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Research paper

Engineering of Health Organization and Life Insurance Costs on Customer Loyalty by Creating Customer Value

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Abstract

At the current competitive world and the turbulent market caused by presence of different brands in each industry, customer is axis of business in every industry and customer loyalty to organization can be the main factor in gaining position in the market and competitive advantage. Hence, the main objective of this study is to analyze the effect of service quality and life insurance costs on customer loyalty by creating customer value. In terms of purpose, this study is an applied research and in terms of data collection method, it is descriptive study in kind of analytical-survey research. The data used in this study was collected from customers of Iran Life Insurance in Mashhad using simple sampling and using questionnaire derived from study of [1] and its validity and reliability has been confirmed. Finally, 202 questionnaires were analyzed using PLS software, which is in kind of structural equations. The results obtained from this study confirmed all hypotheses and showed direct impact of service quality and service cost on customer value, value and service quality on customer loyalty and the reverse impact between service costs and loyalty has been also indicated.

Keywords: *service quality, service cost, customer value, customer loyalty, life insurance*

1. Introduction

Service quality is the main element determining value for customer and increase market share and enhance sales. In general, high service quality can lead to more use of brand and increased income level of company and can make desirable attitude in customer, which can itself enhance customer loyalty [2]. Price (cost) is the money paid for a product or service or the profit paid by consumers for the advantages of using product or service [3]. Studies have revealed that cost has significant impact on purchase intent of customers and the factor "price" can include expensiveness of that service and persuade or dissuade customer from buying that [4]. Nowadays, role of value can be considered as an underlying and vital element for customers and marketers and this is because; value is one of the strongest forces in the market [1]. Customer value refers to what customers obtain from purchasing a product, compared to what they pay, which can lead to creation of a kind of attitude towards product [5].

2. Theoretical Framework and Literature

2.1 Life Insurance

Life insurance, similar to other kinds of insurance, can show response to concerns of people of a society. The concern of insurer is about unexpected accidents such as disability and death or change in income and economic conditions of family. In this kind of insurance, the insurer can make purchase based on conditions of getting advantages of insurance (life or death of insured), way of getting benefits (receiving whole or as a pension), time of receiving benefits and the way of payment for insurance fee purchase any kind of insurance to meet the needs [4].

3. Methodology

In this section, according to the mentioned issues in frame of variables, conceptual model of effect of service quality's and costs on creating customer loyalty through mediating variable of customer value is presented with reference to Brodie et al (2009) in figure 1. In conceptual framework of this study, variable of service quality and service costs are introduced as independent variables and customer value is introduced as mediating variable and customer loyalty has been introduced as dependent variable.

Service quality's can affect customer value Service cost can affect customer value. Customer value can affect customer loyalty. Service quality can affect customer loyalty. Service cost can affect customer loyalty. Service quality can affect customer loyalty through customer value. Service cost can affect customer loyalty through customer value.

$$n = \frac{(z\frac{\alpha}{2})^2 \times \sigma^2}{d^2} = \frac{(1.96)^2 \times (0.43)^2}{(0.06)^2} = 197/30 \simeq 196$$

Therefore, to achieve calculated sample size, 215 questionnaires were distributed among sample members within 45 days. Finally, 13 out of 215 questionnaires were excluded because of incomplete filling out by respondents. Hence, sample size in this study was formed of 202 questionnaires, which was increased from calculated sample size (n=196) to 6 people. In this study,

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for purpose of data collection to measure correlation of variables, questionnaire items derived from study of Brodie et al (2009) were used. In this study, to determine validity of the questionnaire, face and content validity and confirmatory factor analysis (CFA) were used. Hence, to test content validity and to confirm validity of questionnaire using face validity, despite to validity of questionnaire based on the basis of designation by initial designers, it was presented to relevant scholars to leave their comment on items of the scale due to research objective. After getting the questionnaire, suggested corrections (suitable equivalence and localization) presented by the said scholars were applied to make the instrument valid in terms of content and face validity. Also, according to significant values of factor load, validity of questionnaire was in accepted level. To test reliability of questionnaire, Cronbach's alpha was used. In table 1, the value of cronbach's alpha for all variables is estimated higher than 0.7 and this shows that research instrument has high and favorable reliability.

Table 1: cronbach's alpha values

Variable	Number of items	Cronbach's alpha
Service quality	5	0.84
Service cost	4	0.72
Customer value	4	0.75
Customer loyalty	4	0.83

In the studies aiming at testing a special model based on correlations of variables, structural equation modeling analysis can be used. Structural equation modeling (SEM) is a general and powerful technique of multivariate regression family and more exactly, is the extended form of general linear model, which enables scholars to test a set of regression equations simultaneously. In this study, to measure causal relation and to test hypotheses and fitness of model, SEM is applied using PLS software. Also, SPSS software was used to for statistical description of demographic data.

4. Data Analysis and Results

4.1 Demographic Results

According to the results obtained from statistical description of demographic data using SPSS software, it could be found that according to these results, majority of respondents (74.8%) are male and about 62.4% of them are married and about 25.7% of respondents are single child and majority of respondents (60.4%) are employed and about 37.6% of them have a BA degree and finally, times of purchase of majority of respondents (36.7%) was more than 3 times a day.

For purpose of research data analysis, Haland (1999) method was used for modeling. First step includes measurement of validity and reliability of measurement model using CFA and second step includes measurement of structural mode through path coefficients using PLS software.

4.2. Step 1: Fitness of Measurement Model

4.2.1. Internal Consistency:

One of the methods to measure test reliability with emphasis on internal consistency measurement can be Cronbach's alpha method. The value of this coefficient varies in range 0 and 1. The reliability of 0 shows unreliability and reliability of 1 shows perfect reliability. The acceptability criterion is at least equal to 0.7. Reliability of research variables is presented in table 1 and show high and acceptable reliability of research variables.

4.2.2. Confirmatory Factor Analysis (CFA):

CFA is in fact the extended form of conventional factor analysis and is one of the most important aspects of structural equation program. The closer the value of factor load to 1 is, it could be found that items of questionnaire are in stronger and more significant correlation with main variables and if the standard factor load value is equal to 0, it means no correlation between questionnaire item and main variable. Negative factor load means reverse direction of effect of item on main variable. Factor load should be higher than 0.7; although the conditions can't happen simply in real-time data. Therefore, many scholars have considered minimum level of 0.4 as a criterion (Sur, 2009). The results obtained from factor analysis are presented in tables 1-2.

Table 3: values of factor analysis for items of service cost

No	Items of service cost	Factor load
8	Costs of creating Iran Life Insurance are fair and good services are provided for what we pay	0.640
9	Taxes and additional cost of purchase of life insurance are adjusted with service level	0.859
10	The waiting time of life insurance is in desirable level	0.892

Table 4: values of factors analysis for items of customer value

No	Items of customer value	Factor load
11	Iran Insurance provides good benefits and services	0.742
12	Services of this insurance make sense of peace and peace in me	0.708
13	Services of this insurance give prestige to the buyers	0.807
14	Brand of this insurance persuade me to buy that	0.772

4.3 Step 2: Fitness of Structural Model

4.4.1 Coefficient of Determination

Correlation coefficient (R) shows the intensity of correlation between two variables and he squared form of the coefficient (R2) shows the variance of independent variable. Analysis of coefficient of determination can help understanding this issue that what extent of variance of dependent variable cab be determined by a set of predicting variables (Sakaran, 2009). Coefficients of determination of research conceptual model have been obtained using PLS software as it is presented in table 6. In this table, the amount of variance of variables is specified under impact of the variables applied on them.

Table 3: coefficient of determination for main variable

Main variable	Coefficient of determination
Customer value	0.450
Customer loyalty	0.574
Mean coefficient of determination	0.512

About 0.450% of variable of customer value was determined by variables of service quality and service cost and about 0.574% of variance of customer loyalty variable is determined by the applied variables for that (service quality's, service costs and customer value). In SEM, using PLS software, there is no indicator axis for measurement of whole model despite to Covariance method; although an index called goodness of fit index was only suggested by Tenenhaus et al (2005). The index considers both measurement and structural models and can be applied as a criterion to measure overall model. The index can be measured in form of mean R2 and average communality values manually:

GOF=√average(Communality)*R^2

$$GOF = \sqrt{0}/329 \times \sqrt{0.262} \sim 0/3$$

5.5. Testing Research Hypotheses

In order to test research hypotheses, the path coefficient has been firstly measured and then, significance of the coefficients was measured using test statistics. If the probability value (p-value) is lower than 0.05, path and the path coefficient are significant; otherwise, the path coefficient is insignificant. To test research hypotheses, the following mode is fitted and the details are presented after that.

Table 4: Testing research hypotheses (direct path)

Direct path	Path coefficient	t-value	Sig	Result
1.service quality can affect customer value	0.376	4.490	0.000	Confirmed
2.service costs can affect customer value	0.387	4.828	0.000	Confirmed
3.customer value can affect customer loyalty	0.696	7.888	0.000	Confirmed
4.service quality can affect customer loyalty	0.119	4.310	0.000	Confirmed
5.service costs can affect customer loyalty	-0.023	2.283	0.000	Confirmed

Table 5: Testing research hypotheses (indirect path)

Indirect path	Through variable	Path coefficient	Result
6.service qualitys can affect customer loyalty	Customer value	0.261	Confirmed
7.service costs can affect customer loyalty	Customer value	0.269	Confirmed

In section of testing hypotheses, it was found based on table 8 that p-value of all hypotheses is equal to 0.000 and is lower than 0.05 and it could be found that all hypotheses have positive and significant effect. As value of path coefficient of all hypotheses is positive, it could be proved that the hypotheses have direct (positive) effect. Indirect effect of service qualitys on customer loyalty through customer value is equal to the result of multiplying direct effect of service qualitys on customer value (same path coefficient of hypothesis 1) in direct effect of customer value on customer loyalty (same path coefficient of hypothesis 3); so let have:
$0.376 \times 0.696 = 0.261$. Hence, as the indirect effect of service qualitys on customer loyalty (0.261) is higher than its direct effect on customer loyalty (value of path coefficient is equal to 0.119 according to figure 1). It could be mentioned that at the confidence level of 0.05, customer value plays mediating role in correlation between service qualitys and customer loyalty.
Indirect effect of service costs on customer loyalty through customer value is equal to: $0.387 \times 0.696 = 0.269$

6. Conclusion

According to confirmation of the impact of service costs on customer value and customer loyalty, it is better for Iran Insurance Company to pay specific attention to customer satisfaction by costs and try to set their marketing plans based on that and note that customers pay attention not only to service costs, but also compare them with other companies.
As life insurance is not binding and the companies supplying that are in severe competition, the suggestion for Iran Insurance Co is to establish specialized company of Iran Life Insurance. The sales network of life insurances is clearly different from sales network of other insurances. Sales management of these insurances should be independent, so that in addition to specialized knowledge in field of risk evaluation; they can have specific skills such as marketing principles and also take benefit of psychology and have information about regulations of attracting customers and influencing the customers.

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