GAP iNTERDISCIPLINARITIES
A Global Journal of Interdisciplinary Studies
(ISSN – 2581-5628)
Impact Factor: SJIF - 5.363, IIFS - 4.875
Globally peer-reviewed and open access journal.

AWARENESS AND ACCEPTANCE OF AI CHATBOTS AND ROBO-ADVISORS IN INSURANCE: A SURVEY AMONG POLICYHOLDERS IN AHMEDABAD

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Awareness and acceptance of ai chatbots and robo-advisors in insurance: a survey among policyholders in ahmedabad

Abstract

The speedy growth of artificial intelligence (AI) has revolutionized numerous industries, and the insurance sector is no exception. The current research aims to explore awareness and acceptance levels of AI-based technologies, such as chatbots and robo-advisors, among Ahmedabad policyholders. As the adoption of AI tools for better customer service, efficient operations, and personalized financial advice increases, it is imperative to know how policyholders feel about these concepts to implement them effectively. The study employs a survey method, gathering responses from a sample of insurance policyholders in Ahmedabad city. The main areas of interest are awareness levels, trust in AI tools, perceived benefits and challenges, and willingness to use these technologies for insurance-related decisions. The results identify that though there is a high level of awareness among policyholders regarding AI applications, acceptance is uneven depending on age, education level, and previous digital experience. Most respondents loved the convenience and speed provided by chatbots and robo-advisors but were concerned about data privacy and the absence of human touch. The research is useful for insurers who seek to improve digital engagement and maximize the use of AI tools in advisory and customer service roles.

Keywords: *AI Chatbots, Robo-Advisors, Insurance, Policyholders, Awareness, Acceptance, Digital Transformation, Customer Perception, Ahmedabad, Artificial Intelligence.*

INTRODUCTION

Artificial Intelligence (AI) is rapidly transforming the face of the insurance industry. Some of the key technologies are AI chatbots and robo-advisors, which are revolutionizing how insurers engage with customers, deal with queries, and provide personalized services. Not only do these AI-driven instruments reduce the operations cost of insurance firms, but they also enhance customer satisfaction by providing support 24/7, responding speedily, and personalized policy suggestions based on user data and tastes.

AI chatbots are made to replicate human interaction and assist policyholders with tasks such as policy queries, claims filing, premium reminders, and document submission. Robo- advisors, on the contrary, are advanced computer systems that give financial advice or insurance product recommendations through algorithms without any human intervention. In a hectic urban city like Ahmedabad, where digital awareness is increasing and customers look for quick and efficient service, usage of such technology is gaining momentum.

But despite the technological advantage, the success of AI chatbots and robo-advisors largely depends on the levels of awareness, trust, and acceptance among consumers. The majority of policyholders continue to rely on traditional means, prefer direct human contact, or are not ready to share personal information with machines. Therefore, it is crucial for insurance companies that aim to boost their AI adoption to realize the perception of these tools among current policyholders.

The goal of this study is to explore awareness, acceptance, and utilization of AI chatbots and robo-advisors among insurance policyholders in Ahmedabad. The research will analyze variables such as digital comfort, AI trust, perceived usefulness, data privacy concerns, and customer satisfaction. Through identifying the gaps and drivers influencing the adoption of AI in insurance services, this survey-based study will provide actionable advice to insurers for developing user-centric, secure, and efficient AI solutions tailored to customer needs in

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the urban Indian context.

LITERATURE REVIEW

The set of papers and reports presents an overview of broad scope regarding the evolving face of insurance awareness, customer satisfaction, and the growing influence of Artificial Intelligence (AI) and robo-advisors in banking services.
Mane and Kamble (2020) investigated the awareness of policyholders with regard to insurance terms and found that it was predominantly poor. Agents are in large part relied on by policyholders, and they read the documents less carefully. Education and city residence were positively related to higher awareness. The study calls for increased transparency and policyholder education.

Reddy and Kumari (2020) emphasized customer satisfaction with the Life Insurance Corporation of India (LIC). They found that customer satisfaction was moderate and policy benefits and service quality contribute significantly to it. Customer service and communication can be made better to maintain customers and build loyalty, they opined.

Several studies refer to the revolutionary impact of AI and robo-advisors. Singh and Sinha (2023) highlighted how AI and robo-advisors are revolutionizing financial advisory through improved decision-making and cost-effectiveness, and also referring to issues like data privacy and human involvement. Similarly, Hosseini and Sheikholeslami (2023) proposed a machine learning and seasonal adjustment hybrid model for forecasting with improved performance in financial forecasting.

Sironi (2016) discussed robo-advisors as disruptive wealth management technology with scalability and automation but issues regarding regulation and ethics. Kumar and Chouhan (2023) conducted research on robo-advisors' perception by Indian consumers, indicating low adoption levels despite rising awareness. They identified hybrid models as the answer to building trust and higher adoption.

Aithal and Raut (2023) used the UTAUT2 model to identify drivers of robo-advisor adoption in India, citing trust, performance, and ease. Similarly, Belanche et al. (2023) emphasized usefulness, trust, and transparency as drivers of adoption.

Kaya et al. (2017) outlined finance's broader role for AI, from fraud prevention to customer support, and demanded proper regulation. Horst et al. (2021) calculated the trust factor of robo-advisors, showing that integrity and personal advice have a significant influence on adoption.

De Goeij and van Campenhout (2023) evaluated AI chatbots in higher education and concluded that while useful for routine tasks, they are not emotionally intelligent and cannot
replace human counselors. Lastly, Götz (2021) discussed regulatory concerns of robo- advisors in insurance, requiring regulatory systems to facilitate accountability and consumer
While the adoption of AI-driven technology such as chatbots and robo-advisors is growing globally in the insurance sector, there are not many studies conducted at the Indian level, particularly focusing on urban protection alongside promoting innovation policyholders.

RESEARCH GAP

Existing studies provide a lot of emphasis on technical effectiveness or industrial opinions with little understanding of the awareness level, perception, and acceptance of the new trends among the customers. In cities like Ahmedabad, where digitalization is gaining momentum, there is a large knowledge gap of understanding how the policyholders view and interact with these AI-based tools. As part of this study, the gap will be filled by providing user sentiment insights, trust factors, and potential for integrating AI into insurance products.

OBJECTIVES

To assess the level of awareness among policyholders in Ahmedabad regarding the use of AI chatbots and robo-advisors in the insurance sector.
To examine the factors influencing the acceptance and usage of AI-based chatbots and robo- advisors by insurance policyholders.
To analyse the perceived benefits and concerns associated with AI chatbots and robo-advisors among policyholders in Ahmedabad.

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RESEARCH METHODOLOGY

The current research utilized a quantitative research methodology based on the survey method to measure the awareness and acceptance of AI-based technologies, i.e., chatbots and robo-advisors, among insurance policyholders in Ahmedabad city. This methodology was chosen to collect quantifiable data and establish patterns in user perception, behaviour, and trust towards the use of AI tools in the insurance industry.

Research Design
The study used a descriptive research design that enabled an in-depth examination of the awareness levels, usage behaviour, and perceptions of policyholders towards AI tools like chatbots and robo-advisors. The design enabled the analysis of relationships among variables such as demographic factors, perceived usefulness, ease of use, and intent to adopt AI tools.

Sampling Method
A non-probability purposive sampling technique was used to recruit participants who had active insurance policies and at least some level of engagement with digital insurance services. This allowed for the relevant respondents who could provide information regarding AI awareness and usage to be included in the sample.
Population and Sample Size

The population of the study consisted of insurance policyholders residing in Ahmedabad city, Gujarat. A total of 70 valid responses were collected and analysed. The sample size was deemed sufficient for conducting statistical analyses such as ANOVA, regression, and t-tests.

Data Collection Method
Primary data were gathered using a preset questionnaire, which was delivered both offline and online. The questionnaire contained items based on Likert scales assessing awareness, trust, perceived usefulness, ease of use, and adoption intentions toward AI technologies in insurance.

Tools for Data Analysis
Statistics Package for the Social Sciences (SPSS) was used to analyze data. The following statistical methods were used:

ANOVA was utilized to test the association between demographic characteristics (e.g., age and education) and awareness/familiarity with AI tools.

Multiple Linear Regression was employed to test the impact of perceived ease of use and usefulness on the adoption of AI chatbots and robo-advisors.

A One-Sample t-Test was used to establish whether policyholders' answers to questions on trust, concerns for privacy, and perceived efficiency of AI tools differed significantly from a neutral mean score of 3.
Ethical Considerations

The research strictly adhered to ethical guidelines. The participation was voluntary, and respondents were made aware of the intended study. Anonymity and confidentiality of the participants' responses were maintained at all stages of data collection and analysis.

Limitations of the Study
The research was confined to policyholders living in Ahmedabad city, and results might not be applicable to rural India or other urban areas. The sample size, though statistically valid, might limit in-depth segmentation analysis.

DATA ANALYSIS AND INTERPRETATION

H_0: There is no significant relationship between demographic factors (age, education) and awareness of AI chatbots and robo-advisors among policyholders.

H_1: There is a significant relationship between demographic factors (age, education) and awareness of AI chatbots and robo-advisors among policyholders.

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ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
I am aware of the use of AI chatbots in the insurance sector.	Between Groups	4.761	4	1.190	.514	.725
	Within Groups	150.439	65	2.314		
	Total	155.200	69			
I am familiar with the concept of robo- advisors in insurance services.	Between Groups	1.740	4	.435	.219	.927
	Within Groups	129.345	65	1.990		
	Total	131.086	69			

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
I am aware of the use of AI chatbots in the insurance sector.	Between Groups	5.079	3	1.693	.744	.529
	Within Groups	150.121	66	2.275		
	Total	155.200	69			
I am familiar with the concept of robo- advisors in insurance services.	Between Groups	3.056	3	1.019	.525	.667
	Within Groups	128.029	66	1.940		
	Total	131.086	69			

According to the outcomes of the ANOVA tests, the values of significance (p-value) for both parameters—awareness of AI chatbots and acquaintance with robo-advisors—are higher than 0.05 in both instances. Exactly, the values of p concerning awareness of AI chatbots are 0.725 and 0.529, while as for familiarity with robo-advisors, the values of p are 0.927 and 0.667. As all these values are higher than the conventional alpha level of 0.05, it implies that there exists no statistically significant correlation between demographic variables (education and age) and awareness or familiarity of AI chatbots and robo-advisors among policyholders. Hence, the null hypothesis (H_0) that there exists no significant relationship between demographic factors and awareness of AI chatbots and robo-advisors is accepted.

H_0: Perceived usefulness and ease of use do not significantly influence the acceptance of AI chatbots and robo-advisors among policyholders.

H_1: Perceived usefulness and ease of use significantly influence the acceptance of AI chatbots and robo-advisors among policyholders.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.218[a]	.047	.019	1.40630
a. Predictors: (Constant), Robo-advisors help me make better decisions about insurance products., I find AI chatbots easy to use for resolving insurance-related queries.				

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.582	2	3.291	1.664	.197[b]
	Residual	132.504	67	1.978		
	Total	139.086	69			
a. Dependent Variable: I am willing to use AI chatbots and robo-advisors in the future for insurance-related tasks.						
b. Predictors: (Constant), Robo-advisors help me make better decisions about insurance products., I find AI chatbots easy to use for resolving insurance-related queries.						

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Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.521	.469		5.372	.000
	I find AI chatbots easy to use for resolving insurance-related queries.	.014	.119	.014	.117	.907
	Robo-advisors help me make better decisions about insurance products.	.211	.117	.216	1.806	.075
a. Dependent Variable: I am willing to use AI chatbots and robo-advisors in the future for insurance-related tasks.						

From the results of the regression analysis, the model has a very low R Square value of 0.047, meaning that the model can only explain 4.7% of variance in policyholders' intent to use AI chatbots and robo-advisors in the future based on perceived usefulness and ease of use. The value of significance (p = 0.197) from the ANOVA table is more than 0.05, implying that the overall regression model is not significant. Moreover, the individual predictors—usefulness (p = 0.907) and ease of use (p = 0.075)—also possess p-values larger than 0.05, which means that neither of them has a statistically significant effect on the dependent variable at the 5% level. Hence, the null hypothesis (H_0), i.e., perceived usefulness and ease of use do not have a significant effect on the acceptance of AI chatbots and robo-advisors among policyholders, is accepted.

H_0 (Null Hypothesis): There is no significant difference between the mean response and the test value (3 – neutral) regarding trust, privacy concern, and perceived efficiency of AI chatbots and robo-advisors among policyholders.

H_1 (Alternative Hypothesis): There is a significant difference between the mean response and the test value (3 – neutral) regarding trust, privacy concern, and perceived efficiency of AI chatbots and robo-advisors among policyholders.

One-Sample Test						
	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
I trust the information provided by AI chatbots and robo-advisors.	-.735	69	.465	-.12857	-.4776	.2205
I am concerned about privacy and data security while using AI-based insurance services.	-1.676	69	.098	-.28571	-.6257	.0543
I believe AI	-.172	69	.864	-.02857	-.3608	.3036
chatbots and robo-advisors improve the efficiency of insurance services.						

DATA INTERPRETATION

The one-sample t-test results show that all three statements have p-values greater than 0.05:

Trust in information provided by AI chatbots and robo-advisors has a p-value of **0.465**,

Concern about privacy and data security has a p-value of **0.098**, and

Perceived efficiency of AI tools has a p-value of **0.864**.

Since none of the p-values are less than the significance level of 0.05, the findings are that there is no statistically significant difference between the mean responses and the neutral value (3). Simply put, policyholders do not strongly agree nor disagree with the statements and exhibit a neutral attitude in general.

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Therefore, the null hypothesis (H_0) is true for all three statements, indicating that policyholders' opinions do not significantly vary from a neutral view in terms of trust, privacy issues, and effectiveness of AI chatbots and robo-advisors in insurance services.

CONCLUSION

The purpose of the research was to assess policyholders' awareness, perception, and acceptability of AI chatbots and robo-advisors in the insurance industry, taking into account a range of demographic and psychological variables. The ANOVA findings indicated that demographic factors like age and education have no significant statistical influence on policyholders' awareness or familiarity with AI chatbots and robo-advisors. This is supported by p-values well above 0.05 in both indicators, indicating that awareness is fairly consistent across various demographic segments. Therefore, the null hypothesis of no significant correlation between demographic factors and awareness is accepted.

Additional analysis through regression indicated that perceived ease of use and perceived usefulness of AI tools are not significant determinants of policyholders' adoption willingness for these technologies. The R-square value of the regression model was low (0.047), and the model p-value was 0.197, which signifies that the model is not significant. Individual predictor values also did not cross the 0.05 threshold. Thus, the null hypothesis is still accepted, stating that perceived utility and ease of use alone are not adequate determinants of adoption by policyholders.

Also, the one-sample t-test examined mean responses against a test value of neutrality (3) for trust, privacy concern, and perceived efficiency. All three constructs had p-values higher than 0.05, reflecting no statistically significant deviation from neutrality. This suggests that respondents did not trust or distrust information supplied by AI tools, were moderately concerned about privacy, and were neutral on efficiency gains.

In-depth, the following reflect a low-to-neutral engagement and trust level of policyholders concerning AI-enabled tools in insurance. The absence of strong associations across various dimensions suggests a requirement for greater awareness, education, and value demonstration to drive adoption and trust to positive levels.

RECOMMENDATION

Insurance firms must introduce targeted campaigns of awareness that identify the everyday usefulness of AI chatbots and robo-advisors to make people accustomed to them and confident in using them. Demonstrations with interaction, customer testimonials, and privacy guarantee initiatives can diffuse resistance. Coupling human assistance with AI services could make people transition to digital tools with greater ease. Educational programs for the application of AI to enhance decision-making and service efficiency should be established for all demographics to promote greater acceptance. Ongoing customer input and transparency in AI systems will also enhance confidence and long-term use of these technologies in the insurance industry.

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