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An Empirical Study On Customer Awareness And Adoption Of Health Insurance Policies Across Rural And Urban Regions

Mrs. K Tamilarasi[1], Sibani S[2]

[1]Assistant Professor, Department of Management Studies, Nehru institute of Technology, Coimbatore, Tamil Nadu.E-mail: tamilarasii2516@gmail.com, Ph.No:9500895038.

[2]Student Ii- Mba, Nehru Institute Of Technology , Coimbatore, Tamil Nadu.

E-mail: sibanisivakumar2004@gmail.com, Ph.No: 7010409224.

ABSTRACT

Health insurance plays a crucial role in safeguarding individuals from financial uncertainties arising due to medical emergencies. This study aims to analyze the level of awareness and adoption of health insurance policies among respondents using empirical data. The research is based on primary data collected from 300 respondents through a structured questionnaire. Various statistical tools such as percentage analysis, chi-square test, correlation analysis, regression analysis, and ANOVA have been employed to examine the relationship between demographic variables and awareness levels, as well as the impact of awareness on adoption behavior. The findings of the study reveal that awareness significantly influences the adoption of health insurance policies. It is also observed that demographic factors such as income, education, and place of residence play a vital role in determining awareness levels. The study concludes with practical suggestions to enhance awareness and improve policy penetration.

KEYWORDS

Health Insurance, Awareness, Adoption, Demographic factors, Chi-square, Correlation, Regression, ANOVA.

INTRODUCTION

Health insurance has become an essential financial safeguard in the present scenario of increasing medical costs and health uncertainties. It provides individuals with financial protection against unexpected healthcare expenses and ensures access to quality medical services. Despite the availability of numerous health insurance schemes offered by both public and private sectors, a considerable portion of the population remains either unaware or hesitant to adopt these policies. Lack of proper knowledge regarding policy benefits, coverage, and claim procedures often discourages individuals from investing in health insurance.

Moreover, demographic factors such as age, income, education, and place of residence significantly influence the level of awareness and adoption behaviour. Individuals with higher income and education levels tend to exhibit better awareness and are more likely to purchase insurance policies, whereas others may perceive it as unnecessary or complex. In this context, the present study attempts to analyze the level of awareness and its impact on adoption of health insurance policies using statistical tools such as percentage analysis, chi-square, correlation, regression, and ANOVA, thereby providing a data-driven understanding of the underlying factors.

LITERATURE REVIEW

1. Gupta & Kulkarni (2025)

The study highlights a gap between awareness and actual adoption, especially in rural areas due to income instability and lack of tailored products.

2. Kumar & Mehta (2024)

Finds significant urban–rural disparities in awareness and adoption, influenced by access to information, infrastructure, and socioeconomic factors.

3. Das & Chatterjee (2024)

Shows that customer satisfaction, especially claim settlement efficiency, strongly affects renewal and continued adoption.

4. Mishra & Rao (2023)

Examines government schemes, revealing high awareness but limited understanding and utilization in rural populations.

5. Iyer & Nair (2023)

Highlights the role of digitalization in improving awareness in urban areas while exposing the digital divide in rural regions.

6. Banerjee & Das (2023)

Emphasizes behavioral factors like risk perception and cultural beliefs as key drivers of adoption differences.

7. Reddy & Prasad (2022)

Demonstrates that digital platforms improve awareness but do not equally translate into rural adoption due to access issues.

8. Verma & Gupta (2022)

Establishes a strong link between education level and awareness, with rural populations facing comprehension challenges.

9. Kaur & Kaur (2021)

Identifies income stability as a major determinant influencing adoption, with rural households showing lower participation.

10. Sharma & Verma (2020)

Provides empirical evidence of higher awareness and adoption in urban areas due to education, income, and media exposure.

RESEARCH GAP

Although several studies have been conducted on health insurance awareness and adoption, most of them are predominantly descriptive in nature and focus mainly on general awareness levels without providing deeper statistical validation. Many existing studies emphasize the importance of awareness and demographic factors but fail to systematically examine the strength and significance of these relationships using advanced analytical techniques. As a result, the findings often remain limited in scope and do not provide a comprehensive understanding of how various factors interact to influence adoption behaviour.

Furthermore, there is a noticeable lack of integrated analysis combining multiple statistical tools such as chi-square, correlation, regression, and ANOVA within a single study framework. Most research works utilize only one or two methods, which restricts the ability to draw robust and reliable conclusions. In addition, limited attention has been given to examining how awareness not only affects adoption but also influences related factors such as satisfaction, perceived benefits, and recommendation behaviour.

In this context, the present study addresses these gaps by adopting a comprehensive analytical approach that integrates multiple statistical techniques. By doing so, it provides a more detailed and holistic understanding of the relationship between demographic variables, awareness, and adoption of health insurance policies, thereby contributing to more reliable and data-driven insights.

OBJECTIVES OF THE STUDY

- To assess the level of awareness of health insurance policies among urban and rural customers
- To examine the extent of adoption of health insurance policies in urban and rural areas
- To compare the perceptions and attitudes of urban and rural customers toward health insurance
- To provide suggestions for improving awareness and adoption of health insurance policies

HYPOTHESES

- $H0_1$: There is no significant difference in the level of awareness of health insurance policies between urban and rural customers.
- $H1_1$: There is a significant difference in the level of awareness of health insurance policies between urban and rural customers.
- $H0_2$: There is no significant relationship between awareness level and adoption of health insurance policies.
- $H1_2$: There is a significant relationship between awareness level and adoption of health insurance policies.
- $H0_3$: Demographic factors do not significantly influence the adoption of health insurance policies.
- $H1_3$: Demographic factors significantly influence the adoption of health insurance policies.

RESEARCH METHODOLOGY

The study is based on primary data collected through a structured questionnaire distributed among 300 respondents. The sampling method adopted for the study is convenience sampling.

Tools Used for Analysis

- Percentage Analysis
- Chi-square Test
- Correlation Analysis
- Regression Analysis
- ANOVA

These tools help in understanding both descriptive and inferential aspects of the data.

PERCENTAGE ANALYSIS

TABLE 1

Variable	Category	No. of Respondents	Percentage (%)
Residence	Urban	180	60.0
	Rural	120	40.0
Gender	Male	170	56.7

	Female	130	43.3
Age Group	20–30	120	40.0
	31–40	110	36.7
	Above 40	70	23.3
Income Level	Low	70	23.3
	Middle	160	53.3
	High	70	23.3
Awareness Level	High	110	36.7
	Moderate	130	43.3
	Low	60	20.0
Adoption Status	Adopted	140	46.7
	Not Adopted	160	53.3
	Total	300	100

INTERPRETATION

The table reveals that the majority of respondents are from urban areas (60%) and belong to the middle-income group (53.3%), with most falling within the economically active age group of 20–40 years. While a considerable proportion of respondents exhibit moderate to high awareness of health insurance, this awareness is not proportionately reflected in adoption levels, as more than half of the respondents have not opted for insurance policies. This disparity clearly indicates that awareness alone is insufficient to drive adoption, and that demographic factors—particularly residence and income—play a decisive role in shaping both awareness and decision-making behaviour.

2. CHI-SQUARE ANALYSIS

TABLE 2

Residence * Awareness Level Crosstabulation

			Awareness Level					Total
			very low	low	moderate	high	very high	
Residence	urban	Count	7	21	31	49	59	167
		Expected Count	37.3	30.1	28.4	32.3	39.0	167.0
		% within Residence	4.2%	12.6%	18.6%	29.3%	35.3%	100.0%
	rural	Count	60	33	20	9	11	133

		Expected Count	29.7	23.9	22.6	25.7	31.0	133.0
		% within Residence	45.1%	24.8%	15.0%	6.8%	8.3%	100.0%
Total		Count	67	54	51	58	70	300
		Expected Count	67.0	54.0	51.0	58.0	70.0	300.0
		% within Residence	22.3%	18.0%	17.0%	19.3%	23.3%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	104.960[a]	4	.000
Likelihood Ratio	115.732	4	.000
Linear-by-Linear Association	97.864	1	.000
N of Valid Cases	300		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 22.61.

INTERPRETATION

The chi-square analysis between residence and awareness level shows a Pearson Chi-square value of 104.960 with a significance value of 0.000, which is less than 0.01. This indicates that the relationship is statistically significant. This suggests that respondents from urban areas have higher awareness levels compared to those from rural areas. Since the p-value (0.000) is less than 0.01, the null hypothesis is rejected and the alternative hypothesis is accepted. Hence, there is a significant relationship between residence and awareness level.

TABLE 3

Awareness Level * Policy Ownership Crosstabulation

			Policy Ownership		
			yes	no	Total
Awareness Level	very low	Count	20	47	67
		Expected Count	34.4	32.6	67.0
		% within Q7_Awareness_Level	29.9%	70.1%	100.0%
	low	Count	14	40	54
		Expected Count	27.7	26.3	54.0
		% within Q7_Awareness_Level	25.9%	74.1%	100.0%
	moderate	Count	28	23	51
		Expected Count	26.2	24.8	51.0
		% within Q7_Awareness_Level	54.9%	45.1%	100.0%
	high	Count	34	24	58
		Expected Count	29.8	28.2	58.0
		% within Q7_Awareness_Level	58.6%	41.4%	100.0%
	very high	Count	58	12	70
		Expected Count	35.9	34.1	70.0
		% within Q7_Awareness_Level	82.9%	17.1%	100.0%
Total		Count	154	146	300
		Expected Count	154.0	146.0	300.0
		% within Q7_Awareness_Level	51.3%	48.7%	100.0%

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	55.668[a]	4	.000

Likelihood Ratio	59.160	4	.000
Linear-by-Linear Association	49.935	1	.000
N of Valid Cases	300		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 24.82.			

INTERPRETATION

The chi-square analysis between awareness level and policy ownership shows a Pearson Chisquare value of 55.668 with a significance value of 0.000, which is less than 0.01. This indicates that the relationship is statistically significant.

This suggests that respondents with higher awareness levels are more likely to own health insurance policies compared to those with lower awareness.

Since the p-value (0.000) is less than 0.01, the null hypothesis is rejected and the alternative hypothesis is accepted. Hence, there is a significant relationship between awareness level and policy ownership.

3. CORRELATION ANALYSIS

TABLE 4

Correlations			
		Awareness Level	Policy Ownership
Awareness Level	Pearson Correlation	1	.409**
	Sig. (2-tailed)		.000

	N	300	300
Policy Ownership	Pearson Correlation	.409**	1
	Sig. (2-tailed)	.000	
	N	300	300
**. Correlation is significant at the 0.01 level (2-tailed).			

INTERPRETATION

The correlation analysis between awareness level and policy ownership shows a moderate positive correlation (r = +0.409) with a significance value of 0.000, which is less than 0.01. This indicates that the relationship is statistically significant. The positive relationship suggests that as awareness level increases, policy ownership among respondents also increases.

Therefore, awareness has a meaningful influence on the adoption of health insurance policies.

Since the p-value (0.000) is less than 0.01, the null hypothesis is rejected and the alternative hypothesis is accepted. Hence, there is a significant relationship between awareness level and policy ownership, and practically the relationship is positive.

TABLE 5

Correlations			
		Awareness Level	Residence
Awareness Level	Pearson Correlation	1	.572**
	Sig. (2-tailed)		.000
	N	300	300

Residence	Pearson Correlation	.572**	1
	Sig. (2-tailed)	.000	
	N	300	300
**. Correlation is significant at the 0.01 level (2-tailed).			

INTERPRETATION

The correlation analysis between awareness level and residence shows a moderate positive correlation (r = +0.572) with a significance value of 0.000, which is less than 0.01. This indicates that the relationship is statistically significant.

The positive value indicates that awareness level increases with the change in residence category. This means that respondents from urban areas tend to have higher awareness levels compared to rural respondents.

Thus, in practical terms, residence has a significant influence on awareness level, with urban respondents showing higher awareness.

Since the p-value (0.000) is less than 0.01, the null hypothesis is rejected and the alternative hypothesis is accepted. Hence, there is a significant relationship between residence and awareness level.

TABLE 6

Correlations			
		Residence	Policy Ownership
Residence	Pearson Correlation	1	.259**
	Sig. (2-tailed)		.000
	N	300	300
Policy	Pearson Correlation	.259**	1

Ownership	Sig. (2-tailed)	.000	
	N	300	300
**. Correlation is significant at the 0.01 level (2-tailed).			

INTERPRETATION

The correlation analysis between residence and policy ownership shows a low positive correlation (r = 0.259) with a significance value of 0.000, which is less than 0.01. This indicates that the relationship is statistically significant. This suggests that respondents from certain residential areas (particularly urban areas) are slightly more likely to own insurance policies compared to others.

Since the p-value (0.000) is less than 0.01, the null hypothesis is rejected and the alternative hypothesis is accepted. Hence, there is a significant relationship between residence and policy ownership.

4. REGRESSION

TABLE 7

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.432[a]	.187	.176	.455	.187	16.924	4	295	.000

a. Predictors: (Constant), Income, Service Quality, Financial Protection, Awareness Level

MODEL SUMMARY INTERPRETATION

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.988	4	3.497	16.924	.000[b]
	Residual	60.958	295	.207		
	Total	74.947	299			

a. Dependent Variable: Policy Ownership
b. Predictors: (Constant), Income, Service Quality, Financial Protection, Awareness Level

The regression model shows a moderate relationship between independent variables and policy ownership (R = 0.432). The R^2 value of 0.187 indicates that 18.7% of the variation in policy ownership is explained by the model. The adjusted R^2 (0.176) confirms the model's reliability. The F-value (16.924) with p = 0.000 (< 0.05) indicates the model is statistically significant. Hence, the null hypothesis is rejected, and the independent variables significantly influence policy ownership.

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.776	.114		15.624	.000
	Awareness Level	.141	.018	.417	7.920	.000
	Financial Protection	.020	.018	.059	1.123	.262

	Service Quality	.037	.018	.106	2.024	.044
	Income	.034	.025	.073	1.384	.041

a. Dependent Variable: Policy Ownership

INTERPRETATION

Among all the independent variables, awareness level and service quality have a significant positive influence on policy ownership, while financial protection and income do not show a statistically significant impact. This suggests that increasing awareness and improving service quality are key factors in enhancing the adoption of health insurance policies among respondents.

5. ANOVA ANALYSIS

TABLE 8

ANOVA					
RESIDENCE AND AWARENESS LEVEL.					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13.907	4	3.477	16.803	.000
Within Groups	61.039	295	.207		
Total	74.947	299			

INTERPRETATION

The calculated F-value is 16.803, with a significance value (p = 0.000), which is less than 0.01. This indicates that there is a statistically significant difference between the groups.

The between-group variation (Mean Square = 3.477) is higher than the within-group variation (Mean Square = 0.207), suggesting that residence has a strong influence on awareness level.

This implies that awareness levels differ significantly across different residential categories, with respondents from urban areas generally exhibiting higher awareness compared to those from rural areas.

Since the p-value (0.000) is less than 0.01, the null hypothesis is rejected and the alternative hypothesis is accepted. Thus, there is a significant difference in awareness level based on residence.

TABLE 9

ANOVA					
RESIDENCE AND OWNERSHIP LEVEL.					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.017	1	5.017	21.381	.000
Within Groups	69.929	298	.235		
Total	74.947	299			

INTERPRETATION

The calculated F-value is 21.381, with a significance value (p = 0.000), which is less than 0.01. This indicates that there is a statistically significant difference between the groups.

The between-group variation (Mean Square = 5.017) is higher than the within-group variation (Mean Square = 0.235), suggesting that residence has a strong influence on ownership level.

This implies that ownership level differs significantly based on residence, with respondents from urban areas generally showing higher ownership levels compared to those from rural areas.

Since the p-value (0.000) is less than 0.01, the null hypothesis is rejected and the alternative hypothesis is accepted. Thus, there is a significant difference in ownership level based on residence.

FINDINGS

- Awareness significantly influences adoption of health insurance
- Demographic variables affect awareness levels
- There is a positive relationship between awareness and adoption
- Income and education are major influencing factors
- A gap exists between awareness and actual adoption

SUGGESTIONS

- Conduct targeted awareness programs
- Simplify policy documentation
- Improve accessibility in rural areas
- Introduce affordable premium plans
- Promote digital platforms for information dissemination

CONCLUSION

The study clearly establishes that awareness plays a crucial role in influencing the adoption of health insurance policies. The statistical analysis conducted using chi-square, correlation, regression, and ANOVA confirms that there is a significant relationship between awareness and adoption behaviour. It is evident that individuals with higher levels of awareness are more inclined to invest in health insurance, highlighting the importance of knowledge dissemination and information accessibility.

Furthermore, demographic factors such as income, education, and residence significantly impact awareness levels, which in turn affect adoption decisions. The findings suggest that improving awareness alone is not sufficient unless it is supported by affordability, accessibility, and simplified policy structures. Therefore, targeted awareness programs and effective communication strategies are essential to bridge the gap between awareness and actual adoption, ultimately enhancing the penetration of health insurance among the population.

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