



FROM AWARENESS TO ADOPTION: WOMEN'S PERCEPTION AND BEHAVIOURAL INTENTION TOWARD HEALTH INSURANCE IN DELHI NCR

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ABSTRACT

Health insurance minimizes financial burden and access health care. However, women in India do not buy health insurance despite multiple policy initiatives by the government. Our study aims to examine the significance of awareness and perception on women's intentions to obtain health insurance in Delhi NCR. It also evaluates the significance of financial literacy and digital literacy.

The study uses primary data from a sample of 350 women from Delhi NCR collected through a questionnaire. The impact between the variables is tested by Partial Least Squares Structural Equation Modelling (PLS-SEM). It is found that awareness plays a significant role in affecting the perceived usefulness and trust. There is significant enhancement in awareness with increasing digital and financial literacy. Perceived usefulness and trust have a significant impact on the adoption intention.

The study suggests that improvement in awareness can lead to improvement in trust, which is required for the acceptance of insurance which is represented by women. It also provides insights for the consideration of insurance companies and governments

Keywords:- Health Insurance, Women. Awareness, Perception, Behavioural Intention.

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INTRODUCTION

Indian households face a huge burden from ever increasing healthcare expenses. This can cause financial stress and even economic hardship for many families as they continue to pay their bills for medical care from their income. One way to mitigate this burden is to have a health insurance plan that provides financial security and access to healthcare. However, health insurance access is not equal, especially for women (World Health Organization, 2023).

Women are likely to have extra constraints in accessing financial services. Their independent financial resources are less, incomes lower, and they are less likely to control household finances. Men make most financial decisions in many households, limiting women's involvement in insurance-related decisions (Sen & Östlin, 2008). Such challenges remain even in urban and semi-urban areas like Delhi NCR.

Among the major determinants of health insurance uptake, is awareness. Women's lack of awareness of policy benefits, premium, coverage, exclusions and claim processes reduce their chances of purchasing insurance. Perception also makes a difference: women who have a favourable attitude toward insurance and believe it is useful and trustworthy are more likely to be considering adopting. But the fear of rejection of claims, complex documentation, and lack of trust can hinder uptake (Devadasan et al., 2010; Verma & Kulshreshtha, 2025).

Financial literacy and digital literacy are also imperative. Women who are financial literate understand premiums, risk coverage and long-term benefits (Lusardi & Mitchell, 2014). Digital literacy helps them to find information, get a comparison of policies, and access insurance services online (OECD, 2020; GSMA, 2023). This study makes these factors together and studies the impact of awareness, financial literacy, digital literacy, perceived usefulness and trust on women intention to go with health insurance in Delhi NCR.

LITERATURE REVIEW

Almost everyone knows that health insurance is a key financial protection tool. It lowers out-of-pocket health expenditure and facilitates access to needed health care (Wagstaff & Lindelow, 2008; Leive & Xu, 2008). But there are disparities in enrolment rates between groups, particularly in the low- and middle-income countries (Spaan et al., 2012; Acharya et al., 2013).



Gendered social and economic conditions have always been a barrier for women to access insurance schemes (Kabeer, 2005; Grown et al., 2005).

Studies indicate a relationship between income, education and employment and women's access to insurance, and also to the decision making in the household. Women's wages may be lower and they might not own as much as men, nor have as much control over family expenditure. They are constrained in their use of financial services (Sen & Östlin, 2008; Duflo, 2012; World Bank, 2022). Women are not the ones to take decisions on the purchase of insurance or the choice of insurance in many households (Jejeebhoy & Sathar, 2001; Bloom et al., 2001).

Recognizing the need for insurance is often cited as a significant factor influencing insurance uptake. First the consumer needs to become aware of insurance and understand its benefits, restrictions and claims process (Davis, 1989). Although the Awareness of insurance is generally good in India but the knowledge of coverage, exclusions and claims is very less (Bhat & Jain, 2006; Patel et al., 2024; Reshmi et al., 2012). This lack of knowledge results in low levels of real adoption.

The insurance uptake is also influenced by perception. Medical emergencies or financial shocks resulting from health issues can make women more cognizant of insurance (Karan et al., 2017; Rao & Nair, 2024; Prinja et al., 2019). But awareness is not enough to ensure uptake – affordability, distrust, complex policy terms and household constraints remain barriers (Thornton et al., 2010).

The importance of trust as insurance is based on future benefits. Customers pay for premiums up now and will expect support down the road. Having a fear of claim rejection or unfair treatment, women may not avail health insurance, thus giving up opportunities for health care (Devadasan et al., 2010; Verma & Kulshreshtha, 2025). This is especially true for less experience women in the formal financial markets (Agarwal et al., 2009).

Financial knowledge enables people to evaluate financial products and comprehend risks and returns (Lusardi & Mitchell, 2014; Hastings et al., 2013). But information should be clear, practical and user relevant to the context (Sharma & Singh, 2023; Cole et al., 2011). Another reason for the importance of digital literacy is that insurance information and the option of buying insurance are becoming increasingly accessible via digital platforms (OECD, 2020;



GSMA, 2023). While digital services can contribute to financial inclusion, they can be less effective if access is not equal and the confidence towards using the services is low among women (MeitY, 2023; Rao, 2024; Singh & Arora, 2025).

In general, the literature suggests that a number of interrelated factors influence health insurance uptake such as awareness, trust, financial literacy, digital literacy and perceived usefulness. However, there is limited research on the interaction of these factors in the context of women in the Delhi NCR.

RESEARCH GAP

Awareness, trust, literacy and perception are frequently addressed in isolation from one another in existing studies. These factors cannot be explained comprehensively as to how they interact to shape women's uptake of health insurance (Morshed & Jha, 2020). However, there is also some research that is limited to women as a specific target group, despite the influence of their social roles, domestic power and unequal information access on their financial decision-making.

The other area in the Indian insurance context which has not been explored is digital literacy. The role of digital skills in women's insurance awareness and uptake is less understood despite the increase in access to digital. There is also a need to pay more attention to urban and semi-urban areas like the Delhi NCR, where there may be better access to services, but there continue to be behavioural barriers like distrust, limited understanding and lack of confidence. This study will tackle these gaps by creating a framework that takes into consideration financial literacy and digital literacy influencing awareness, perceived usefulness and trust, and how these can jointly impact the intention to use health insurance.

HYPOTHESES DEVELOPMENT

The Technology Acceptance Model will be used to explain the intention to use health insurance of the females in Delhi NCR. According to the model, the perception of usefulness and trustworthiness leads to product/service adoption (Davis, 1989; Bagozzi, 2007). Women are not always going to sign up for a health insurance policy just because it is available: they need



to be able to understand how it works, what benefits it provides, how claims are paid, and whether or not they can trust the insurance company.

It is expected that awareness will mediate the perceived usefulness and perceived trust. By being aware of the policy coverage, premiums, claim processes and policy exclusions, women are more likely to see health insurance as a valuable tool to lower medical expenses and protect family income. As a result, it can decrease the confusion and suspicion surrounding insurance companies, thereby enhancing trust in the claims process, which can have a positive effect (Devadasan et al., 2010; Verma & Kulshreshtha, 2025).

Expectations for awareness to be improved by financial literacy and digital literacy. Women who have better financial literacy can understand premiums, risk coverage, and long-term benefits better (Lusardi & Mitchell, 2014). Digital illiteracy can hinder women from accessing policy information, comparing policies and accessing information related to claims through online platforms (OECD, 2020; Rao, 2024).

Adoption intention is hypothesized to be driven by perceived usefulness and trust. When women feel that health insurance reduces costs and will help them get better health care, they will take it up more readily. Insurance is also based on the trust that the future claims will be settled. Awareness can also have a direct effect on intention to adopt as well because when women are aware, they are more likely to feel confident about buying a policy. Thus, the following hypotheses are made:

H₁: The Awareness of health insurance has a significant positive impact on perceived usefulness.

H₂: The Awareness of health insurance has a significant positive impact on perceived trust.

H₃: The Financial literacy has a significant positive impact on awareness of health insurance.

H₄: The Digital literacy has a significant positive impact on awareness of health insurance.

H₅: The Perceived usefulness has a significant positive impact on intention to adopt health insurance.

H₆: The Perceived trust has a significant positive impact on intention to adopt health insurance.

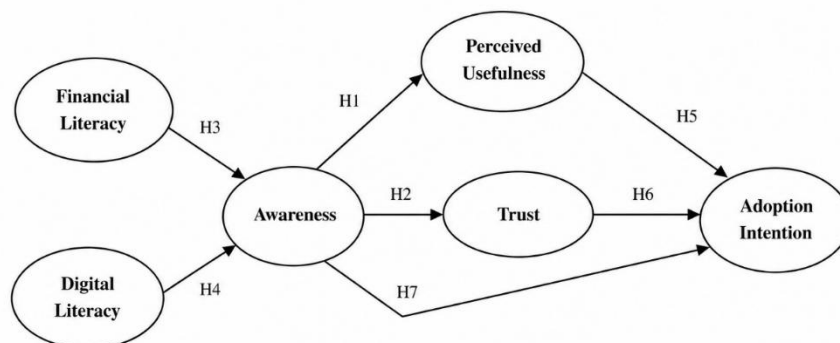
H₇: The Awareness of health insurance has a significant positive impact on intention to adopt health insurance.

CONCEPTUAL FRAMEWORK

Conceptual framework discusses the various factors such as financial literacy, digital literacy, awareness, perceived usefulness, trust and behavioural intention of women to take up health insurance in Delhi NCR. Financial literacy and digital literacy are considered antecedent variables. Women with greater financial and digital literacy are more likely to seek out, understand and analyse insurance information.

Awareness is the main mediating construct. As awareness increases, perceived usefulness and trust is likely to increase. Perceived usefulness is women's evaluations of how useful health insurance is for reducing financial strain and increasing access to health care. Trust is a result of confidence in insurers, fairness and transparency of claims processes and reliability of service. According to the framework, the combination of perceived usefulness and trust has an influence on women's intention to get health insurance. Awareness can also have a direct impact on adoption by eliminating uncertainty and perceived risk. This model builds on the Technology Acceptance Model, adding financial and digital literacy as important elements of information access and awareness building (Davis, 1989; Lusardi & Mitchell, 2014; OECD, 2020). The model is given in Figure 1.

Figure 1: Conceptual Model





RESEARCH METHODOLOGY

The present study is a quantitative research design which is used to study the factors which influence the attitude of women towards taking up health insurance in Delhi NCR. The data were collected at one time, so a cross-sectional survey was used. Relationships between awareness, perceived usefulness, trust, financial literacy and digital literacy and adoption intention are focused in the research.

The data were collected by using a structured questionnaire with simple language. Items were drawn from existing scales related to health insurance (Oppenheim, 2000), financial literacy (Dillman et al., 2014), digital literacy (Churchill, 1979), trust (DeVellis, 2016). A pilot testing was done to identify ambiguous and unclear items, then made adjustments.

Women who were living in Delhi NCR were included in the sample. The method of convenience sampling was used because of time and access issues and an attempt was made to include women from all age, education, occupation and income levels. The scale used for all variables was five-point Likert scale which is frequently employed in behavioural research (Zikmund, 2003; Malhotra, 2019).

Awareness evaluated respondents' knowledge of insurance ideas, coverage, premiums and claims. Financial literacy included basic knowledge about how to use money and make financial choices (Atkinson & Messy, 2012; Remund, 2010). Digital literacy was defined as the ability to access financial information using the digital tools (Gilster, 1997; Buckingham, 2006). Perceived usefulness encompassed the idea that health insurance reduces financial strain and increases access to health care services (Bailey & Pearson, 1983; Ives et al., 1983). Insurer and claim processing confidence were reflected by trust (Mayer & Davis, 1999; Colquitt et al., 2007). The willingness to purchase or recommend health insurance was measured by intention to adopt (Zeithaml et al., 1996; Ajzen, 2001).

The data were analysed using SPSS and SmartPLS. The characteristics of the respondents were summarised with descriptive statistics. For testing the proposed relationships, Partial Least Squares Structural Equation Modelling was used, which is suitable for exploratory models having multiple latent variables (Hair et al., 2019). The reliability and validity were investigated using Cronbach's alpha, composite reliability, average variance extracted (AVE), Fornell-Larcker criterion and the HTMT ratio.



RESULTS

1. Demographic Profile

The demographic profile suggests that the sample was made up of women with a wide range of ages, education, occupation and income status. The largest proportion of respondents belonged to the 26–35 age group (36.6%), followed by 36–45 (24.0%), 18–25 (23.4%), and 45+ (16.0%). With regards to education, the majority of respondents were graduates (44.6%) with the majority being postgraduates (29.1%) followed by those who had school level education (18.3%) and others (8.0%). The majority of the people were in occupation (46.3%) with 31.4% being homemakers, 13.7% self-employed and 8.6% students. Regarding income, most respondents fell within the ₹20,000–₹50,000 range (40.6%), followed by less than ₹20,000 (27.4%), ₹50,000–₹1,00,000 (22.3%), and above ₹1,00,000 (9.7%). This diversity generates a good reason for studying women's health insurance uptake behaviour.

2. Descriptive Statistics

The descriptive statistics show moderate and positive responses in all constructs, with the highest means being shown in the constructs for adoption intention (3.55), digital literacy (3.65) and perceived usefulness (3.71). Given the ordinal nature of Likert-scale data, central tendency is reported using medians. Adoption intention, Digital literacy and perceived usefulness have the highest median composite scores (Mdn = 3.50, 3.60, 3.70 respectively). The average scores on the three scales of awareness, trust, and financial literacy are fairly low: 3.42, 3.28, and 3.18, respectively. The median scores for awareness (Mdn = 3.40), trust (Mdn = 3.25) and financial literacy (Mdn = 3.20) are comparatively lower. The standard deviations show a reasonable range of variation in the responses for all variables. The interquartile ranges (IQR) of all constructs were between 1.10 and 1.35, which gave an acceptable range of responses. Overall, the findings show that participants know about the advantages of health insurance and have some moderate level of digital competency, but a few issues of financial literacy and trust that might impact the use of health insurance.



3. Reliability and Validity

A coefficient of Cronbach's alpha, coefficient composite reliability (CR) and average variance extracted (AVE) were used to evaluate the reliability and convergent validity of the measurement model. All of the constructs are within recommended ranges.

The Cronbach alpha values are in the range of 0.80 to 0.88 (Awareness = 0.82, Financial literacy = 0.85, Digital literacy = 0.80, Perceived usefulness = 0.86, Trust = 0.83, Adoption Intention = 0.88), exceeding the 0.70 threshold (Nunnally & Bernstein, 1994) and this shows that they have a high level of internal consistency. The values of composite reliability ranged from 0.87 to 0.92, indicating more reliability. The AVE values range from 0.58 to 0.68 (Awareness = 0.59, Financial literacy = 0.64, Digital literacy = 0.58, Perceived Usefulness = 0.66, Trust = 0.62, Adoption Intention = 0.68), which are all above the threshold value of 0.50, indicating convergent validity (Hair et al., 2019). Overall, the results show that the measurement model has high reliability and validity to be analysed.

4. Discriminant Validity

Discriminant validity ensures that each construct is measuring a different concept not overlapping with other concepts. According to the Fornell - Larcker criterion, Awareness value is equal to 0.768, Financial Literacy value is equal to 0.800, Digital Literacy value is equal to 0.762, Perceived Usefulness value is equal to 0.812, Trust value is equal to 0.787 and Adoption value is equal to 0.825. The diagonal values are higher than all other inter-construct correlations below the diagonal, e.g., Awareness and Financial Literacy (0.62), Awareness and Perceived Usefulness (0.66) and Perceived Usefulness and Adoption (0.69). All other HTMT values are below 0.90, which further supports the constructs being distinct (Financial Literacy-Awareness 0.78, Perceived Usefulness-Awareness 0.82, Trust-Awareness 0.80, Adoption-Perceived Usefulness 0.85).

5. Correlation Analysis

The correlation matrix shows moderate positive relationship between the constructs (0.50 – 0.69), thereby there are no concerns about multicollinearity. The correlation between Awareness and Financial Literacy is 0.62, with Digital Literacy, 0.54, with Perceived



Usefulness, 0.66, with Trust, 0.63, and with Adoption, 0.58. The score of Financial Literacy is 0.59 with Digital Literacy, 0.61 with Perceived Usefulness, 0.57 with Trust, and 0.60 with Adoption. Digital Literacy has a correlation of 0.55 with Perceived Usefulness, 0.52 with Trust and 0.50 with Adoption. Perceived Usefulness has 0.64 with Trust and 0.69 with Adoption, while Trust correlates at 0.67 with Adoption. There are significant, meaningful and non-redundant connections expressed in these values.

6. Structural Model

The structural model investigates the direct relationships between the constructs and determines whether or not the hypothesized relationships are supported. Bootstrapping was employed due to the fact that it was not based on the normality assumptions and is able to estimate the significance of the path coefficients based on confidence intervals and resampling (Hair et al., 2019).

Table 1: Path Coefficients

Hypothesis	Path	β	t-value	p-value	Result
H1	Awareness $\rightarrow$ Perceived Usefulness	0.62	9.21	<0.001	Supported
H2	Awareness $\rightarrow$ Trust	0.58	8.45	<0.001	Supported
H3	Financial Literacy $\rightarrow$ Awareness	0.66	10.12	<0.001	Supported
H4	Digital Literacy $\rightarrow$ Awareness	0.41	6.87	<0.001	Supported
H5	Perceived Usefulness $\rightarrow$ Adoption	0.54	8.90	<0.001	Supported
H6	Trust $\rightarrow$ Adoption	0.49	7.75	<0.001	Supported
H7	Awareness $\rightarrow$ Adoption	0.32	5.66	<0.001	Supported

Source: Author's analysis using primary data.

Financial literacy had the greatest impact on awareness, and digital literacy had a positive influence but was more subtle. Finally, the direct influence of awareness on adoption intention was mediated by perceived usefulness and trust, with these influencing levels significantly greater than the direct influence of awareness on adoption intention.



7. Model Explanation

Perceived Usefulness (0.39), Trust (0.34) and Adoption Intention (0.61). According to Hair et al., (2019) in behavioural research with PLS-SEM, the value of R^2 greater than 0.25 signify that there is a meaningful predictive ability, which means that the variance of the independent variables in the present study accounted for the variance in making decisions about women's health insurance.

8. Effect Size and Predictive Relevance

Effect sizes (f^2) show that financial literacy has a strong impact on awareness ($f^2=0.35$); digital literacy has a moderate impact ($f^2=0.15$); and awareness has a notable impact on perceived usefulness ($f^2=0.30$) and trust ($f^2=0.28$). Positive predictive relevance (Q^2) values of the model were found for awareness (0.42) and adoption (0.46), and this implies that the model was able to predict the value beyond the simple variance explanation (Hair et al., 2019). The metrics place financial literacy as the key enabler of awareness, and show that digital literacy has a supportive role, which reinforces the overall strength of the model.

9. Model Fit

Model fit statistics indicate that the proposed model fits the data well. The Standardized Root Mean Square Residual (SRMR=0.061) was below the value of 0.08 and the Normed Fit Index (NFI=0.91) was over 0.90 indicating the validity of the model in PLS-SEM context (Hair et al., 2019).

10. Mediation Analysis

Mediation was examined using Variance Accounted for (VAF) calculated as (indirect effect/total effect) $\times$ 100, with 20-80% indicating partial mediation (Preacher & Hayes, 2008).

Table 2: Mediation Analysis

Mediation Pathway	Total Effect	Indirect Effect	Direct Effect	VAF	Mediation Type
Financial Literacy $\rightarrow$ Awareness $\rightarrow$ Usefulness	0.594	0.412	0.182	69.4	Partial



Financial Literacy → Awareness → Trust	0.600	0.381	0.219	63.5	Partial
Awareness → Usefulness → Adoption	0.869	0.335	0.320	38.6	Partial
Awareness → Trust → Adoption	0.812	0.284	0.320	34.9	Partial
Financial Literacy → Awareness → Usefulness → Adoption	0.594	0.223	—	37.5	Serial Partial

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed, 5,000 bootstraps)

Source: Author's analysis using primary data

According to the mediation results, the financial literacy–perceived usefulness relationship has a partial mediating role of awareness, and the financial literacy–trust relationship has a partial mediating role of awareness. Perceived usefulness and trust also partially mediate the relationship between awareness and adoption intention. This indicates that the adoption of health insurance is a multi-stage process of literacy, awareness, perception and trust (Shrout & Bolger, 2002; Kenny, 2018; Preacher & Hayes, 2008).

DISCUSSION

The results indicate that financial literacy has the highest positive influence on awareness ($\beta=0.66$); the financial literacy of women is influenced by their intention to take up health insurance which is in turn influenced by other interconnected factors. Women with high financial knowledge have better understanding of insurance benefits, premiums and mechanisms of risk protection, in line with existing literature showing financial knowledge contributes to better understanding of complicated financial products (Lusardi & Mitchell, 2014; Sharma & Singh, 2023). Digital literacy also contributes to awareness ($\beta=0.41$), albeit in a relatively small degree, suggesting that access to the digital world is not enough if the content is not easily accessible and trustworthy. This highlights the ongoing digital divide in which having access to technology does not necessarily mean that it is understood or used effectively (Rao, 2024). Perceived usefulness ($\beta=0.62$) and trust ($\beta=0.58$) are both significant mediators between awareness and the technology's actual use. Women with higher levels of



information see health insurance as a necessary barrier to cost and better access, and feel more confident in health insurance and processes that confirm findings from earlier studies that correlate information with reduced uncertainty (Bhat & Jain, 2006; Devadasan et al., 2010). Perceived usefulness and trust are strong predictors of intention to adopt ($\beta=0.54$ and 0.49), demonstrating that knowledge about the system needs to be perceived as useful and trustworthy, which are fundamental concepts of the Technology Acceptance Model (Davis, 1989). With the delayed insurance benefits, there are inherent risks that need to be mitigated, trust is crucial (Gennaioli et al., 2015). Direct effect on adoption ($\beta = 0.32$), weaker than indirect routes via usefulness and trust, shows that perceptions amplify the raw knowledge to an actionable intent to adopt

IMPLICATIONS

1. Theoretical Implications

The present study extends to the theory of health insurance adoption by contributing to the literature by analysing beyond a set of individual indicators, like income, education, and awareness. It illustrates the interaction between literacy, awareness, perception, trust and behavioural intention in shaping the adoption. The study builds on the Technology Acceptance Model by testing the effects of awareness on perceived usefulness and perceived trust, as well as the effects of financial and digital literacy on awareness (Davis, 1989; Lusardi & Mitchell, 2014).

The study also takes into account women as a separate behavioural group. Household roles, financial confidence, risk perception and trust are factors that affect women's choice of insurance. This resonates with the importance of gender-sensitive approaches to financial inclusion and health insurance uptake (Sen & Östlin, 2008; Kabeer, 2005).

2. Managerial Implications

The insurance companies should create awareness programs that explain insurance policies in a simple and practical manner. They must know what insurance means to their daily life and how it will help them in any medical emergency, save their family's money and alleviate financial stress.



Trust-building should be a key priority. Insurance companies need to make clear the process for making claims, keep documentation simple, and offer good customer service. Confidence can be reinforced by real-life case studies of successful settlements. Digital platforms should also be easy to use, multi-lingual, and simple. There should be step-by-step instructions for comparing policies, buying insurance and filing claims.

3. Policy Implications

The barriers to health insurance with respect to women should be tackled by policy interventions. The financial, informational and social constraints of women may not be fully reflected in the generic policies. There is therefore a need for the regulators and insurers to create gender-sensitive frameworks that align with how women access information and make decisions.

The enrolment, grievance and claim procedures should be streamlined. The digital literacy training and awareness raising activities are necessary to increase women's engagement in digital insurance services in communities. Public-private partnerships can contribute to the creation of mobile-friendly platforms, local-language information and basic financial literacy education.

LIMITATION AND FUTURE SCOPE

This study has certain limitations. Convenience sampling methods compromise representativeness, and women from lower socio-economic status or those with restricted mobility may be under-represented. This research is restricted to the Delhi NCR and therefore, the results may not apply to rural or less developed areas.

The cross-sectional design only provides information about responses at one point in time and does not show changes in awareness, trust, literacy or intention to adopt across time. The study also uses self-reported data that could have response bias. Future studies may go beyond urban areas and use longitudinal designs. Other factors like family decision making, social influence, previous claim experience, cultural norms and risk perception may be added as well. Qualitative interviews and focus groups can also offer a more in-depth understanding of women's beliefs, concerns, and decision-making.



CONCLUSION

The present study was an effort to look into the reasons that influence the intention of women to take up health insurance in Delhi NCR. The results highlight that the decision to adopt is not a simple one, but is influenced by financial literacy, digital literacy, awareness, perceived usefulness, and trust.

Financial Literacy helps women comprehend products offered by insurers and the significance of health insurance. They can find and compare insurance policies online using digital literacy. Awareness is connecting literacy and perception, enhancing perceived usefulness and trust. The strongest immediate predictor of adoption intention is perceived usefulness and trust.

The study finds that awareness is not enough. When women can clearly see the benefits of health insurance, and they believe that the insurance companies are doing a fair job, they are more likely to take up an insurance plan. Awareness campaigns, financial literacy programmes, digital support, transparent claim systems, and building trust can improve women's uptake of health insurance and boost financial protection.

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