



A Study on Customers' Perception Towards Lic Health Insurance Plans in Salem City

KEYWORDS

Customer Perception, Health Insurance, Premium, Medclaim and Specialty Hospitals

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ABSTRACT *This is analyzing the customers' perception towards LIC health insurance plans in Salem city. The main objectives are to study the effect of customers' perception upon health insurance products; to identify the differences perceived by the customers among the policies of health insurance; and to assess the customer overall satisfaction level with health insurance products. Data were collected using questionnaire, the most common tool to evaluate the customers' perception. The sample unit of the study is existing customers' of LIC health insurance policies living in the city of Salem. The total sample of the study is 352. Primary research data is collected in the form of structured survey results from various respondents in the city of Salem. Secondary research data is collected in the form of reference literature on the research topic. Discriminant analysis is used for data analysis in this study. The customers must get clear information about the policy, he/she purchased or going to purchase. Larger group of people have not bought health insurance plans since they do not get correct information relating to product of LIC. The actual perception of the customers' is that LIC never lags behind compare to private players' product in health insurance. Majority of the respondents are satisfied after investing in health insurance plans of LIC. This study also discloses few areas of product attribute improvement. Customers rated its product as average since they do not recognize product differentiation in terms of benefits among the plans marketed by LIC.*

INTRODUCTION

The term Health Insurance is used to describe a form of insurance that pays for medical expenses. It is used more broadly to include insurance that covers disability or long-term nursing or custodial care needs. In simple words, if you are covered under Health Insurance, you pay some amount of premium every year to an insurance company and if you have an accident or if you have to undergo an operation or a surgery, the insurance company will pay for the medical expenses. It is a tough ordeal if you are diagnosed with an illness and need to be hospitalized, no matter if you are rich or poor, male or female, young or old.

The list of lifestyle diseases like heart problems, diabetes, stroke, renal failure, some cancers just seems to get longer and more common these days. Thankfully there are more specialty hospitals and specialist doctors – but all that comes at a cost. The super-rich can afford such costs, but what about an average middle class person? For an illness that requires hospitalization / surgery, costs can easily run into 5 figures. A Health Insurance Policy can cover such expenses to a large extent. There are mainly 3 types of Health Insurance covers which are Individual Medclaim, Family Floater Policy, and Unit Linked Health Plans.

REVIEW OF LITERATURE

Clifford Paul S. Joseph Anbarasu D., and Annette Barnabas (2010) conducted a "Study on Socio Economic Status and Awareness of Indian Investors of Insurance" The study uncover customer awareness and customers perception about the true value of life insurance.

Dr. Binod Kumar Singh (2009) conducted a study with the title "An Empirical Study on Perception of Consumer in Insurance Sector". This study has concentrated on the factor influencing buying decision and model of consumer decisions making process and the reasons for investing in life insurance have been studied.

Ms. BabitaYadav (2011) this study is conducted in Jabalpur city of Madhya Pradesh. This research aims to measure customer satisfaction level on various Insurance Policies mar-

keted by LIC and examine the common reasons for customer dissatisfaction.

NEED FOR THE STUDY

Life insurance industry of this country has so many players now. The industry was opened up for private players ten years ago. We now have a plethora of products in the market. Innovative services are also on offer for the customers. Insurers are visible everywhere through catchy advertisements placed by them in all the print and electronic media. The industry is also growing.

OBJECTIVES OF THE STUDY

- To study the effect of customers perception upon health insurance products.
- To identify the differences perceived by the customers among the policies of health insurance.
- To assess the customer overall satisfaction level with health insurance products.

SCOPE OF THE STUDY

This study is very useful for understanding the customers' perception towards health insurance products and it may helpful to frame new health insurance policies.

LIMITATIONS OF THE STUDY

- The research was conducted only in Salem city therefore to generalize the results for the entire health insurance sector may not be possible.
- The assessment of the pre test and post test was conducted it is unavoidable that in this study, certain degree of subjectivity can be found. In fact, it had been decided by two or three examiners.

RESEARCH METHODOLOGY

Data were collected using questionnaire, the most common tool to evaluate the customers' perception. The sample unit of the study is existing customers' of LIC health insurance policies living in the city of Salem. The total sample of the study is 352. Primary research data is collected in the form of structured survey results from various respondents in the city of Salem. Secondary research data is collected in the form

of reference literature on the research topic. The collected data were analyzed using statistical method. Statistical tools (SPSS) were used for data input and analysis. Discriminant analysis is used for data analysis in this study.

DATA ANALYSIS AND INTERPRETATION

Table No.1: Tests of Equality of Group Means Table

Tests of Equality of Group Means					
	Wilks' Lambda	F	df1	df2	Sig.
Important reason for investing in a health insurance policy	0.994	0.475	4	335	0.754
Type of policy	0.960	3.495	4	335	0.008
Information sources	0.990	0.806	4	335	0.522
Most important for choosing a health insurance policy in LIC	0.996	0.321	4	335	0.864
Type of policy is more profitable and secure	0.994	0.479	4	335	0.751
Major difference you perceive in the various health insurance policies of LIC	0.998	0.176	4	335	0.950
Good plans of LIC	0.980	1.748	4	335	0.139
Mode of Premium	0.989	0.948	4	335	0.436
Rate LIC health insurance policies against similar companies that you've dealt with in the past	0.983	1.490	4	335	0.205
Feel LIC lags behind compare to private players in health insurance sectors	0.995	0.413	4	335	0.799
Feel after investing in health insurance plans of LIC	0.994	0.534	4	335	0.711
Advertisements of LIC health insurance plans more often	0.992	0.701	4	335	0.592

Table No.1 provides strong statistical evidence of significant differences between means of Reason to join - to earn livelihood, to save for children, to get loan, to meet over emergency need, and to provide employment for other groups for all II's with age and number of children producing very high value F's.

Table No.2: Log Determinants Table

Rate the Health Insurance Policies of LIC with Other Companies	Rank	Log Determinant
Very Good	13	-3.374
Good	13	-2.375
Average	13	-3.718
Poor	13	-6.411
Very Poor	13	-4.184
Pooled within-groups	13	-2.418

The ranks and natural logarithms of determinants printed are those of the group covariance matrices. In ANOVA, an assumption is that the variances were equivalent for each group but in DA the basic assumption is that the variance-covariance matrices are equivalent. Box's M tests the null hypothesis that the covariance matrices do not differ between groups formed by the dependent. The researcher wants this test not to be significant so that the null hypothesis that the groups do not differ can be retained.

Table No.3: Box's M Test Results Table

Test Results		
Box's M		414.556
	Approx.	1.029
F	df1	364
	df2	9.216
	Sig.	0.338

Tests null hypothesis of equal population covariance matrices. For this assumption to hold, the log determinants should be equal. When tested by Box's M, we are looking for a non-significant M to show similarity and lack of significant differences. In this case the log determinants appear similar and Box's M is 414.556 with F = 1.029 which is significant at p < 0.000 (Tables No.2 and 3). However, with large samples, a significant result is not regarded as too important. Where three or more groups exist, and M is significant, groups with very small log determinants should be deleted from the analysis.

Table No.4: Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	0.085 ^a	52.3	52.3	0.280
2	0.039 ^a	23.9	76.2	0.193
3	0.025 ^a	15.6	91.8	0.157
4	0.013 ^a	8.2	100.0	0.115

a. First 4 canonical discriminant functions were used in the analysis.

This provides information on each of the discriminate functions (equations) produced. The maximum number of discriminant functions produced is the number of groups minus 1. The researcher is only used five groups here, namely 'Very Good', 'Good', 'Average', 'Poor' and 'Very Poor', so only four functions are displayed. The canonical correlation is the multiple correlations between the predictors and the discriminant function. With only five functions it provides an index of overall model fit which is interpreted as being the proportion of variance explained (R²).

In above table (Table No.4) a canonical correlation of 0.280 of Function 1 suggests that the model explains 7.84% of the variation in the grouping variable, i.e. whether a respondent feel very good or very poor. A canonical correlation of 0.193 of Function 2 suggests that the model explains 3.72% of the variation in the grouping variable, i.e. whether a respondent feel good or very poor. A canonical correlation of 0.157 of Function 3 suggests that the model explains 2.46% of the variation in the grouping variable, i.e. whether a respondent feel average or very poor. A canonical correlation of 0.115 of Function 4 suggests that the model explains 1.32% of the variation in the grouping variable, i.e. whether a respondent feel poor or very poor.

Table No.5: Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 4	0.854	52.023	52	0.473
2 through 4	0.927	25.175	36	0.912
3 through 4	0.963	12.611	22	0.943
4	0.987	04.374	10	0.929

Wilks' lambda indicates the significance of the discriminant function. The above table (Table No.5) indicates that test of function 1 through 4 is a highly not significant function (p < 0.473) and provides the proportion of total variability not explained, i.e. it is the converse of the squared canonical correlation. So we have 85.4% unexplained. Test of function 2 through 4 is not significant function (p < 0.912) and provides the proportion of total variability not explained, i.e. it is the converse of the squared canonical correlation. So the researcher has 92.7% unexplained. Test of function 3 through 4 is not significant function (p < 0.943) and provide the proportion of total variability not explained, i.e. it is the converse of the squared canonical correlation. So we have 96.3% unexplained. Test of function 4 is not significant function (p < 0.929) and provide the proportion of total variability not explained, i.e. it is the converse of the squared canonical correlation. So the researcher has 98.7% unexplained.

Table No.6: Standardized Canonical Discriminant Function Coefficients

	Function			
	1	2	3	4
Important reason for investing in a health insurance policy	-0.062	0.300	0.063	-0.354
Type of policy	0.611	0.231	0.344	0.494
Information sources	-0.147	-0.141	0.467	0.090
Most important for choosing a health insurance policy in LIC	0.044	-0.182	0.036	0.155
Type of policy is more profitable and secure	0.225	0.222	0.116	0.238
Major difference you perceive in the various health insurance policies of LIC	0.025	0.067	0.128	-0.009
Good plans of LIC	-0.121	0.588	-0.448	0.371
Mode of Premium	-0.011	-0.460	-0.094	0.299
Rate LIC health insurance policies against similar companies that you've dealt with in the past	0.448	-0.179	-0.238	-0.059
Feel LIC lags behind compare to private players in health insurance sectors	-0.052	-0.430	-0.027	-0.041
Feel after investing in health insurance plans of LIC	0.180	0.248	0.080	-0.024
Advertisements of LIC health insurance plans more often	0.422	0.089	0.210	-0.555

The interpretation of the discriminant coefficients (or weights) is like that in multiple regressions. Table No.6 provides an index of the importance of each predictor like the standardized regression coefficients (beta's) did in multiple regression. The sign indicates the direction of the relationship.

In the function 1, Type of Policy score (0.611) was the strongest predictor while less information sources score (-0.147) was next in importance as a predictor. These two variables with large coefficients stand out as those that strongly predict allocation to very good or very poor group. Other predictor scores were less successful as predictors.

In the function 2, good plans of LIC score (0.588) was the strongest predictor while low feel LIC lags behind compare to private players in insurance industry score (-0.430) was next in importance as a predictor. These two variables with large coefficients stand out as those that strongly predict allocation to very good or very poor group. Other predictor scores were less successful as predictors.

In the function 3, information source score (0.467) was the strongest predictor while less good plans of LIC score (-0.448) was next in importance as a predictor. These two variables with large coefficients stand out as those that strongly predict allocation to very good or very poor group. Other predictor scores were less successful as predictors.

In the function 4, Type of Policy score (0.494) was the strongest predictor while lessAdvertisements of LIC health insurance plans more often score (-0.555) was next in importance as a predictor. These two variables with large coefficients stand out as those that strongly predict allocation to very good or very poor group. Other predictor scores were less successful as predictors.

Table No.7: Structure Matrix

	Function			
	1	2	3	4
Type of policy	0.644*	0.126	0.350	0.463
Rate LIC health insurance policies against similar companies that the respondents dealt with in the past	0.440*	-0.084	-0.200	-0.088
Mode of premium	-0.186	-0.401*	-0.045	0.397

Feel LIC lags behind compare to private players in insurance industry	0.032	-0.343*	0.101	0.044
Feel after investing in health insurance plans of LIC	0.187	0.280*	0.100	-0.090
Most important for choosing a health insurance policy in LIC	0.138	-0.210*	0.106	0.131
LIC products	-0.205	0.490	-0.528*	0.269
Information sources	-0.220	-0.168	0.419*	-0.030
Major difference respondents perceive in the various health insurance policies of LIC	-0.061	-0.060	0.254*	-0.038
Advertisements of LIC health insurance plans more often	0.127	0.158	0.359	-0.455*
Important reason for investing in a health insurance policy	0.033	0.289	0.035	-0.417*
Type of policy is more profitable and secure	0.225	0.082	0.025	0.297*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions.

Variables ordered by absolute size of correlation within function.

*. Largest absolute correlation between each variable and any discriminant function

Table No.7 provides another way of indicating the relative importance of the predictors and it can be seen below that the same pattern holds. Many researchers use the structure matrix correlations because they are considered more accurate than the Standardized Canonical Discriminant Function Coefficients. The structure matrix table (Table No.7) shows the correlations of each variable with each discriminate function. These Pearson coefficients are structure coefficients or discriminant loadings. They serve like factor loadings in factor analysis. By identifying the largest loadings for each discriminate function the researcher gains insight into how to name each function. Here the researchers have type of policy (high score) and information sources (low score) in the function 1; LIC Products (high score) and Mode of Premium (low score) in the function 2; Information sources (high score) and LIC Products (low score) in the function 3; Type of Policy and Advertisements of LIC health insurance plans more often (low scores) in the function 4 which suggest a label of personal confidence and effectiveness as the function that discriminates between very good and very poor. Generally, just like factor loadings, 0.30 is seen as the cut-off between important and less important variables. Absence is clearly not loaded on the discriminant function, i.e. is the weakest predictor and suggests that work absence is not associated with rate of the health insurance policies of LIC with other companies but a function of other unassessed factors.

Table No.8: Canonical Discriminant Function Coefficients

	Function			
	1	2	3	4
Important reason for investing in a health insurance policy	-0.083	0.397	0.083	-0.468
Type of policy	1.249	0.473	0.702	1.008
Information sources	-0.179	-0.171	0.567	0.110
Most important for choosing a health insurance policy in LIC	0.036	-0.151	0.030	0.128
Type of policy is more profitable and secure	0.455	0.449	0.235	0.481

Major difference you perceive in the various health insurance policies of LIC	0.026	0.071	0.134	-0.009
Good plans of LIC	-0.065	0.314	-0.239	0.198
Mode of Premium	-0.010	-0.395	-0.080	0.256
Rate LIC health insurance policies against similar companies that you've dealt with in the past	0.475	-0.190	-0.253	-0.063
Feel LIC lags behind compare to private players in health insurance sectors	-0.046	-0.387	-0.024	-0.037
Feel after investing in health insurance plans of LIC	0.199	0.274	0.089	-0.026
Advertisements of LIC health insurance plans more often	0.413	0.088	0.205	-0.543
(Constant)	-3.171	-1.345	-2.911	-2.412

Unstandardized coefficients

These unstandardized coefficients (b) are used to create the discriminant function (equation). It operates just like a regression equation. In this case the researcher has (Table 4.56.10):

Function 1:

$D = (-0.083 \times \text{Important reason for investing in a health insurance policy}) + (1.249 \times \text{Type of policy}) + (-0.179 \times \text{Information sources}) + (0.036 \times \text{Most important for choosing a health insurance policy in LIC}) + (0.455 \times \text{Type of policy is more profitable and secure}) + (0.026 \times \text{Major difference respondents perceive in the various health insurance policies of LIC}) + (-0.065 \times \text{LIC Products}) + (-0.010 \times \text{Mode of premium}) + (0.475 \times \text{Rate LIC health insurance policies against similar companies that respondents have dealt with in the past}) + (-0.046 \times \text{Feel LIC lags behind compare to private players in insurance industry}) + (0.199 \times \text{Feel after investing in health insurance plans of LIC}) + (0.413 \times \text{Advertisements of LIC health insurance plans more often}) - 3.171.$

Function 2:

$D = (0.397 \times \text{Important reason for investing in a health insurance policy}) + (0.473 \times \text{Type of policy}) + (-0.171 \times \text{Information sources}) + (-0.151 \times \text{Most important for choosing a health insurance policy in LIC}) + (0.449 \times \text{Type of policy is more profitable and secure}) + (0.071 \times \text{Major difference respondents perceive in the various health insurance policies of LIC}) + (0.314 \times \text{LIC Products}) + (0.312 \times \text{Fund offered in a unit linked plan respondents think more profitable in terms of return and security}) + (-0.395 \times \text{Mode of premium}) + (-0.190 \times \text{Rate LIC health insurance policies against similar companies that respondents have dealt with in the past}) + (-0.387 \times \text{Feel LIC lags behind compare to private players in insurance industry}) + (0.274 \times \text{Feel after investing in health insurance plans of LIC}) + (0.088 \times \text{Advertisements of LIC health insurance plans more often}) - 1.345.$

Function 3:

$D = (-0.083 \times \text{Important reason for investing in a health insurance policy}) + (0.702 \times \text{Type of policy}) + (0.567 \times \text{Information sources}) + (0.030 \times \text{Most important for choosing a health insurance policy in LIC}) + (0.235 \times \text{Type of policy is more profitable and secure}) + (0.134 \times \text{Major difference respondents perceive in the various health insurance policies of LIC}) + (-0.239 \times \text{LIC Products}) + (-0.080 \times \text{Mode of premium}) + (-0.253 \times \text{Rate LIC health insurance policies against similar companies that respondents have dealt with in the past}) + (-0.024 \times \text{Feel LIC lags behind compare to private players in insurance industry}) + (0.089 \times \text{Feel after investing in health insurance plans of LIC}) + (0.205 \times \text{Advertisements of LIC health insurance plans more often}) - 2.911.$

Function 4:

$D = (-0.468 \times \text{Important reason for investing in a health insurance policy}) + (1.008 \times \text{Type of policy}) + (0.110 \times \text{Information sources}) + (0.128 \times \text{Most important for choosing a health insurance policy in LIC}) + (0.481 \times \text{Type of policy is more profit-$

able and secure) + (-0.009 x Major difference respondents perceive in the various health insurance policies of LIC) + (0.198 x LIC Products) + (0.256 x Mode of premium) + (-0.063 x Rate LIC health insurance policies against similar companies that respondents have dealt with in the past) + (-0.037 x Feel LIC lags behind compare to private players in insurance industry) + (-0.026 x Feel after investing in health insurance plans of LIC) + (-0.543 x Advertisements of LIC health insurance plans more often) – 2.412.

The discriminant function coefficients b or standardized form beta both indicate the partial contribution of each variable to the discriminate function controlling for all other variables in the equation. They can be used to assess each IV's unique contribution to the discriminate function and therefore provide information on the relative importance of each variable. If there are any dummy variables, as in regression, individual beta weights cannot be used and dummy variables must be assessed as a group through hierarchical DA running the analysis, first without the dummy variables then with them. The difference in squared canonical correlation indicates the explanatory effect of the set of dummy variables.

Table No.9: Functions at Group Centroids

Rate the products of LIC with other companies	Function			
	1	2	3	4
Very Good	0.462	-0.051	0.114	0.046
Good	-0.265	0.009	0.182	-0.102
Average	0.071	0.138	-0.200	-0.084
Poor	-0.287	0.262	0.005	0.261
Very Poor	-0.207	-0.432	-0.144	0.065

Unstandardized canonical discriminant functions evaluated at group means

A further way of interpreting discriminant analysis results is to describe each group in terms of its profile, using the group means of the predictor variables. These group means are called centroids. These are displayed in the Group Centroids table (Table No.9). Cases with scores near to a centroid are predicted as belonging to that group.

Table No.10: Classification Results^{b,c}

	Rate the products of LIC with other companies	Predicted Group Membership					Total	
		Very Good	Good	Average	Poor	Very Poor		
Original	No. of Respondents	Very Good	36	4	13	11	15	79
		Good	19	21	9	17	20	86
		Average	28	12	15	19	18	92
		Poor	7	8	4	9	10	38
		Very Poor	12	5	4	7	17	45
	Percentage	Very Good	45.6	5.1	16.5	13.9	19.0	100
		Good	22.1	24.4	10.5	19.8	23.3	100
		Average	30.4	13.0	16.3	20.7	19.6	100
		Poor	18.4	21.1	10.5	23.7	26.3	100
		Very Poor	26.7	11.1	8.9	15.6	37.8	100
Cross-validated ^a	No. of Respondents	Very Good	26	6	19	12	16	79
		Good	20	14	11	19	22	86
		Average	28	13	12	19	20	92
		Poor	7	11	7	3	10	38
		Very Poor	12	8	4	7	14	45
	Percentage	Very Good	32.9	7.6	24.1	15.2	20.3	100
		Good	23.3	16.3	12.8	22.1	25.6	100
		Average	30.4	14.1	13.0	20.7	21.7	100
		Poor	18.4	28.9	18.4	7.9	26.3	100
		Very Poor	26.7	17.8	8.9	15.6	31.1	100

Finally, there is the classification phase. The classification table, also called a confusion table, is simply a table in which the rows are the observed categories of the dependent and the columns are the predicted categories. When prediction is perfect all cases will lie on the diagonal. The percentage of cases on the diagonal is the percentage of correct classifications. The cross validated set of data is a more honest presentation of the power of the discriminant function than that provided by the original classifications and often produces a poorer outcome. The cross validation is often termed a 'jack-knife' classification, in that it successively classifies all cases but one to develop a discriminant function and then categorizes the case that was left out. This process is repeated with each case left out in turn. This cross validation produces a more reliable function. The argument behind it is that one should not use the case you are trying to predict as part of the categorization process.

The classification results (Table No.10) reveal that 73.9% of respondents were classified correctly into 'Very Good' or 'Good' or 'Better' or 'Poor' or 'Very Poor' groups. This overall predictive accuracy of the discriminant function is called the 'hit ratio'. Very Good groups were classified with slightly better accuracy (45.6%) than Good (24.4%), Better (16.3), Poor (23.7), Very Poor (37.8). The researcher has compared the calculated hit ratio with what he could achieve by chance. If two samples are equal in size then you have a 50/50 chance anyway. Most researchers would accept a hit ratio that is 25% larger than that due to chance.

FINDINGS

A canonical correlation of 0.193 of Function 2 suggests that the model explains 3.72% of the variation in the grouping variable, i.e. whether a respondent feel good or very poor. A canonical correlation of 0.157 of Function 3 suggests that the model explains 2.46% of the variation in the grouping variable, i.e. whether a respondent feel average or very poor. A canonical correlation of 0.115 of Function 4 suggests that the model explains 1.32% of the variation in the grouping variable, i.e. whether a respondent feel poor or very poor.

SUGGESTIONS

The customers must get clear information about the policy, he/she purchased or going to purchase. Larger group of people have not bought health insurance plans since they do not get correct information relating to product of LIC. In case of traditional plan minimum knowledge regarding Sum assured, premium and the duration of policy along with the mode of payment is expected from the insurer.

CONCLUSION

The actual perception of the customers' is that LIC never lags behind compare to private players' product in health insurance. Majority of the respondents are satisfied after investing in health insurance plans of LIC. This study also discloses few areas of product attribute improvement. Customers rated its product as average since they do not recognize product differentiation in terms of benefits among the plans marketed by LIC.

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