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## An empirical analysis on dimensions of satisfaction's level with quality service for health insurance policyholders

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**Abstract:** Insurance companies, especially health insurers, value customer pleasure. Health assurance is offered by assurance companies. It covers legally allowed hospitalisation charges and is a payment to sustain the health assurance plan. In India, health insurance covers hospital stays even if the costs are hidden. Studies reveal that high medical expenses cause a big percentage of specific insolvencies, making health content crucial for everyone. Health insurance covers protected entities' medical and surgical costs. Life insurance covers death, but general insurance just covers money loss from asset loss. This study examines the many factors affecting health insurance policyholder satisfaction using empirical methods. The work improves service quality by assessing policyholder satisfaction factors including claims processing efficiency and communication clarity. Life insurance customer satisfaction and service quality were examined using the ANOVA test. The study indicated that customer satisfaction is more affected by consumer expectations and views of service quality's tangibility, assurance, competency, and credibility.

**Keywords:** policyholders and customer satisfaction; health insurance and tangibility; policyholder satisfaction; assurance companies; life insurance covers death; communication clarity.

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## **1 Introduction**

It is impossible to overstate the importance of health insurance in an era where healthcare dynamics are constantly shifting. In addition to providing financial security, health insurance is a crucial component of the healthcare system that influences policyholder satisfaction. This study examines the numerous variables that define and impact the satisfaction levels of individuals with health insurance policies, focusing on the quality of services provided (Addae-Korankye, 2013). Health insurance satisfaction is multifaceted and depends on several factors, such as communication, accessibility, overall service quality, and claim handling (Geethanjali et al., 2023). To uncover the many satisfaction levels, this empirical study dissects the several factors that policyholders consider significant when evaluating the quality of service their insurance companies provide. Policymakers and insurance companies must understand these elements in order to enhance the overall healthcare experience for individuals (Agyepong and Adjei, 2008). This analysis aims to identify important factors that significantly affect satisfaction levels to offer useful information that can enhance and optimise health insurance services (Venkateswaran et al., 2023).

An extensive empirical technique is employed in the study to provide a comprehensive understanding of the intricacies involved. This study aims to further the body of knowledge regarding health insurance satisfaction while offering practical recommendations for improving the calibre of services provided to clients (Akilanayaki and Gopi, 2017). The aim is to elucidate the factors that contribute to increased contentment among those holding health insurance policies, thereby fostering a more joyful and salubrious society as it navigates the complexities of the modern healthcare infrastructure (Kolachina et al., 2023). A life insurance company's ability to satisfy its clients is crucial to its success. Client satisfaction is particularly crucial since intangibles are emphasised in the service sector (Sabarirajan et al., 2023). When prospects receive timely and effective service, the sales force is more inclined to make a bold offer and maintain their interest. Any work completed for clients before the insurance contract, during the policy period, and after a sale is considered service (Alharbi and Qassim, 2017).

There is nothing like the insurance industry. The main lifestyle-related elements propelling the industry include need-based selling, consumer knowledge, service quality, and the belief that insurance is a savings instrument rather than a risk cover (Lavanya et al., 2023). Within the insurance sector itself, there will be a strong demand for experts in marketing, finance, systems, human resources, statistics, and even medicine (Anandalakshmy and Brindha, 2019). There will be a high demand for underwriters, claims managers, and actuaries. Systems experts would be specifically required to develop management information systems (MIS) to help businesses with pricing and

decision making. Financially literate individuals are better equipped to control their debt, make wise investment decisions to improve their health and retirement plans and maximise their expenditures within predetermined budgets (Singh et al., 2023a). Furthermore, education can help people avoid becoming victims of con artists and participating in financially harmful activities (Dominic et al., 2023).

One instrument for risk management is an insurance contract. Insurance pays compensation when losses that are covered by a policy happen. An insurance policy that promises the insurance company will pay a specific amount in premiums upon the insured person's death or after the maturity period, whichever comes first, is known as a life insurance policy. It is a legal agreement between an insurance policyholder and an insurance company. Life insurance offers benefits like long-term asset growth, tax advantages, and savings in addition to safeguarding against unforeseen calamities (Basak, 2021). Risk is the uncertainty of a financial loss. There is risk everywhere there is any ambiguity about the possibility of a loss. The idea of insurance is to distribute the loss among a number of people who agreed to cooperate at the time of the loss. Even though a risk can never be totally eradicated, the losses associated with a certain risk can lead to conflict between the parties. The larger number of these people facilitates the loss allocation process. Risk is the uncertainty of a financial loss (Singh et al., 2023b).

Anywhere there is ambiguity about the possibility of a loss, there is the risk (Castillo-Laborde et al., 2017). Satisfied clients are critical to any business' success in the contemporary, worldwide market. Every business takes these steps to stay in the market or competitive. Indeed, the insurance sector can only be sustained by its policyholders. Assessing client happiness is essential to ascertain the goods and services policyholders are asking the company to provide. A happy customer is the cornerstone of any insurance company. Growing and expanding a business should prioritise maintaining customer pleasure above servicing them as the only goal. Happy customers are the most important resource for any business to have long-term success (Chaudhary, 2019).

## **2 Review of literature**

Agyepong and Adjei (2008) relations of the environment and the goods on docket setting, decision timber, and policy and program content. This case study supports compliance from the works that while the blankness of confirmation is thoughtful, it is the chief civic community strategy. In the low-income emerging country environment, there can be inequities of policy decision-making power connected to robust and leading party-political actors joined with weak civil society engagement, responsibility systems, and specialised critical power and position.

Mathivanan and Devi (2013) have health assurance but also upsurges wealth overflows into this segment for augmented hospices, better medicinal outfits, etc. With all this, interposers like service providers and other interposers like health operation associations, preferred provider associations, third-party directors, etc., will also help add content and perfect the quality of overall medical services. Estimate the behaviour perception of well-being protection amenities condensed by the colorful community and isolated health protection corporations operating in India and services offered by the health insurance company.

Smith and Johnson (2018) investigate how the employment of digital technologies in health insurance services affects consumer satisfaction. It emphasises the need for

insurers to stay current with technological advancements by summarising study findings on the usability of websites, mobile applications, and digital experiences in general. In their comprehensive literature review, the authors look at studies focusing on the effectiveness and usability of digital platforms in health insurance services. They emphasise how important it is to understand how consumers perceive the ever-evolving digital ecosystem, particularly in relation to online and mobile platforms. The article highlights several crucial aspects of customer satisfaction that are impacted by digital transformation, including the usability and accessibility of digital interfaces, the efficacy of digital communication channels, and the integration of cutting-edge technologies to improve service delivery. Furthermore, Smith and Johnson talk about concerns related to the digital revolution of health insurance, such as privacy and data security. They discuss how, in order to deliver a secure and convenient online experience, insurers must ensure that their digital strategies are in step with evolving consumer preferences.

Chen and Wang (2019) compare health insurance service quality standards and their impact on customer satisfaction. Combining research results on communication transparency, customer service effectiveness, claims processing efficiency and other crucial parameters offers insights into the relative significance and development opportunities. The study used a robust technique that most likely entails obtaining data via surveys and other methods from a broad spectrum of health insurance users. The writers conduct a comparative analysis of various areas of service quality provided by multiple insurance companies with the goal of identifying critical components that either bolster or compromise customer satisfaction. The efficiency of customer service, openness of communication, and other vital components of health insurance that make the experience whole are among the areas that could be investigated. The comparison design of the study provides insight into the relative service quality of different suppliers. The authors discuss the implications for the sector and point out areas that could be enhanced to increase overall consumer satisfaction. Health insurance firms can gain from the study's identification of best practices and possible pain areas in order to enhance customer happiness and service quality in an increasingly competitive market.

Kim and Lee (2020) examine studies investigating customisation's role in health insurance policies. It examines how coverage tailored to each policyholder's demands affects their level of pleasure, emphasising the importance of adaptable and customisable solutions for a better customer experience. The authors gather information from health insurance policyholders using a mixed-methods approach that combines surveys and maybe interviews. The study explores the effectiveness of personalised features in health insurance plans by looking at consumer perceptions. Some possible customisation dimensions under investigation are the choices for flexibility and customisation available to policyholders. The study looks into how these traits relate to policyholder loyalty, overall happiness, and people's value of having health insurance. In addition, the author discusses the implications of their findings for health insurance businesses and emphasises the importance of incorporating personalisation strategies into service offers. The study will probably offer helpful guidance to insurers seeking to increase customer satisfaction by providing more flexible and customised health insurance options.

Gupta and Sharma (2017) focus on the client-health insurance company communication process and how it impacts customer satisfaction. It highlights the critical role of effective communication in fostering confidence by talking about the transparency and clarity of communication regarding policy terms, coverage specifics, and revisions.

The authors gather information from a wide sample of health insurance policyholders using a mixed-methods approach, which may include surveys and interviews. The study looks at a number of communication-related topics, such as how clear policy language is, how transparent coverage information is, and how well insurers communicate with one another. A few potential variables to consider are the overall efficacy of health insurance companies' communication tactics, the clarity and accessibility of their informational materials, and the promptness of their customer support. The author highlights the vital role of excellent communication in promoting pleasant client experiences, even as they examine the ramifications of their results for the insurance sector. In order to enhance customer satisfaction and communication strategies, the paper offers insurers practical suggestions and ideas.

Yang and Wu (2016) examine studies that assess health insurance accessibility, responsiveness, and problem-solving capabilities. It highlights the necessity of robust support systems by examining the connection between overall satisfaction and the standard of customer support services. The writers obtain information from people with health insurance coverage through surveys and sometimes interviews. The survey examines various customer service-related issues, including how simple it is to obtain help resources, how soon inquiries or grievances are addressed, and how well health insurance businesses generally employ customer support tactics. Some potential factors that could be looked at include the resolution of client complaints or challenges, the promptness of responses, and the clarity of communication during support encounters. The study examines the connection between higher overall satisfaction levels with health insurance services and positive interactions with customer support. The author examines the practical implications of their findings for health insurance businesses, emphasising the crucial role that customer service plays in shaping policyholders' attitudes and loyalty. The survey provides insurers with useful insights and recommendations for enhancing their customer support services in an effort to raise overall customer satisfaction.

Prabhu (2019) deuces periods earlier only to vend its insurance programs. IRDA permits isolated businesses confederated with external companies to vend life insurance products. Nowadays, LIC meets numerous struggles to overcome similar difficulties only by adding the contentment position of policyholders. It assesses the policyholder's position of gratification. It consists of colourful devices supplied by LIC and judges the position fulfilment with LIC plans, ultra-expensive positions, and services handed by LIC. Eventually, give the conclusion and suggestion to facilitate the fulfilment location of policyholders to overcome the tall race.

Kautish et al. (2022) part of assurance corporation character, act and positive/negative effect on well-being assurance strategy client retaining and the controlling inspiration of shopper indolence. The grades bear that character, performance, and effect on client retention in the insurance sector. Confident disturb obligated a lesser impact on the client holding in judgement to added propositions. Supplementary, client indolence stood as an imperative for seeking inspiration on the negative effect of health assurance strategy client retention. To the sophisticated of our data, primarily of probing client indolence in the health assurance subdivision in an arising request environment, client inactivity has not been important intentional in well-lit of corporation character, recital, and confident and adverse effect in the well-being assurance terrain. The exploration answers may help well-being cover corporations appreciate the significance of character, performance, client retention, and indolence while marketing insurance services.

### 3 Objectives of the study

- To recognise the level of fulfilment of the policyholders toward health insurance
- To determine the factors of strength assurance policyholders

### 4 Problem statement

The health insurance market is becoming more competitive, and customer expectations are shifting. Insurance firms must understand the elements that impact consumer satisfaction with service quality to increase customer satisfaction and policyholder retention. However, lacking empirical research on these characteristics makes it challenging to develop targeted interventions to improve service quality and policyholder satisfaction with health insurance (Garg, 2013). In today's health insurance market, policyholder expectations are shifting, and increased competition is creating a dynamic interplay that emphasises the need for a nuanced understanding of policyholder satisfaction. Healthcare providers must adapt to the changing needs of policyholders, who call for more efficient and customised care (Geng et al., 2021). To sustain their competitive advantage, foster customer loyalty, and ensure long-term growth, insurers must empirically analyse the variables affecting customer satisfaction with service quality (Gobah and Liang, 2011).

### 5 Research methodology

The practice of rummage-sale in the study opinions out the approaches trailed in directive to appreciate the points of the study, which include investigating enterprise, specimen enterprise, sources of data, collection of data, dispensation of statistics, old-fashioned treatment, and framework of investigation.

*Investigate plan:* the vast data consumers mined poised from chief sources. Consequently, the appropriate exploration enterprise must be adopted to designate and take such figure data in the present-day study report. The explore enterprise designated for the study is an expressive one. The principal impartiality of the training is to inspect the health insurance and the beneficiary's gratification with the health insurance product.

#### 5.1 Basis of data

*Prime data:* mostly absorbed on key information which remained composed complete stylish forms to ensemble the purposes of this explore. The first-hand material has been sustained together from health assurance policyholders.

#### 5.2 Tributary data

The required minor data connecting to the learning are books, journals, websites, IRDA reports, IRDA monthlies, publications, and reporters.

- *Area of the study*: the study has protected Dharmapuri District.
- *Sample design*: convenient sampling was adopted to select the sample respondents among the health insurance companies' coverage holders.
- *Framework of scrutiny*: statistical tools such as:
  - 1 frequency percentage analysis
  - 2 chi-square test
  - 3 analysis of variance (ANOVA).

## 6 Data analysis and interpretations

### 6.1 Reliability statistics

Reliability statistics in data analysis illustrate the relationship between consistency and dependability. It is useful to assess the stability and consistency of the measures or the data acquisition methods. One commonly used dependability statistic is Cronbach's alpha. It looks at internal consistency statistics regarding the level of satisfaction with health insurance. Reliability statistics assure the consistency and reliability of the data being worked with. Since reliability instils confidence in one to accept conclusions, it is crucial to data processing and interpretation. Stronger and more dependable data analysis and interpretations result from precise and consistent measurements. Reliability statistics are used to do this. The obtained Cronbach's alpha value offers a reliable and consistent method of assessing insurer satisfaction. The high reliability of the questionnaire is demonstrated by Table 1's Cronbach's alpha, which is greater than 0.6.

**Table 1** Consistency statistics of satisfaction level of health insurance

<i>Reliability statistics</i>	
<i>Cronbach's alpha</i>	<i>Number of items</i>
.772	5

In terms of dependability data pertaining to policyholder satisfaction, Cronbach's alpha is equivalent to the quality control of the measurement device. When assessing policyholder satisfaction, it ensures that the questions or items used to measure this satisfaction consistently capture the same underlying idea. The result of Cronbach's alpha is a number between 0 and 1. When a value approaches 1, the internal consistency of your objects increases. In this case, a high Cronbach's alpha indicates that the policyholder satisfaction survey items are assessing the same construct consistently and reliably. Whether a measurement is deemed reliable, it may be counted on to yield a similar result whether it is used to gauge policyholder satisfaction today and is repeated tomorrow in the same conditions. As a result, Cronbach's alpha guarantees the measurement tool's stability and dependability in the context of policyholder satisfaction dependability statistics, allowing it to make important conclusions about policyholder satisfaction levels. Table 2 demonstrates that the questionnaire has a high level of reliability with a Cronbach's alpha of better than 0.6.



**Table 2** Dependability statistics of progress the satisfaction of policyholders

<i>Reliability statistics</i>	
<i>Cronbach's alpha</i>	<i>N of items</i>
.747	7

Cronbach's alpha, a tool for evaluating program consistency, ensures that all the pieces function as a whole. It guarantees that survey questions consistently evaluate the different aspects of health insurance, including customer service, coverage, and other relevant factors. Using Cronbach's alpha, the internal consistency of the questions is assessed. If the questions related to different program components consistently measure the same underlying constructs, Cronbach's alpha will be greater. A high Cronbach's alpha means that the questions accurately reflect the various aspects that need to be assessed when it comes to health insurance plans. In the context of examining consistency statistics in health insurance plans, Cronbach's alpha ensures that survey questions measure the relevant variables consistently. Being safe when analysing the many parts of the health insurance plan is crucial. Table 3 shows that the questionnaire has a good level of reliability with a Cronbach's alpha over 0.6.

**Table 3** Consistency statistics of factors of health insurance program

<i>Reliability statistics</i>	
<i>Cronbach's alpha</i>	<i>N of items</i>
.676	6

## 6.2 Percentage analysis

The demographic profile of a defendant is a compilation of characteristics and information about an individual facing charges or accusations in court. Table 4 displays the demographic characteristics of the defendants. An examination of the defendants' demographic profile is beneficial to legal and social research since it can be used to identify patterns, disparities, and potential areas for policy or action.

It is evident from Table 4 that among the gender respondents, 54% of the defendants are male, followed by female 47%. Below 30 years 6 (4.7), 31 years to 40 years 24 (18.8), 41 years to 50 years 56 (43.8), above 50 years 42(32.8). Daily wage earners (18.8), agriculturist (10.2), employee (28.1), business (11.7), professional (1.5), student (22.7), housewife (7.0). Family income up to Rs 30,000 (48.4), Rs 30,000 to Rs 50,000 (32.8), Above Rs 50,000 (18.8). No family members, up to three 66.4, three and above 33.6. Health insurance types, private 63.3, public 36.7. Level of utilisation (HI), low 18, medium 25, high 57.

**Table 4** Demographic profile of the defendants

<i>Category</i>	<i>Variables</i>	<i>Frequency</i>	<i>Percent</i>
Gender	Male	69	53.9
	Female	59	46.1
Age	Below 30 years	6	4.7
	31 years to 40 years	24	18.8
	41 years to 50 years	56	43.8
	Above 50 years	42	32.8
Qualification	Illiterate	17	13.3
	SSLC	42	32.8
	HSC	35	27.3
	Undergraduate	17	13.3
	Postgraduate	8	6.3
	Doctorate	9	7.0
Marital status	Unmarried	63	49.2
	Married	65	50.8
Area of residence	Urban	28	21.9
	Semi-urban	66	51.6
	Rural	34	26.6
Occupation	Daily wage earners	24	18.8
	Agriculturist	13	10.2
	Employee	36	28.1
	Business	15	11.7
	Professional	2	1.5
	Student	29	22.7
	Housewife	9	7.0
Family income	Up to Rs 30,000	62	48.4
	Rs 30,000 to Rs 50,000	42	32.8
	Above Rs 50,000	24	18.8
No family members	Up to three	85	66.4
	Three and above	43	33.6
Working persons in a family	One	51	39.8
	Two	44	34.4
	Three and above	33	25.8
Health insurance types	Private	81	63.3
	Public	47	36.7
Level of utilisation (HI)	Low	23	18.0
	Medium	32	25.0
	High	73	57.0

### 6.3 Chi-square analysis

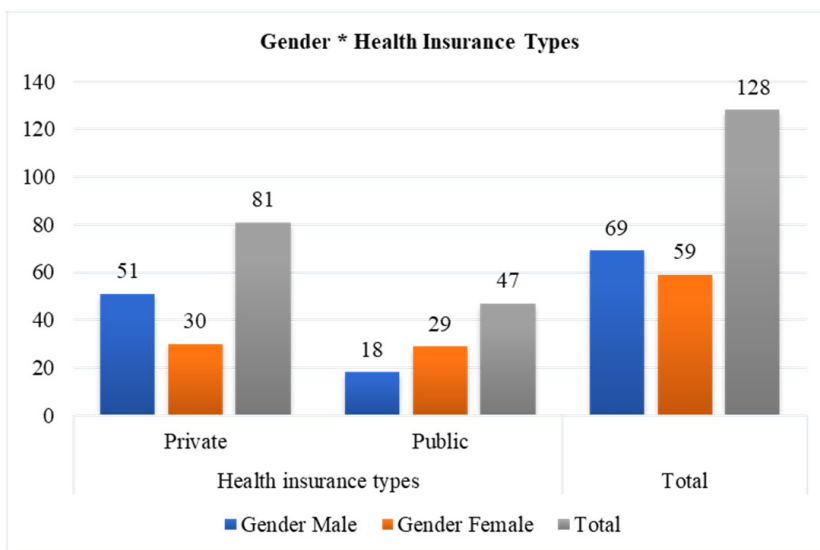
Chi-square analysis is a statistical method for examining the relationship between categorical data. The subjects of data collection are the accused's gender (categorical variable: male or female) and health insurance status (private or public) (Table 5). The association between the accused's gender and health insurance is depicted in Figure 1.

H0 No rapport between the gender and the health insurance of the defendants.

**Table 5** Rapport among the gender and the health insurance of the accused

<i>Gender * health insurance types cross tabulation</i>				
		<i>Health insurance types</i>		<i>Total</i>
		<i>Private</i>	<i>Public</i>	
Gender	Male	51	18	69
	Female	30	29	59
Total		81	47	128

**Figure 1** Gender and the health insurance of the defendants (see online version for colours)

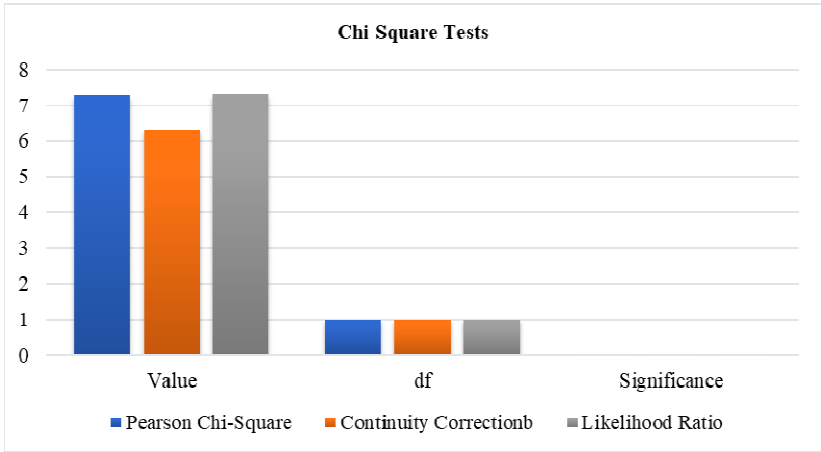


To conduct chi-square tests of the relationship between the accused's gender and health insurance, apply the Pearson chi-square, continuity correction, and likelihood ratio tests in Table 6.

**Table 6** Chi-square tests

	<i>Value</i>	<i>df</i>	<i>Significance</i>
Pearson chi-square	7.282	1	.007
Continuity correction	6.323	1	.012
Likelihood ratio	7.324	1	.007
N of valid cases	128	-	-

**Figure 2** Health insurance of the defendant’s chi-square (see online version for colours)

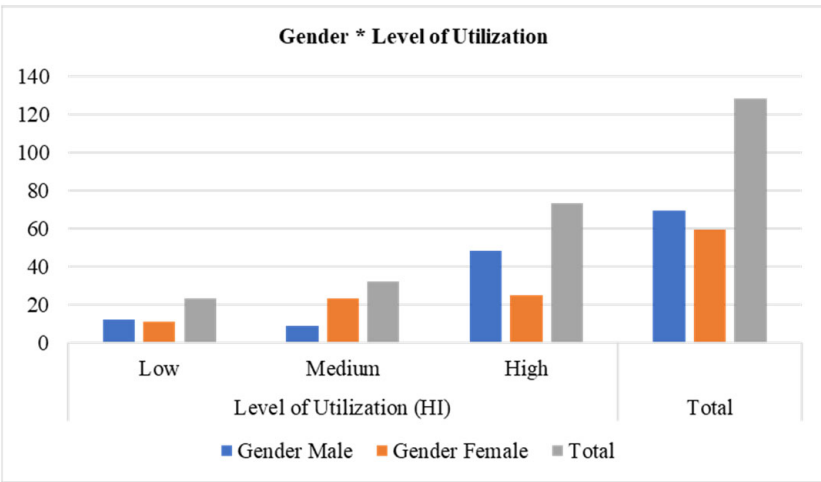


From the top row of the output Table 6 and Figure 2, we observe the Pearson chi-squared statistic,  $\chi^2 = 7.282$ , degrees of freedom 1, corresponding to  $p < 0.05$ . Therefore, cast off the null premise with 95% confidence and conclude that there is strong evidence of an association between gender and the health insurance of the respondents.

**Table 7** Affiliation among the genders and the level of utilisation of the defendants

<i>Gender * level of utilisation (HI) cross tabulation</i>					
		<i>Level of utilisation (HI)</i>			<i>Total</i>
		<i>Low</i>	<i>Medium</i>	<i>High</i>	
Gender	Male	12	9	48	69
	Female	11	23	25	59
Total		23	32	73	128

**Figure 3** Affiliation among the genders and the level of utilisation of the defendants (see online version for colours)



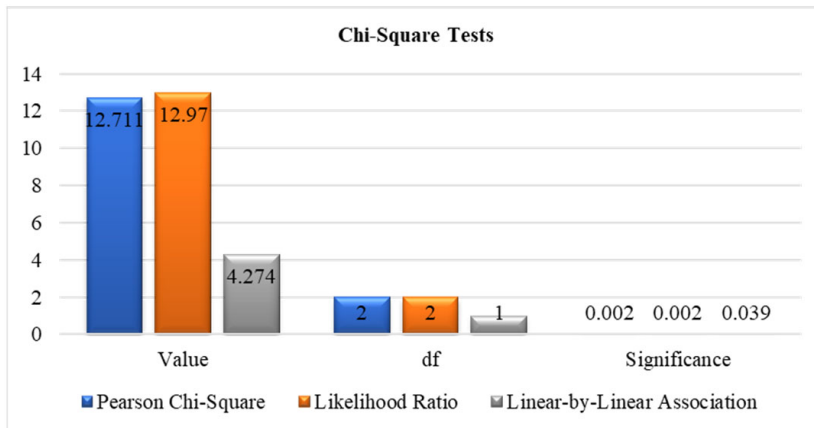
Chi-square tests are used to perform a statistical test appropriate for comparing categorical variables and to investigate the association between the defendants' gender and quantity of utilisation, as shown in Table 7. The subjects of data collection are the categorical variables of gender and the defendants' level of utilisation (low, medium, high) (Figure 3).

H0 There is no affiliation between gender and the level of utilisation of the accused.

**Table 8** Chi-square tests

	<i>Value</i>	<i>df</i>	<i>Significance</i>
Pearson chi-square	12.711	2	.002
Likelihood ratio	12.970	2	.002
Linear-by-linear association	4.274	1	.039
N of valid cases	128		

**Figure 4** Chi-square- level of utilisation of the defendants (see online version for colours)



From the top row of the output Table 8 and Figure 4, we observe the Pearson chi-squared statistic,  $\chi^2 = 12.711$ , degrees of freedom 2, corresponding to p less than 0.05. Therefore, throw away the null premise with 95% confidence and conclude that there is very strong evidence of an association between gender and the level of utilisation of the respondents

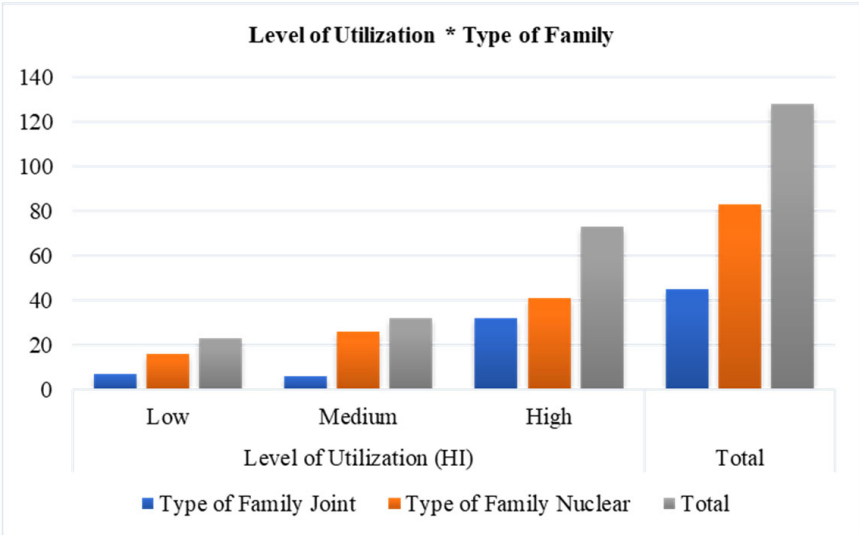
Statistical tests appropriate for comparing categorical variables are employed to examine the association between the plaintiffs' family type and amount of consumption, as shown in Table 9; the chi-square test is a common choice for this type of inquiry. Information is gathered about the plaintiffs' family structure (nuclear and joint) and degree of use (low, medium, and high) (Figure 5).

H0 There is no affiliation between the level of utilisation and the type of family of the respondents.

**Table 9** Affiliation amongst the level of utilisation and the type of family of the plaintiffs

<i>Level of utilisation (HI) * type of family cross tabulation</i>				
		<i>Type of family</i>		<i>Total</i>
		<i>Joint</i>	<i>Nuclear</i>	
Level of utilisation (HI)	Low	7	16	23
	Medium	6	26	32
	High	32	41	73
Total		45	83	128

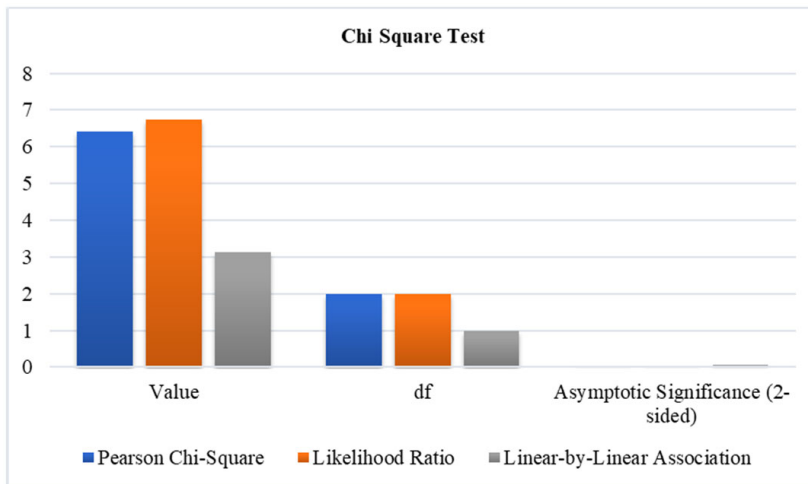
**Figure 5** Affiliation amongst the level of utilisation and the type of family of the plaintiffs (see online version for colours)



From Table 10 and Figure 6, we observe the Pearson chi-squared statistic,  $\chi^2 = 6.416$ , degrees of freedom 2, corresponding to p lower than 0.05. Therefore, we hand-me-down the null premise with 95% confidence and conclude that there is strong evidence of an association between the level of utilisation and the type of family of the respondents.

**Table 10** Chi-square tests

	<i>Value</i>	<i>df</i>	<i>Asymptotic significance (2-sided)</i>
Pearson chi-square	6.416	2	.040
Likelihood ratio	6.753	2	.034
Linear-by-linear association	3.135	1	.077
N of valid cases	128		

**Figure 6** Chi-square- type of family of the plaintiffs**Table 11** Satisfaction level and level of utilisation of health insurance

		ANOVA				
<i>Satisfaction level</i>		<i>Sum of squares</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>Sig.</i>
Policy awareness	Between groups	17.729	2	8.865	7.804	.001
	Within groups	141.989	125	1.136		
	Total	159.719	127			
Complaints	Between groups	11.071	2	5.535	4.092	.019
	Within groups	169.109	125	1.353		
	Total	180.180	127			
Fulfilment of expectations	Between groups	9.643	2	4.821	4.197	.017
	Within groups	143.599	125	1.149		
	Total	153.242	127			
Trust	Between groups	7.398	2	3.699	3.771	.026
	Within groups	122.602	125	.981		
	Total	130.000	127			
Perceived value	Between groups	3.540	2	1.770	10.107	.000
	Within groups	21.890	125	.175		
	Total	25.430	127			

Note: \*Significant at 0.05 % level.

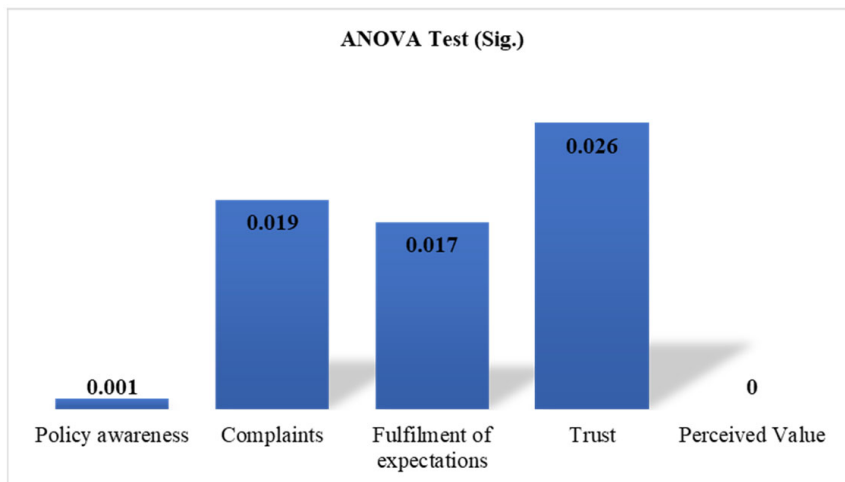
#### 6.4 ANOVA

A statistical test called analysis of variance, or ANOVA, examines how group means vary in a sample. ANOVA is a helpful test examining the relationship between the degree of health insurance use across different categories and the satisfaction level.

H0 There is no imperative alteration amongst the satisfaction level and level of utilisation of health insurance.

From Table 11, it is inferred that relating to satisfaction level and level of utilisation of health insurance, out of five factors, policy awareness, complaints, fulfilment of expectations, trust, and perceived value show a significant difference with the satisfaction level and level of utilisation of health insurance of the respondents since the significant value is less than the 'P' value (0.05%). Hence, the null proposition is disallowed (Figure 7).

**Figure 7** Satisfaction level and level of utilisation of health insurance (see online version for colours)



Data is collected regarding the types of families (a continuous variable) and the increase in satisfaction (a categorical variable with different levels). Data is organised based on the different types of families. The ANOVA test is used to evaluate the means of satisfaction improvement among the different family type groups. The ANOVA test yields an F-statistic, which measures the variance ratio between groups to variance within groups. Then, compare the calculated F-statistic to the critical value from the F-distribution table at a chosen significance level (e.g., 0.05). If the calculated F-statistic exceeds the critical value, reject the null hypothesis.

H0 There is no important alteration among the improve the satisfaction of policy holders and types of family.

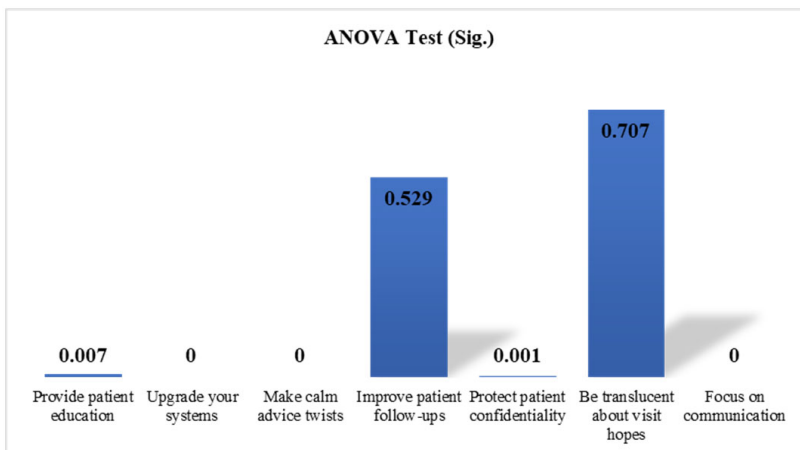
From Table 12, it is inferred that relating to improving the satisfaction of policy holders and types of families, providing patient education, upgrading your systems, making calm advice twists, protecting patient confidentiality, being translucent about visit hopes, and focusing on communication show a significant difference with the occupation of the respondents since the significant value is less than the 'P' value (0.05%). Hence, the null supposition is rejected (Figure 8).



**Table 12** Improve the satisfaction of policyholders and types of family

		ANOVA				
<i>Improve the satisfaction</i>		<i>Sum of squares</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>Sig.</i>
Provide patient education	Between groups	7.824	1	7.824	7.474	.007
	Within groups	131.895	126	1.047		
	Total	139.719	127			
Upgrade your systems	Between groups	35.816	1	35.816	22.160	.000
	Within groups	203.652	126	1.616		
	Total	239.469	127			
Make calm advice twists	Between groups	14.435	1	14.435	17.272	.000
	Within groups	105.307	126	.836		
	Total	119.742	127			
Improve patient follow-ups	Between groups	.258	1	.258	.398	.529
	Within groups	81.547	126	.647		
	Total	81.805	127			
Protect patient confidentiality	Between groups	14.733	1	14.733	12.095	.001
	Within groups	153.485	126	1.218		
	Total	168.219	127			
Be translucent about visit hopes	Between groups	.064	1	.064	.142	.707
	Within groups	56.991	126	.452		
	Total	57.055	127			
Focus on communication	Between groups	20.348	1	20.348	37.317	.000
	Within groups	68.706	126	.545		
	Total	89.055	127			

Note: \*Significant at 0.05 % level.

**Figure 8** Improve the satisfaction of policy holders and types of family (see online version for colours)

Improved patient follow-ups show no significant difference with the improved satisfaction of policy holders and types of family. Hence, the null theory is accepted, which means it improves the satisfaction of policyholders and types of families.

Data is collected regarding the individuals' eligibility (a categorical independent variable with changing levels) and the program's components (a continuous dependent variable). Data is organised based on different levels of qualification. An ANOVA test compares the factor means across the different certification groups. If the calculated F-statistic exceeds the critical value, reject the null hypothesis.

H0 There is no noteworthy alteration among the qualifications and factors of the health insurance program.

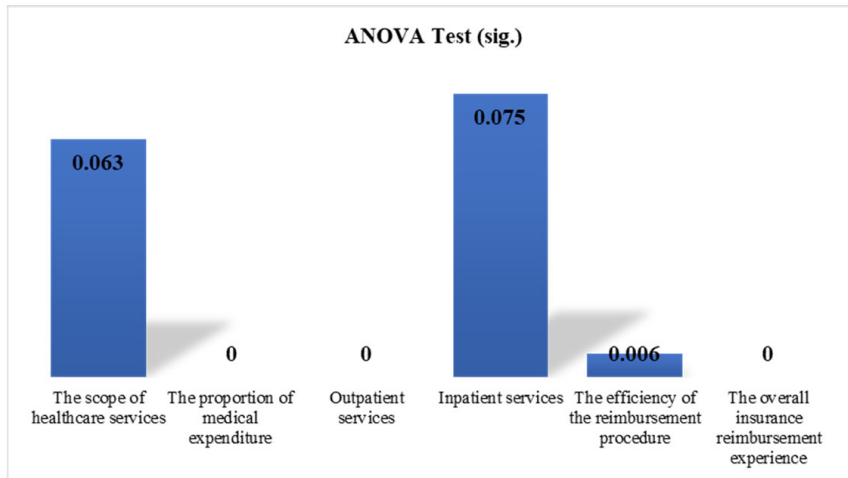
**Table 13** Qualification and factors of health insurance program

		<i>ANOVA</i>				
<i>Health insurance program</i>		<i>Sum of squares</i>	<i>Df</i>	<i>Mean square</i>	<i>F</i>	<i>Sig.</i>
The scope of healthcare services	Between groups	4.200	5	.840	2.161	.063
	Within groups	47.417	122	.389		
	Total	51.617	127			
The proportion of medical expenditure	Between groups	5.875	5	1.175	7.331	.000*
	Within groups	19.554	122	.160		
	Total	25.430	127			
Outpatient services	Between groups	4.195	5	.839	5.790	.000*
	Within groups	17.680	122	.145		
	Total	21.875	127			
Inpatient services	Between groups	4.624	5	.925	2.061	.075
	Within groups	54.743	122	.449		
	Total	59.367	127			
The efficiency of the reimbursement procedure	Between groups	12.838	5	2.568	3.447	.006*
	Within groups	90.881	122	.745		
	Total	103.719	127			
The overall insurance reimbursement experience	Between groups	4.439	5	.888	5.160	.000*
	Within groups	20.991	122	.172		
	Total	25.430	127			

Note: \*Significant at 0.05 % level

From Table 13, it is inferred that relating to qualification and factors of the health insurance program, the proportion of medical expenditure, outpatient services (Figure 9). The efficiency of reimbursement procedure, and the overall insurance reimbursement experience show a significant difference with the occupation of the respondents since the significant value is less than the 'P' value (0.05%). Hence, the null hypothesis is rejected. The scope of healthcare services covered by the insurance program, inpatient services, show no momentous variance in improving the satisfaction of policyholders and family types. Hence, the worthless proposition is accepted, which means it improves the satisfaction of policyholders and types of families.

**Figure 9** ANOVA – factors of health insurance program significant value (see online version for colours)



## 7 Findings and discussion

The respondents' vocations differ greatly from improving insurance holders' and families' satisfaction, educating patients, upgrading the systems, providing calm guidance, protecting patient privacy, being upfront about planned visits, and prioritising communication. Policy awareness, complaints, meeting expectations, trust, and perceived value are the five factors influencing health insurance satisfaction and utilisation; these factors differ greatly. Regarding improving policyholder and family satisfaction, the insurance program's range of medical treatments, including inpatient care, does not differ noticeably. This leads to the acceptance of the worthless plan, which will improve policyholder and family satisfaction.

Analysing demographic data facilitates the development of solutions targeted to certain audiences. For example, the insurer might concentrate on making online platforms more user-friendly for a specific age group if they voice unhappiness with the digital experience. A targeted approach guarantees that funds are directed toward the most critical issues (Sivaramakrishnan and Swaminathan, 2015). Finding differences in satisfaction across demographic categories opens up new possibilities for personalisation. It is possible for insurers to customise their offerings to meet the needs and preferences of particular market segments. According to Subha and Sathyabama (2019), personalisation enhances customer satisfaction and allows insurance providers to customise their offerings better to meet the varied needs of their clientele.

Effective communication has a positive impact on satisfaction levels. Control of policyholder expectations and eliminating ambiguity are two benefits of good communication. Examine how timely customer service affects policyholder satisfaction. Think about how automation and technology can increase the effectiveness of customer service. Consider how to improve premium structures so that policyholders get more value from them. Talk about how policy management interfaces that are easy to use improve satisfaction. Analyse the impact of educational activities on policymakers'

perspectives. Segment-specific trends can be identified by analysing satisfaction measurements across demographic categories, including age groups, socioeconomic statuses, and geographic areas. Insurance companies can customise their products and services by understanding the distinct needs and preferences of various market segments and how they react to excellent service (Siddiqui and Sharma, 2010).

Knowing how satisfaction varies by demographic group when allocating resources is helpful. Insurance companies may order the enhancements according to which market niches require the most assistance. When employing this strategy, few resources are directed into regions where they can have the biggest impact (Supakankunti et al., 2000). Comparative research across demographics facilitates competitive benchmarking within particular market sectors (Wong et al., 2014). Insurance companies can evaluate their benefits and drawbacks by evaluating how they perform relative to rivals in each category. This benchmarking offers insightful information to keep a competitive advantage. The inclusion of demographic factors indicates a dedication to a policyholder-centred approach. The statement acknowledges the diversity of the policyholder base and emphasises the significance of customising services to address the distinct requirements of various demographic groups. This strategy aids in creating an insurance plan that is more customer-focused and inclusive (Yaya et al., 2017).

It's critical to comprehend what the client wants if you want to survive in this fiercely competitive and potentially explosive market. Many technical breakthroughs have resulted in significant changes to the health insurance market. Private sector companies are promoting innovative health policies and shifting to a client-focused approach. According to Mall and Sahoo (2015), public-sector businesses are lagging in several categories. Public sector companies need to put their customers' needs and satisfaction first if they are to remain at the top of the health insurance market.

## **8 Conclusions**

An empirical examination of the factors associated with policyholder satisfaction with high-quality service is a crucial first step toward enhancing the entire customer experience in the health insurance sector. By employing diverse methodologies and considering various variables, insurers can obtain a more all-encompassing understanding of policyholder contentment. Using segmentation and longitudinal research methodologies allows for a more thorough analysis by customising treatments according to certain policyholder attributes and identifying trends over time. In order to provide useful information on customer loyalty and the likelihood that policyholders will suggest the insurance to others, the net promoter score (NPS) is offered. One can demonstrate their commitment to modernising service delivery and ensuring accuracy and transparency in policy exchanges by concentrating on certain touchpoints, such as the digital experience, efficient communication, and quick claims processing (Halan et al., 2014).

Furthermore, by monitoring community mood and benchmarking against industry standards, insurers can maintain their flexibility and competitiveness in the face of shifting external perspectives. The evaluation of employee satisfaction and the training effect draws attention to the internal factors influencing customer satisfaction, highlighting the significance of a contented and knowledgeable team in delivering first-rate service. By taking these traits and insights into account, insurers may develop

targeted strategies for continuous improvement and ensure that services live up to policyholders' expectations and preferences. Ultimately, by fostering policyholder confidence, loyalty, and pleasure, this empirical analysis lays the foundation for a customer-centric approach in the health insurance industry (Anagol et al., 2017). The investigation's findings can assist insurers in reassessing and adjusting their products better to serve customers in the dynamic health insurance market.

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