oliver made it is determined by the difference with customer expectations and quality, and by the gap generated with expected service and perceived performance[12]. In 1981 Oliver also proposed that it is the customer to judge the pleasant degree of the product or service[5]. The above mentioned concept of early scholars were generally covers other scholars point.

In 1994 Parasuraman, Zeithaml, Berry considered that the overall impression of satisfaction include service quality, product quality and price of the overall impression. Advocates customer transactions overall satisfaction is service quality, product quality and price of the three evaluation function posed relation. Comprehensive after several transactions, service quality, product quality and price evaluation, the resulting satisfaction experience, and produce the enterprise's overall impression[6]. Comprehensive mentioned above, this study intends to PZB referred to in satisfaction, service quality and price of three variables as customer satisfaction metrics.

2.2. Customer Loyalty

In 1985, Sirgy and Samli believe that customer loyalty is the consumer in a particular store tends to repeat purchase behavior[7]. In 1993, Selnes pointed out, including the possibility of future purchases, service contracts continuity, brand switching possibilities and positive word of mouth publicity, the high degree of loyalty will produce a high level of transfer barrier[8]. Later, most of the scholars have published the customers for the product or service repurchase intention, as well as purchase, willing to promote the company[33][54][37][55]. In 2000, Gronholdt, Martensen and Kristensen proposed four loyalty indicators were intended to care for customers to buy again, willingness to recommend, price tolerance, and cross-buying intention[9]. In summary, the

present study intends to GMK (2000) mentioned, willingness to recommend and price tolerance of two variables as a measure of customer loyalty index.

2.3. Relation between Customer Satisfaction and Loyalty

In 1993, Anderson and Sullivan for the antecedents and consequences of customer satisfaction variables do research, pointed out that will positively affect customer satisfaction to purchase behavior, and customer loyalty to purchase behavior is a manifestation of behavior, so corollary customer satisfaction and loyalty is a positive correlation[3]. In 1996 Parasuraman, Zeithaml and Berry also believe that customer satisfaction is loyalty antecedents, and showed a positive impact on loyalty[11]. In summary, the present study was to investigate the relation between customer satisfaction and loyalty.

3. Research Method

3.1. Study Variables and Questionnaire

According to the relevant literature, summarizing the logistics customer satisfaction and customer loyalty measurement items, such as shown in Tab.1. "Distribution Quality" and "Distribution Cost", respectively, to the service quality and price as an independent measurement item, logistics and distribution services to facilitate determination of customer satisfaction, and "Cost-Comparison Service" is added to the price determination of the overall service satisfaction, "Distribution Service" is the overall service satisfaction, so beneficial analysis of prices on the impact of the overall service satisfaction, and proposed the research hypothesis 1 and 2 are as follows:

h1: Customer satisfaction have the positive significant effect on customer loyalty in the logistics distribution.

h2: Each item of customer satisfaction have the positive significant effect on each item of customer loyalty in the logistics distribution.

In competition with competitors, customer service performance evaluation for both sides, will have a significant effect on mutual relations. Accordingly, the research hypothesis 3 and 4 are as follows:

h3: Customer satisfaction have the significant effect on the competitors in the logistics distribution.

h4: Customer loyalty have the significant effect on the competitors in the logistics distribution.

Tab. 1: Customer Satisfaction and Loyalty Measurement Items

Dimensions	Measurement Items
Customer Satisfaction (4 Items)	Distribution Quality 、 Cost-Comparison Service 、 Distribution Cost and Distribution Service.
Customer loyalty (2 Items)	Customer Referral 、 Price Tolerance.

A questionnaire survey methodology, questionnaire survey of customer satisfaction and customer loyalty in two parts, using five-point Likert Scale measure ruler to measure.

3.2. Analytical Methods and Finding

First, for the sake of reliability and validity of the questionnaire, using Cronbach α value statistical method validation questionnaire, then Descriptive Statistics Analysis, and the use of Bivariate Correlations and Multiple Regression analysis methods, conduct customer satisfaction and customer loyalty relation. To facilitate the analysis of the survey, the mean change in this study was eight scales, and the standard deviation was changed to five consensus scales to analyze the results, as shown in Tab.2.

Tab. 2: Scale Analysis Definition

Scale	Satisfaction Comment	Loyalty Comment	consensus scale	Consensus Comment
1.00-1.50	Most dissatisfied	Most disloyal	0.00-0.50	Consistency
1.51-2.00	Very dissatisfied	Very disloyal	0.51-1.00	Slightly Diverged
2.01-2.50	Dissatisfied	Disloyal	1.01-1.50	Slightly Diverged
2.51-3.00	Slightly dissatisfied	Slightly disloyal	1.51-2.00	Diverged
3.01-3.50	Slightly satisfied	Slightly loyal	2.01-2.50	Diverged
3.51-4.00	Satisfied	Loyal	2.51-3.00	Very Diverged
4.01-4.50	Very satisfied	Very loyal	3.01-3.50	Very Diverged
4.51-5.00	Most satisfied	Most loyal	3.51-4.00	Most Diverged

In this study, the scope of investigation is based on more than 90% of customer channels in department store, the first line of the logistics manager for the survey, the survey measured the total project Cronbach's α value 0.761, which means that the questionnaire with high credibility. Sent 78 questionnaires were returned 57 copies, 54 copies of valid questionnaires, the questionnaire response rate 69%.

4. Analysis

4.1. Descriptive Statistics Analysis

Using One-Sample T Test, primarily through the analysis of the mean and standard deviation of cases of customer satisfaction and customer loyalty, as shown in Fig.1 and Fig.2. By satisfaction scale analysis, "Distribution Quality" and "Distribution Service" of the case company and its competitors are very satisfied by Customers, "Cost-Comparison Service" and "Distribution Cost" of the case company are slightly satisfied, but the competitors are satisfied. By consensus scale analysis, except for cases of "Distribution Service" on the same view with competitors outside, all of which are slightly diverged.

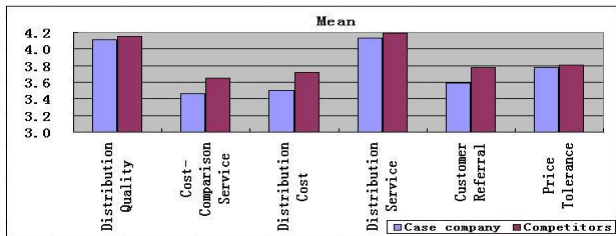


Fig. 1: Mean Customer Satisfaction and Loyalty Analysis

Customer loyalty descriptive statistics, by loyalty scale analysis, which means that customers are loyal to the case company and competitors, by consensus scale analysis, except for “Customer Referral” of the case company diverged slightly, but all are the same.

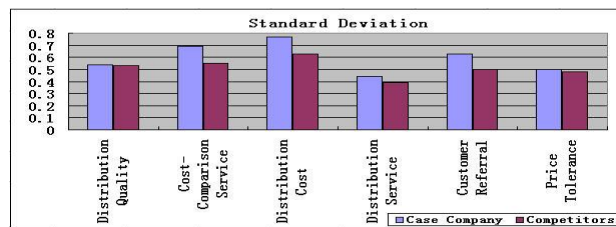


Fig. 2: Customer Satisfaction and Loyalty Standard Deviation Analysis

4.2 Correlation Analysis

Bivariate Correlations were tested on four research hypotheses. First of all, customer satisfaction and customer loyalty for analysis of the relation in the case with competitors, at the 95% confidence level, customer satisfaction and loyalty have significant relationships, and customer satisfaction, customer loyalty is also a significant relationship, such as Tab.3 shown.

Tab. 3: Relation between Customer Satisfaction and Loyalty

Items	Satisfaction	Loyalty	Satisfaction C	Loyalty C
Satisfaction	1	.733**	.727**	.660**
Loyalty	.733**	1	.576**	.747**
Satisfaction C	.727**	.576**	1	.766**
Loyalty C	.660**	.747**	.766**	1

Then each item of customer satisfaction and loyalty in the analysis of the relation, such as Tab.4 shown. At 95% confidence level, the cases “Compard Cost Service”, “Distribution Cost” and “Customer Referral” have significant relation, and Each item of customer satisfaction with the “Price Tolerance” has a significant relation. Competitor “Cost-Comparison Service”, “Distribution Cost”, “Distribution Service” and “Customer Referral”, “Price Tolerance” has a significant relation.

Tab. 4: Relation between customer satisfaction and loyalty items

Measurement items	Distribution Quality	Cost-Comparison Service	Distribution Cost	Distribution Service
Customer Referral	-.087	.527**	.777**	.058
Price Tolerance	.373**	.628**	.488**	.307*
Customer Referral C	.055	.663**	.580**	.405**
Price Tolerance C	.110	.673**	.517**	.387**

4.3. Regression Analysis

Using multiple regression analysis on the research hypothesis tested. First, focus on the customer satisfaction and loyalty model analysis, the results shown in Tab.5. Model all through the test, customer satisfaction have the positive significant effect on loyalty, as well as customer satisfaction with competitors has a significant effect each other, customer loyalty, too.

Tab. 5: Customer Satisfaction and Loyalty Regression Analysis

Model variables		Standardized coefficient			Model Overview			Residuals
Strain	Arguments	Beta	P-value	F-value	COD	R Square	DW Statistic	SR
Loyalty	Satisfaction	.770	7.354	.000	.748 ^a	.560	2.070	-1.592
Loyalty C	Satisfaction C	.765	7.651	.000	.784 ^a	.614	1.875	-2.078
Satisfaction	Satisfaction C	.524	3.538	.001	.769 ^a	.592	2.033	-2.488
Loyalty	Loyalty C	.720	5.060	.000	.772 ^a	.596	2.043	-2.469
Satisfaction C	Satisfaction	.577	3.801	.000	.752 ^a	.566	2.039	-1.598
Loyalty C	Loyalty	.630	4.752	.000	.788 ^a	.621	2.012	-2.39

Next, the measurement items of customer satisfaction and customer loyalty in the model analysis, the results shown as Tab.6. Two models of customer loyalty have passed the testing, “Distribution Cost” is an important factor to improve “Customer Referral”, and “Cost-Comparison Service” are also important factors to improve “Price Tolerance”. But the company has a “Cost-Comparison Service” and “Distribution Service” is also an important factor to improve “Customer Referral”.

Tab. 6: Customer Satisfaction and Loyalty Items Regression Analysis

Model variables		Standardized coefficient			Model Overview			Residuals
Strain	Arguments	Beta	P-value	F-value	COD	R Square	DW Statistic	SR
Customer Referral	Distribution Cost	.777	8.899	.000	.78 ^a	.60	1.92	-2.27
Price Tolerance	Cost-Comparison Service	.628	5.813	.000	.63 ^a	.39	1.97	-1.44
Customer Referral	Cost-Comparison Service	.366	2.952	.005	.000 ^a	.763 ^a	.582	1.992
	Distribution Cost	.353	2.911	.005				
	Distribution Service	.331	3.455	.001				
Price Tolerance	Cost-Comparison Service	.673	6.570	.000	.000 ^a	.673 ^a	.454	1.884

5. Conclusions

In this study, discuss relevant literature and through survey results collected and analyzed, hypothesis 1, 3, 4 up, hypothesis 2 most established. Finally, conclusions are as follows, providing case studies and related industries, government, academia reference:

(1) The consolidated results of descriptive statistics, customers are very satisfied with "Distribution Quality" and "Distribution Service", while less satisfied with "Cost-Comparison Service" and "Distribution Cost", but the competitor satisfied, need attention. Except "Distribution Service", the views are more differences and are price-related, indicating that price is the main factor affecting customer satisfaction, customer satisfaction with the price factor measuring system was complete. And customer loyalty to both, but the case "Customer Referral" views diverged slightly.

(2) Consolidated results of correlation analysis, customer satisfaction's "Cost-Comparison Service", "Distribution Cost" and customer loyalty's "Customer Referral" have significant relation, and customer satisfaction's "Cost-Comparison Service", "Distribution Cost", "Distribution Service" and Customer loyalty's "Price Tolerance" have significant relation. Customer measure of the relation level of the key elements of customer loyalty, cases showed differences, the Competitors is more consistent, especially with the price of the two key elements of customer satisfaction. In addition to the above, the case company with its competitors in terms of customer satisfaction and loyalty, the relation between the two is more significant, which means that customers easily affect the evaluation of unilateral each other.

(3) Comprehensive regression analysis, customer satisfaction's "Distribution Cost" is an important factor to improve customer loyalty's "Customer Referral", as well as customer satisfaction's "Cost-Comparison Service" is an important factor to improve the customer loyalty's "Price Tolerance", and two key factors of customer satisfaction related distribution costs, obviously, the price is the main factor affecting the customer loyalty. Customer satisfaction of the case company and its competitors have positive significant effects on loyalty, customer satisfaction and loyalty also have a significant effect on each other, and once again proven model hypothesis in this study, as well as the findings of credibility and validity.

Mentioned above, once again shows customer satisfaction on customer loyalty has a positive effect, logistics distribution in Taiwan's department stores is no exception, and the customer satisfaction and loyalty, and competitors affect each other. While prices high impact customer satisfaction and loyalty, indicating that the price is also a key measurement item of customer satisfaction and customer loyalty, and the enterprises need special attention. If customers are not satisfied with the price, customer referral or high priority is unlikely, not to talk about renewal or purchase other services.

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