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ARTIFICIAL INTELLIGENCE AND INNOVATION IN DIGITAL INSURANCE: COLLEGE STUDENT PERSPECTIVES IN CHENNAI CITY

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Abstract: This study aims to evaluate young generations' perceptions of AI in digital insurance. Since the pandemic, there has been a greater emphasis on health insurance; however, many people still underestimate the significance of having insurance in general. The research was conducted in Chennai with college students as participants. The rapid adoption of Artificial Intelligence (AI) and digital innovations has transformed India's insurance industry, influencing how consumers access, understand, and utilize insurance products. College students, as a digitally engaged and emerging financial segment, are a crucial group for assessing awareness, acceptance, and perceptions of these technological advancements.

Index Terms: Artificial Intelligence, Innovations, Digital Insurance, Perception

1. INTRODUCTION

In recent years, the insurance industry has undergone a significant transformation driven by advances in digital technologies and artificial intelligence (AI). For example, AI is increasingly reshaping key insurance processes, such as underwriting, risk assessment, claims processing, and customer engagement, challenging traditional business models[i]. (ACM Digital Library) Simultaneously, the idea of digital insurance solutions, defined as insurance services delivered through digital platforms or supported by emerging technologies like AI, blockchain, or Internet of Things (IoT), is gaining importance, with adoption influenced by factors such as ease of use, perceived usefulness, trust, and social influence[ii]. (PwC) In the Indian market specifically, these trends are especially relevant. The Indian Insurtech sector is growing rapidly, with an estimated compound annual growth rate (CAGR) of around 32-34%, and the digital insurance landscape is driven by consumer demand, regulatory pressures, and technological innovation. (India Brand Equity Foundation) According to a study of Indian consumers, about 47% of insurance buyers rely on digital channels for product information, and 41% choose a purchase method based on convenience. (PwC) Despite this progress, overall insurance penetration in India remains relatively low (around 4.0% of GDP), highlighting both the growth potential and the challenges of adoption[iii]. (McKinsey & Company) At the same time, emerging evidence shows that AI is not just a backend operational tool but is also becoming a strategic competitive advantage in the Indian insurance scene, automating claims settlement, improving fraud detection, enhancing customer engagement, and enabling more personalized risk assessments[iv]. (Elets BFSI) These developments make perception especially important: how do potential users, particularly college students, view AI-enabled, digitally innovative insurance services? Their views on usefulness, trustworthiness, risk, privacy, and innovation are likely to influence not only their personal insurance behaviors but also the future adoption of digital insurance models. Focusing on college students is timely for several reasons. This group generally has higher digital literacy, more familiarity with mobile and online platforms, and a greater willingness to experiment with new technologies. Their attitudes toward AI and innovation can serve as early indicators of broader social acceptance among younger, tech-savvy populations. Furthermore, in the Indian context, where financial literacy and insurance awareness vary widely, understanding the perceptions of younger groups may help

insurers tailor offerings, communication strategies, and innovation adoption to a demographic that will shape future market trends. Therefore, this study aims to explore how college students in Chennai, India, perceive AI and innovation in digital insurance.

2. REVIEW OF LITERATURE

Veeramani et al. (2024)[v] examined how digital platforms influence customer experience in the insurance industry by focusing on personalization, accessibility, and trust. The study found that personalization, enabled through data analytics and AI-based recommendations, plays a key role in enhancing customer satisfaction because users respond positively to services tailored to their needs. Accessibility also proved to be a major factor in building customer loyalty, as digital platforms, especially mobile applications and web portals, provide 24/7 availability, user-friendly navigation, and device-compatible interfaces that improve usability. However, despite the convenience of digital systems, trust remains a significant concern due to the handling of sensitive personal data. Respondents emphasized that transparency in data practices, robust security features, and clear communication of privacy policies are crucial for fostering trust in digital insurance services. The study concludes that insurers need to strengthen personalization efforts, improve accessibility, and address trust issues to enhance the customer experience and promote long-term engagement in an increasingly digital insurance landscape. Ayushi Arora, Dr. Ambika Bhatia (2023)[vi]. This research article aims to explore learners' perceptions of digital education platforms and examine the factors that influence their preferences, satisfaction, and challenges. Using a mixed-methods research design, this study collected data from a diverse sample of learners across various age groups, educational backgrounds, and geographic locations. The findings highlight the benefits and limitations of digital education platforms, along with implications for educators, policymakers, and learners looking to improve their online learning experiences. Anand Muley (2022)[vii] examined the factors that motivate Millennials in India to buy insurance online. A sample of 201 young individuals was surveyed to identify these motivating factors and found that convenience, transparency, customization, and trust in technology are key drivers behind Millennials' online insurance purchasing behavior.

3. OBJECTIVES OF THE STUDY

1. To assess the level of awareness among college students regarding the usage of Artificial Intelligence (AI) in digital insurance platforms.
2. To evaluate the college students' perception of the AI-driven digital insurance.
3. To propose valuable suggestions to increase awareness among college students.

4. RESEARCH METHODOLOGY

This study employed a descriptive research design, and data were collected through a structured questionnaire. The respondents were college students from Chennai, chosen using convenience sampling. Data analysis was performed using Descriptive Statistics, t-test, Karl Pearson's correlation coefficient, and one-way ANOVA methods.

5. DATA ANALYSIS & INTERPRETATIONS

Table 1: Demographic profile of the respondents

Variables	Characteristics	Frequency	Percentage (%)
Educational Qualification	UG	91	91.0
	PG	7	7.0
	PHD	2	2.0
	Total	**100**	**100.0**
Age Group	18-24	92	92.0
	25-34	8	8.0
	Total	**100**	**100.0**
Gender	Male	65	65.0
	Female	35	35.0
	Total	**100**	**100.0**
Usage pattern	Yes	20	20.0
	No	80	80.0
	Total	**100**	**100.0**

Source: Primary Data

Interpretation: According to the demographic profile of the respondents, the majority were undergraduate students (91%), followed by postgraduate students (7%) and a small proportion of Ph.D. scholars (2%). Most

respondents (92%) belonged to the age group of 18–24 years, while only 8% were between 25–34 years. In terms of gender, males accounted for 65% and females for 35%, providing a moderately balanced representation. However, only 20% of the respondents reported using digital insurance platforms, whereas 80% had never used them.

Table 2: Descriptive statistics for Awareness of AI in Digital Insurance Platforms

Statement	Mean	SD
Understanding AI helps process claims	4.00	0.853
Know AI is used in insurance apps	3.99	0.893
Know AI checks for fraud	3.93	0.856
Know chatbot helps with insurance questions	3.88	0.879
Aware AI speeds up approval	3.82	0.881
Heard AI helps pick the right plan	3.81	0.918
Know AI helps with quick claim decisions	3.81	0.918
Understand how AI keeps data safe	3.75	1.019
Seen ads about AI in insurance	3.74	1.021
Heard about AI setting prices	3.67	0.954

Source: Primary Data

Interpretation: From the above table, it is revealed that respondents are highly aware (M = 4.00, SD = 0.853), and showed a good level of awareness that AI is used in insurance apps (M = 3.99, SD = 0.893) and for fraud detection (M = 3.93, SD = 0.856). Awareness of chatbots assisting with insurance queries (M = 3.88, SD = 0.879) and AI's role in speeding up claim approval (M = 3.82, SD = 0.881) was also found to be relatively high. Moderate awareness was noted for AI helping in selecting suitable plans and quick claim decisions (M = 3.81, SD = 0.918), while comparatively lower perceived awareness emerged regarding AI's role in data security (M = 3.75, SD = 1.019), advertisements about AI in insurance (M = 3.74, SD = 1.021), and AI-based pricing decisions (M = 3.67, SD = 0.954).

Table 3: Descriptive statistics for perception of AI-driven Digital Insurance

Statement	Mean	SD
Say AI is easy to use	3.95	0.845
Think AI reduces human mistakes	3.90	0.937
Think AI makes insurance faster	3.90	0.859
Believe AI customer support is good	3.88	0.795
Feel AI explains decisions well	3.87	0.906
Would tell friends to use AI insurance	3.81	0.907
Believe AI is accurate	3.80	0.921
Worried about privacy with AI	3.76	0.933
Feel comfortable using AI insurance	3.72	0.986

Source: Primary Data

Interpretation: Most of the respondents (Mean 3.95) agreed that it is easy to use AI and accepted that AI reduces human mistakes (Mean 3.90), as well as AI makes the insurance process faster (Mean 3.90). They are in favour of the AI customer support (Mean 3.88) and explanation (Mean 3.87). There was a favourable perception regarding AI-based customer support (M = 3.88, SD = 0.795) and the ability of AI to clearly explain decisions (M = 3.87, SD = 0.906). Recommendations to others (M = 3.81, SD = 0.907) and beliefs about AI accuracy (M = 3.80, SD = 0.921). They moderately perceived privacy (Mean 3.76) and comfort (Mean 3.72).

Table 4: t-test for the significant difference between Demographic Profile and Awareness of AI in Digital Insurance Platforms

		Mean	SD	T value	P value
Gender	Male	38.49	6.865	0.176	0.860
	Female	38.23	7.612		
Age	18-24	38.65	7.262	1.208	0.230
	25-34	35.50	4.071		
Usage pattern	Yes	39.85	6.150	1.022	0.309
	No	38.04	7.306		

Source: Primary Data

Interpretation: According to the t-test, the significant value is greater than 0.05(P>.0.05), the alternative hypothesis is rejected. Hence, there is no significant difference between 'Demographic Profile and Awareness of AI in Digital Insurance Platforms.

Table 5: One-way ANOVA for the significant difference between Demographic Profile and Perception of AI-Driven Digital Insurance

		Mean	SD	F value	P value
Educational Qualification	UG	38.56	6.624	0.257	0.774
	PG	36.71	7.761		
	PHD	39.00	0.000		

Source: Primary Data

Interpretation: Since the significant P value IS greater than 0.05 (P > 0.05), the alternative hypothesis is rejected, and the null hypothesis is accepted, which means there is no significant level of difference between Demographic Profile and Perception of AI-Driven Digital Insurance.

Table 6: Karl Pearson Correlation Coefficient between the Awareness of AI in Digital Insurance Platforms and Perception of AI-Driven Digital Insurance

Null Hypothesis: There is no relationship between the Awareness of AI in Digital Insurance Platforms and Perception of AI-Driven Digital Insurance

Characteristics	Awareness of AI in Digital Insurance Platforms	Perception AI-Driven Digital Insurance
Awareness of AI in Digital Insurance Platforms	1.000	**.780****
Perception AI-Driven Digital Insurance	**.780****	1.000

Source: ***Primary Data*** **Note: ** denotes significant at 1% level**

Interpretation: Since the r = .780 is less than p < .01, the null hypothesis is rejected. There is a significant relationship between the Awareness of AI in Digital Insurance Platforms and the Perception of AI-driven digital Insurance.

5. RESULTS & DISCUSSIONS

1. The demographic profile reveals that only 20% of the respondents reported using digital insurance platforms, whereas 80% had never used them, reflecting limited awareness and adoption of digital or AI-enabled insurance services among college students. This demographic trend highlights the need for greater exposure and education on digital insurance usage among this age group.
2. The descriptive statistics reveal a generally high level of awareness regarding the use of artificial intelligence (AI) in digital insurance platforms among the respondents. Overall, the results suggest a positive awareness of AI in digital insurance, although certain aspects, such as data safety and premium pricing, may require further education and exposure.
3. Overall, there was a positive perception of the AI-driven digital insurance among the college students. It also suggests that while perceptions are largely positive, addressing privacy and trust-related concerns could further enhance user acceptance of AI-driven insurance services.

4. The t-test and one-way ANOVA result shows that awareness of AI in digital insurance is relatively uniform across demographic categories, indicating that factors such as gender, age, and prior usage do not significantly influence AI awareness levels.
5. A strong positive correlation ($r = .780$, $p < .01$) was found between awareness and perception, meaning that higher awareness leads to more favorable perceptions of AI-driven digital insurance platforms.

6. CONCLUSION

College students generally understand and have a positive view of AI applications in digital insurance. However, practical use remains limited, and issues related to privacy and trust need to be addressed. Increasing awareness and providing hands-on experiences could greatly improve the acceptance and adoption of AI-driven insurance services among younger generations in India.

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