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THE ROLE OF ECONOMIC CONDITIONS AND CENTRAL–STATE GOVERNMENT HEALTH SCHEMES IN SHAPING HEALTH AND MEDICAL INSURANCE ADOPTION IN PUNJAB

A Quantitative Study of Economic Capacity, Public Health Protection and Insurance-Service Evaluations

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ABSTRACT

Health-insurance adoption is shaped by the interaction of financial capacity, institutional support and consumers' evaluations of insurance services. This study examines the role of household economic conditions and central–state government health schemes in influencing health and medical insurance adoption in Punjab. A quantitative, explanatory, cross-sectional design was used. Primary data were collected between February and November 2025 from respondents in Ludhiana, Jalandhar, Bathinda and Ferozepur. Of 1,136 questionnaires distributed, 522 responses were received and 453 valid responses were retained for analysis; 358 responses were collected face-to-face and 95 online. The questionnaire measured economic conditions, government health-scheme awareness and perceived usefulness, insurance awareness, service accessibility, premium cost, trust, customer satisfaction, perceived value and health-insurance adoption using five-point Likert-scale items. Structural equation modelling was used to examine the hypothesised relationships, supplemented by reliability and validity assessment, mediation analysis, moderation analysis and predictive validation. The results reported in the study indicate that economic conditions and government health schemes are positively associated with health-insurance adoption. Premium cost negatively affects customer satisfaction, whereas insurance awareness, accessibility and trust positively influence satisfaction. Customer satisfaction is positively associated with adoption, and perceived value strengthens the relationships between awareness and trust and customer satisfaction. The findings suggest that expanding health-insurance participation requires more than increasing product availability. Affordability, effective public schemes, accessible delivery, transparent administration and trust-building are jointly important for improving adoption in Punjab.

Keywords: health-insurance adoption; economic conditions; affordability; government health schemes; Punjab; customer satisfaction; perceived value; structural equation modelling.

1. INTRODUCTION

Healthcare expenditure can expose households to substantial financial pressure, particularly when illness requires hospitalisation, prolonged treatment or repeated medical care. Health insurance is intended to reduce this exposure by pooling risk and providing financial

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protection. Yet the existence of insurance products does not automatically ensure broad or equitable adoption. Adoption depends on whether households can afford coverage, understand its benefits, access suitable products and trust insurers and public programmes.

Economic circumstances are therefore central to the insurance decision. Income, employment stability, savings and competing household expenditures influence the capacity to pay premiums. At the same time, rising medical costs may increase the perceived need for financial protection. This creates a tension in which households with the greatest exposure to health-related financial risk may also face the greatest difficulty in purchasing private insurance.

Public health-protection programmes add an important institutional dimension to this decision. Central and state government schemes can reduce financial barriers, increase awareness of health financing and improve access to healthcare services. Their influence may extend beyond direct financial assistance by shaping citizens' understanding of risk protection and their expectations regarding healthcare coverage.

Punjab provides a relevant setting for examining these relationships because the state contains diverse rural and urban populations, differences in income and employment conditions, a substantial private healthcare sector and a policy environment in which public schemes coexist with private insurance. The interaction between household economic capacity and government-supported health protection is therefore important for understanding insurance adoption.

Although previous research has examined socioeconomic determinants of insurance coverage and the performance of public health programmes, fewer studies bring these dimensions together in a single behavioural framework. The present study addresses this gap by examining how economic conditions and central–state government health schemes relate to health-insurance adoption while also considering the roles of customer satisfaction and perceived value.

The study addresses the following research question: How do economic conditions and central–state government health schemes influence health and medical insurance adoption among respondents in Punjab?

2. REVIEW OF LITERATURE AND HYPOTHESIS DEVELOPMENT

2.1 Health-Insurance Adoption

Health-insurance adoption is a multidimensional decision involving perceived risk, financial capacity, awareness, access, trust and expected benefits. Socioeconomic conditions influence the ability to obtain and maintain coverage, but financial capacity alone does not explain adoption. Individuals may remain uninsured despite having the ability to pay if they do not understand policy benefits, distrust providers or perceive insurance as inaccessible.

2.2 Economic Conditions and Adoption

Economic conditions influence adoption primarily through affordability and financial stability. Household income determines the resources available for premium payments, while employment stability and savings affect the ability to maintain coverage over time. At the

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same time, high medical expenses can increase the perceived value of insurance. The relationship may therefore be complex: households with limited resources may have strong protection needs but limited ability to purchase private coverage.

H1: Favourable economic conditions positively influence health-insurance adoption.

2.3 Government Health Schemes and Adoption

Government health schemes can influence adoption through awareness, financial protection and access to healthcare. Public programmes may also familiarise households with the principles of risk pooling and organised health financing. However, awareness does not necessarily lead to utilisation; eligibility rules, administrative procedures and accessibility can affect whether people convert knowledge into actual use.

H2: Awareness and perceived usefulness of central and state government health schemes positively influence health-insurance adoption.

2.4 Premium Affordability

Premium cost remains a potential barrier to insurance participation. When premiums are perceived as disproportionate to household resources or expected benefits, consumers may experience lower satisfaction and reduced willingness to adopt or maintain coverage.

H3: Perceived premium cost negatively influences customer satisfaction and health-insurance adoption.

2.5 Awareness and Accessibility

Awareness helps consumers understand benefits, eligibility, exclusions and financial protection. Accessibility concerns the ease with which information, products and services can be obtained and used.

H4: Awareness of health insurance positively influences customer satisfaction.

H5: Accessibility of health-insurance services positively influences customer satisfaction.

2.6 Trust in Insurance Providers

Insurance involves an exchange in which consumers pay for protection that may be required in the future. Trust is therefore important because concerns about claim settlement, exclusions and administrative fairness can increase perceived risk.

H6: Trust in insurance providers positively influences customer satisfaction.

2.7 Customer Satisfaction and Adoption

Customer satisfaction reflects the extent to which the insurance experience meets or exceeds expectations. A favourable evaluation of insurance services may increase willingness to continue coverage, recommend insurance and adopt additional protection.

H7: Customer satisfaction positively influences health-insurance adoption.

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2.8 Perceived Value as a Moderator

Perceived value reflects the consumer's assessment of whether the benefits of insurance justify its financial, time and administrative costs. When perceived value is high, awareness and trust may be more readily translated into favourable service evaluations.

H8: Customer perception of value strengthens the relationship between awareness and customer satisfaction.

H9: Customer perception of value strengthens the relationship between trust and customer satisfaction.

3. THEORETICAL FRAMEWORK

The study draws on three complementary perspectives. Perceived Value Theory explains adoption as an evaluation of benefits relative to costs. Expectancy–Disconfirmation Theory explains satisfaction as a comparison between expectations and experienced performance. Relationship Marketing Theory highlights the role of trust and continuing relationships between customers and service providers.

Together, these perspectives suggest that economic capacity and public schemes create the broader conditions for adoption, while awareness, accessibility, cost and trust shape the service evaluation that can influence satisfaction and adoption. Perceived value is expected to strengthen the conversion of awareness and trust into satisfaction.

4. CONCEPTUAL MODEL

The conceptual model positions economic conditions and government health-scheme awareness/perceived usefulness as direct determinants of health-insurance adoption. Awareness, accessibility, premium cost and trust influence adoption through customer satisfaction. Perceived value moderates the relationships between awareness and satisfaction and between trust and satisfaction.

5. RESEARCH METHODOLOGY

5.1 Research Design

A quantitative, explanatory and cross-sectional design was adopted to examine hypothesised relationships among economic conditions, government health schemes, insurance-service evaluations, satisfaction and adoption.

5.2 Study Area

The study was conducted in Ludhiana, Jalandhar, Bathinda and Ferozepur districts of Punjab. The districts were selected to capture variation in urbanisation, economic conditions, employment structures and access to healthcare services.

5.3 Population and Sampling

The target population comprised adults who were current health-insurance policyholders or potential users with awareness of health-insurance products and government health-protection schemes. Purposive sampling was used because respondents were required to possess relevant awareness or experience.

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5.4 Data Collection

Data collection took place from February to November 2025. The distribution and screening process is presented below.

Item	Number
Questionnaires distributed	1,136
Responses received	522
Invalid/incomplete responses excluded	69
Final valid responses	453
Face-to-face responses	358
Online responses	95
Valid response rate	39.88%

5.5 Instrument Development

The structured questionnaire was developed using the constructs specified in the study framework. Ten experts reviewed the instrument for content validity, and a pilot test was conducted with 56 policyholders. The final instrument used five-point Likert-scale responses ranging from 1 = Strongly Disagree to 5 = Strongly Agree.

The constructs were Economic Conditions (EC), Government Health Schemes (GHS), Awareness of Insurance Policies (AIP), Accessibility of Insurance Services (AIS), Cost of Premiums (COP), Trust in Insurance Providers (TIP), Customer Satisfaction (CS), Customer Perception of Value (CPV) and Health Insurance Adoption (HIA).

5.6 Data Analysis

The analysis included respondent profiling, measurement-model assessment, structural-model testing, mediation analysis, moderation analysis and predictive validation. Reliability was assessed using Cronbach's alpha and composite reliability, while convergent validity was assessed using average variance extracted (AVE).

6. RESULTS

6.1 Measurement Model

Construct	Items	Cronbach's α	CR	AVE	Assessment
Economic Conditions	3	0.84	0.89	0.72	Acceptable
Government Health Schemes	4	0.88	0.92	0.74	Acceptable
Awareness of Insurance Policies	3	0.86	0.91	0.77	Acceptable
Accessibility of Insurance Services	3	0.83	0.89	0.73	Acceptable
Cost of Premiums	3	0.81	0.88	0.70	Acceptable
Trust in Insurance Providers	3	0.89	0.93	0.82	Acceptable
Customer Satisfaction	3	0.90	0.94	0.84	Acceptable
Customer	3	0.87	0.92	0.79	Acceptable

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Perception of Value					
Health Insurance Adoption	3	0.88	0.92	0.79	Acceptable

All reported Cronbach's alpha and composite reliability values exceed the commonly used 0.70 threshold. The reported AVE values are above 0.50, indicating adequate convergent validity for the constructs as specified in the study.

6.2 Respondent Profile

Variable	Category	Percentage
Gender	Male	57.2%
Gender	Female	42.8%
Age	18–30 years	24.9%
Age	31–45 years	39.1%
Age	46–60 years	25.6%
Age	Above 60 years	10.4%
Residence	Urban	54.7%
Residence	Rural	45.3%
Monthly household income	Below ₹25,000	22.5%
Monthly household income	₹25,001–₹50,000	34.0%
Monthly household income	₹50,001–₹75,000	25.8%
Monthly household income	Above ₹75,000	17.7%

6.3 Structural Model

Hypothesis	Relationship	β	Significance	Decision
H1	Economic Conditions → HIA	0.24	$p < 0.001$	Supported
H2	Government Health Schemes → HIA	0.28	$p < 0.001$	Supported
H3	COP → CS	−0.21	$p < 0.01$	Supported
H4	AIP → CS	0.29	$p < 0.001$	Supported
H5	AIS → CS	0.26	$p < 0.001$	Supported
H6	TIP → CS	0.33	$p < 0.001$	Supported
H7	CS → HIA	0.47	$p < 0.001$	Supported

The reported results indicate positive relationships between economic conditions and adoption and between government health schemes and adoption. Among the service-related predictors of satisfaction, trust showed the largest reported coefficient, followed by awareness and accessibility. Premium cost was negatively related to satisfaction. Customer satisfaction was positively associated with adoption.

The model reportedly explained 49.6% of the variance in customer satisfaction and 54.2% of the variance in health-insurance adoption when satisfaction was incorporated into the adoption model.

6.4 Mediation Analysis

Path	Indirect Effect	Decision
AIP → CS → HIA	Positive	Supported
AIS → CS → HIA	Positive	Supported

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COP → CS → HIA	Negative	Supported
TIP → CS → HIA	Positive	Supported
Economic Conditions → CS → HIA	Positive	Supported
Government Health Schemes → CS → HIA	Positive	Supported

The reported mediation results suggest that customer satisfaction functions as an explanatory mechanism through which service evaluations, economic conditions and government health schemes may be associated with adoption.

6.5 Moderation Analysis

Interaction	β	Significance	Decision
AIP × CPV → CS	0.16	$p < 0.01$	Supported
TIP × CPV → CS	0.19	$p < 0.001$	Supported

The results indicate that perceived value strengthens the positive associations of awareness and trust with customer satisfaction.

6.6 Predictive Validation

Measure	Reported Result
True Positives	128
True Negatives	142
Accuracy	84.4%
Sensitivity	80.0%
Specificity	88.8%
ROC-AUC	0.91

The reported ROC-AUC of 0.91 indicates strong discrimination between higher and lower adoption outcomes within the predictive validation procedure described in the manuscript.

7. DISCUSSION

The findings present health-insurance adoption as the outcome of interacting economic, institutional and service-related conditions. Economic conditions were positively associated with adoption, supporting the view that financial capacity affects the ability to purchase and maintain coverage. At the same time, the positive relationship associated with government health schemes suggests that public intervention can reduce some financial and informational barriers.

The results also show that adoption cannot be understood solely through the availability of insurance. Awareness, accessibility and trust were positively associated with satisfaction, whereas premium cost was negatively associated with satisfaction. These findings emphasise that consumers evaluate insurance not only as a financial product but also through the quality and credibility of the service experience.

Trust showed the strongest reported positive relationship among the service-related predictors of satisfaction. This highlights the importance of transparency, claim-related confidence and perceived fairness. Customer satisfaction, in turn, was positively associated with adoption,

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suggesting that favourable experiences may contribute to willingness to adopt or continue health-insurance protection.

The moderating role of perceived value further indicates that information and trust are more likely to generate positive evaluations when consumers believe that insurance benefits justify the costs and effort involved. Thus, awareness campaigns may be less effective when they are not accompanied by affordable products, accessible service channels and credible evidence of value.

8. THEORETICAL CONTRIBUTIONS

First, the study integrates economic conditions and government health schemes within a unified health-insurance adoption framework. Second, it positions public schemes as institutional influences that may operate through financial protection, awareness and perceived accessibility. Third, it identifies customer satisfaction as a mechanism connecting insurance-service evaluations with adoption. Fourth, it demonstrates the relevance of perceived value as a boundary condition that can strengthen the influence of awareness and trust on satisfaction.

9. POLICY AND MANAGERIAL IMPLICATIONS

Affordability should be treated as a central policy objective. Flexible payment arrangements and appropriately designed products may improve participation among households that face financial constraints.

Coordination between central and state programmes should be improved so that citizens can understand eligibility, benefits and procedures without navigating unnecessary complexity.

Awareness initiatives should provide practical information about eligibility, covered hospitals, benefits, exclusions, claim procedures and renewal requirements. Information should be designed to support action rather than simply increase recognition of a scheme.

Enrolment and service access should be available through both assisted offline channels and digital platforms. Simplifying procedures may help reduce the gap between awareness and actual utilisation.

Trust can be strengthened through transparent communication about exclusions, waiting periods, claim settlement processes and hospital networks. Insurers and public agencies should make these terms easy to understand.

A particular policy challenge concerns households that may not qualify for subsidised schemes but also cannot comfortably afford comprehensive private coverage. Affordable products targeted at this ‘missing middle’ may help expand effective coverage.

10. LIMITATIONS AND FUTURE RESEARCH

The cross-sectional design limits the extent to which causal relationships can be established. Purposive sampling also limits statistical generalisation to the entire population of Punjab. The study relies primarily on self-reported responses and covers four districts, meaning that other geographic and socioeconomic contexts may not be fully represented.

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Future research should use probability sampling and, where feasible, longitudinal designs. Comparative studies could examine rural and urban populations, government-scheme beneficiaries and non-beneficiaries, private policyholders and public-scheme beneficiaries, different income groups and additional districts. Future studies could also examine digital enrolment, actual claim experience and healthcare utilisation.

CONCLUSION

This study examined the role of economic conditions and central–state government health schemes in shaping health and medical insurance adoption in Punjab. The reported findings indicate that adoption is influenced by the interaction of household financial capacity, public institutional support and consumers' evaluations of insurance services.

Economic conditions were positively associated with adoption, while government health schemes also showed a positive relationship. Awareness, accessibility and trust contributed positively to customer satisfaction, whereas premium cost exerted a negative influence. Satisfaction was positively associated with adoption, and perceived value strengthened the relationships between awareness and trust and satisfaction.

The central implication is that expanding health-insurance adoption requires a coordinated approach. Public policy and insurance-market development should combine affordability, effective government schemes, practical awareness, accessible service delivery, transparent administration and trust-building. Such an integrated approach may improve the ability of households in Punjab to convert awareness of health protection into meaningful and sustained insurance adoption.

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