Management Matters

Insurance literacy, perceived trust and insurance inclusion in Uganda

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Received 1 May 2024
Revised 9 September 2024
Accepted 25 January 2025

Abstract

Purpose – This study primarily aimed to explore how insurance literacy and perceived trust interact to affect insurance inclusion in Uganda. Through this, we aimed to determine whether perceived trust serves as a mediator in the relationship between insurance literacy and insurance inclusion.

Design/methodology/approach – This research employed a correlational, cross-sectional and quantitative approach. A total of 400 voluntarily insured individuals in Uganda were sampled. Structured survey questionnaires were employed for data collection. PLS-SEM with bootstrapping was used to examine the hypothesized relationships.

Findings – The findings indicated a significant, positive correlation between insurance literacy with both insurance inclusion and perceived trust. Furthermore, perceived trust was identified as having a positive and significant impact on insurance inclusion in Uganda. Perceived trust was also established as a significant mediator in the connection between insurance literacy and insurance inclusion in the context of Uganda.

Originality/value – The contribution of this research resides in its explanation of how insurance literacy influences insurance inclusion in Uganda. For insurance literacy to influence insurance inclusion, a significant portion of insurance literacy is mediated through perceived trust of insurance providers.

Keywords Insurance literacy, Perceived trust, Insurance inclusion, Financial inclusion, Uganda

Paper type Research paper

1. Introduction

Insurance inclusion has become a topical research issue that is increasingly attracting the attention of policymakers, development agencies and academicians alike. Over the past decade, inclusive insurance initiatives have taken center-stage as the gap for full financial inclusion. In this age of sustainability, it is crucial that everyone has access to insurance to guarantee sustainable development. Insurance inclusion aims to ensure access to and use of impactful inclusive insurance, particularly to the underserved and unserved masses (Cheston *et al.*, 2018). Besides protecting people against the risk of loss due to physical lifecycle shocks, insurance enables credit accessibility, safe money transfers, guarantees savings, and provides financial loss protection among middle- and low-income communities (Dassanou and Sherchan, 2018). In this wake, insurance inclusion poses as a key enabler of economic development and growth in both developing and developed economies (Zulfiqar *et al.*, 2020). Without financial inclusion, the economic well-being of poor and marginalized sections of society is hampered (Wanczeck *et al.*, 2017). In the event of life-altering shocks, the vulnerable, unserved, and underserved masses deplete their savings, sell stored crops and property, and resort to borrowing to manage the shocks (Zuliani and Rahman, 2018). It is

Management Matters
Emerald Publishing Limited
2752-8359
DOI 10.1108/MANM-05-2024-0028

noteworthy that insurance deters people from falling back into poverty by strengthening their financial resilience and protection against economic disruptions (Dassanou and Sherchan, 2018). Therefore, inclusive insurance initiatives aim to eliminate both price and non-price barriers that deter insurance providers from serving the entire population (Lal, 2019).

Despite the several efforts to expand insurance inclusion, many people remain underserved and unserved. Currently, the estimated insurance penetration stands at just 7% globally and 2.7% in Africa (International Association of Insurance Supervisors [IAIS], 2022). The 2022 Microinsurance Network [MIN] report indicates that the insured population is less than 20% in developing countries. In Uganda, the estimated insurance penetration stands at just 0.8% (Insurance Regulatory Authority [IRA], 2022). In absolute terms, 99% of the Ugandan population is not insured (Financial Sector Deepening [FSD], 2018). Uganda has the lowest insurance penetration compared to other East African economies, with Rwanda at 2.3%, Kenya at 2.24%, and Tanzania at 1.68%. The majority of Ugandans rely on unreliable informal insurance mechanisms. Forty percent of the adult population in Uganda relies on informal insurance mechanisms, while 59% are completely uninsured (FSD, 2018). Given this context, insurance inclusion continues to remain very low, yet significant strides have been made to broaden insurance inclusion among the unserved and underserved people in Uganda. Notably, a regulatory framework for the provision of formal microinsurance services was implemented in 2018 by the Insurance Regulatory Authority (IRA, 2022). Furthermore, through the Agricultural Insurance Consortium, the government of Uganda subsidized agricultural insurance to broaden insurance inclusion among small-scale farmers in Uganda. Moreover, the Insurance Regulatory Authority in Uganda implemented an insurtech regulatory framework allowing insurtech providers to operate and distribute insurance to underserved and unserved areas in Uganda (IRA, 2022). Overall, without insurance for all, the attainment of full financial inclusion and sustainable development will remain grim.

Although insurance inclusion has attracted attention among policymakers and practitioners, there is sparse empirical research on insurance inclusion. Empirical studies in the realm of financial inclusion have largely investigated saving and lending components (Khan *et al.*, 2022; Ozili, 2021). Insurance as a part of financial inclusion has been minimally investigated despite its relevance to fostering full financial inclusion and social and economic development in general. Whereas some studies (Bhat *et al.*, 2018; Tolani *et al.*, 2019; Yang and Wang, 2018) have investigated inclusive insurance, their focus has been on the supply-side perspective with regard to the channels for delivering insurance to the excluded and minimally served segments of society. These studies argue that access to insurance through insurance agents, insurance technologies, and improved insurance infrastructure can foster insurance uptake. However, despite these efforts, insurance inclusion remains very low, leaving supply-side solutions to insurance exclusion incomplete if they do not consider behavioral and perceptual demand-side drivers of insurance inclusion. Despite this relevance, there is sparse literature addressing insurance inclusion in this area. The majority of studies from the developing countries' context have focused their investigations on the financial inclusion elements of saving, lending, and payments (Ozili, 2021; Khan *et al.*, 2022; Lal, 2019). Limited attention, however, has been directed to inclusive insurance.

However, extant research has found that the demand for banking and financial products is influenced by financial literacy and trust in financial providers (Dayour *et al.*, 2020; Agyei *et al.*, 2020). From the perspective of insurance literacy, studies have argued that the financially literate, tend to place greater trust in insurance firms (Cruijsen *et al.*, 2019). Additionally, Mukangendo *et al.* (2018) connote that consumers' insurance literacy and trust are crucial for insurance uptake. When buyers lack control over outcomes but have knowledge about insurance, trust might enhance the insurance purchase decision. Thus, Hansen (2012) argued that financial knowledge and trust in financial institutions positively correlate. Additionally, financially literate people were found to exhibit increased trust compared to financially illiterate people (Cruijsen *et al.*, 2019). From this perspective, despite the potency of insurance literacy to influence insurance inclusion, there are few studies that have

investigated how perceived trust mediates the relationship between insurance inclusion and insurance literacy. Consequently, this research set out to establish the relationships between insurance literacy, trust and insurance inclusion; and the mediating effect of perceived trust in the association between insurance literacy and insurance inclusion in Uganda.

In this study, we collected cross-sectional data from 400 insured individuals in Uganda. To evaluate the study hypotheses, we applied PLS-SEM combined with bootstrapping. Therein, a significant positive association between insurance literacy and insurance inclusion was established. Results further revealed that perceived trust and insurance inclusion are significantly positively related. Additionally, we found that insurance literacy and trust in insurance providers are significantly positively related. Perceived trust plays a significant mediating impact in the connection between insurance literacy and insurance inclusion. The novelty of this research lies in explaining how insurance literacy influences insurance inclusion in Uganda. For insurance literacy to impact on insurance inclusion, a significant portion of this effect is mediated by perceived trust in insurance providers.

The rest of the article is outlined as follows: Section 2 details insurance penetration trends in Uganda and in advanced and emerging markets. Section 3 reviews the related literature. Section 4 elucidates the study methods. Section 5 elucidates the findings. Section 6 provides the discussions. Section 7 concludes the article.

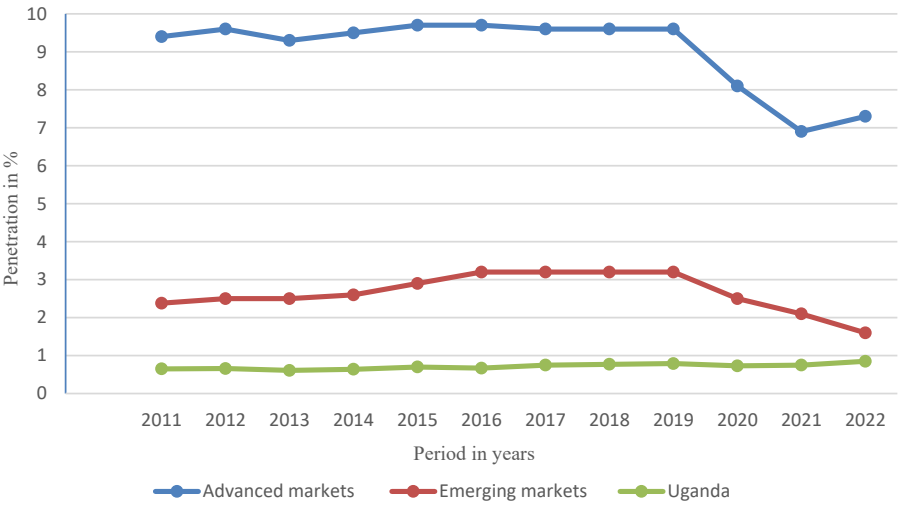
2. Uganda's insurance penetration trends in comparison to the advanced and emerging markets

Uganda's insurance sector comprises 21 non-life insurance firms, nine life insurance firms, six health membership organizations, and two microinsurance firms (Insurance Regulatory Authority [IRA], 2022). From 2011 to 2022, the gross written premium (GWP) registered a 13.32% increase from UGX 859.90 billion to 974.42 billion. Non-life GWP increased by 8.54% from UGX 572.79 billion to UGX 621.69 billion over the period 2011 to 2022. In contrast, over the same period, life insurance GWP registered a 26.77% increase, surging from UGX 217.97 billion to 276.3 billion. Similarly, Health Membership Organizations (HMOs) exhibited a 10.13% upsurge in gross written premium from UGX 69.11 billion to UGX 76.11 billion over 2011 to 2022. Regarding business concentration, non-life insurance dominated the industry. However, the non-life insurance sector saw a four-percentage-point decline in market share, from 70.1% to 66.6% between 2011 and 2022. In contrast, life insurance premiums grew from 25.34% to 26.77% over the same period. Similarly, between 2011 and 2022, HMOs registered a 2.06 percentage-point increase in market share, from 8.07% to 10.13%. Overall, according to the IRA (2022), insurance penetration increased from 0.65% in 2011 to 0.85% in 2022. However, although Uganda's insurance penetration has grown over time, this growth rate remains below the average rates for advanced and emerging markets over a similar period. Uganda's current insurance penetration of 0.85% is below the average penetration rates of 7.3% in advanced markets and 1.6% in emerging markets (Swiss Re Institute, 2023), as presented in Figure 1.

3. Literature review

3.1 Theoretical underpinning

This study drew on the financial literacy theory (Ozili, 2020) and the trust theory (Mayer *et al.*, 1995) to explain the associations between insurance literacy, trust and insurance inclusion. The financial literacy theory posits that financial literacy significantly impacts an individual's financial inclusion. Ozili (2020) emphasizes that individuals with financial literacy can leverage various benefits offered by formal financing institutions, including banking and insurance products. This underscores the importance of imparting essential financial knowledge to enhance literacy. Increased financial literacy, in turn, leads to greater financial inclusion. It empowers individuals to effectively plan, save, and address financial



Source(s): Researchers' own compilation – adapted from Swiss Re Sigma report (2023); IRA reports (2021, 2022)

Figure 1. Comparison of insurance penetration trends in the advanced, emerging and Uganda markets

uncertainties (Atkinson and Messy, 2013). Financial literacy is particularly crucial for marginalized groups, helping them navigate complex financial products (Khan *et al.*, 2022). Cole *et al.* (2011) Point out that inadequate comprehension and financial products awareness, resulting from poor financial knowledge, contribute to financial marginalization. Furthermore, Babych *et al.* (2018) underscore the importance of financial literacy in avoiding economic marginalization. Scholars widely recognize financial literateness as vital for promoting financial inclusion, as shown in studies by Khan *et al.* (2022) and Ozili (2020).

Secondly, the nexus between perceived trust and insurance inclusion is based on the trust theory proposed by Mayer *et al.* (1995). This theory posits that trustworthy firms build mutual business relationships based on integrity, benevolence, reliability, and capability. Existing marketing research has shown that the dimensions of trust theory—integrity, benevolence, reliability, and capability—can influence people's intentions to purchase (Zucker, 2008). As such, insurance providers can foster insurance inclusion by being honest, benevolent, integral, and competent. They must maintain ethical standards and honesty to encourage insurance uptake (Kasper-Fuehrera and Ashkanasy, 2001). Given that insurance involves managing financial risks, trust is central to the insurance contract (Mohy-Ul-Din *et al.*, 2019). Thus, this study asserts that trust components such as benevolence, capability, integrity, and reliability can elucidate how perceived trust impacts insurance inclusion.

3.2 Empirical review and hypothesis development

3.2.1 Insurance literacy and insurance inclusion. Insurance literacy has been described as the extent to which people possess knowledge, along with the confidence and ability to find and understand information about insurance programs (Kiwanuka and Sibindi, 2023; Reshmi *et al.*, 2021). Besides elementary literacy and numeracy, Mathur *et al.* (2018) connote that consumers need a basic level of insurance literacy to examine and understand insurance policies. Thus, insurance literacy helps develop an individual's abilities and responsible behavior in managing personal finances. According to Adepoju *et al.* (2019), economic outcomes depend on insurance literacy. As such, individuals lacking insurance literacy are more likely to encounter problems with personal risk management (Lusardi *et al.*, 2017). Such

individuals may resort to selling personal assets, depriving themselves of future income or the ability to meet basic needs and save money (Chamberlain and Saunders, 2018).

Extant studies have provided evidence that people have limited or no understanding of personal insurance contracts (see, for instance, MIN, 2022; FSD, 2020). According to Dayour *et al.* (2020), the fact that insurance pays out only in the event of a loss may contribute to illiteracy about insurance contracts. Moreover, the probability of a loss occurring is often low. Yet, evaluating insurance returns seems more complex than assessing many financial products (Camargo *et al.*, 2020). Even with the significant role of insurance in improving economic well-being, Driver *et al.* (2018) found a general shortage of programs and studies focused on understanding insurance literacy compared to financial literacy. Yet Reshmi *et al.* (2021) argue that familiarity with insurance terms helps individuals comprehend the trade-offs of various choices and make informed decisions. Based on the foregoing, we hypothesize that:

H1. Insurance literacy positively influences insurance inclusion.

3.2.2 Insurance literacy, perceived trust and insurance inclusion. Previous scholars have studied the role of financial education in relation to trust (Sumaedi *et al.*, 2014; Cruijsen *et al.*, 2019). In that perspective, Cruijsen *et al.* (2019) aver that consumers with financial literacy trust insurance firms and their management's competence and integrity. High levels of trust signal to customers that the financial services provider is serving their interests (Van Esterik-Plasmeijer and Raaij, 2017). It is vital since people often struggle to understand financial products, especially insurance, because their returns are realized in the future and are not guaranteed (Morris *et al.*, 2014). Additionally, trust is particularly significant in situations where the other party's actions are unknown (Hilliard *et al.*, 2018). The nature of insurance contracts means that, without trust between both parties, the agreement is likely to be discontinued (Weedige *et al.*, 2019). Mukagendo *et al.* (2018) note that a client's insurance knowledge and perceived trust are crucial in influencing their decision to purchase an insurance policy. Even with insurance knowledge, the probabilistic nature of insurance means that consumers will constantly perceive a certain level of risk associated with the product (Lin *et al.*, 2019). Consumers' trust in insurance can help mitigate their perceived risk (Hilliard *et al.*, 2018). Therefore, trust enhances insurance purchase decisions, as consumers' confidence increases with higher trust compared to when trust is lacking.

Despite the limited research on how financial knowledge impacts trust in financial providers, Hansen (2012) found a positive relationship between financial knowledge and trust in both narrow and broad contexts. Additionally, financially literate individuals were found to trust financial institutions more than those who are financially illiterate (Cruijsen *et al.*, 2019). Whereas literate consumers could be better positioned to know the provider's constraints, financial literacy equips them with knowledge about financial institutions, thereby increasing their trust in the service provider. On that note, Cruijsen and Jonker (2019) found that trust was higher among financially knowledgeable pensioners compared to those who assessed themselves as less knowledgeable about financial matters. As such, FSD (2018) notes that financial knowledge facilitates consumers' ability to make reliable predictions about how a financial institution will behave. In the personal insurance context, Weedige *et al.* (2019) conclude that clients who are insurance literate have more trust and a higher value perception of insurance services, thereby fostering a positive attitude toward purchasing insurance. Based on the foregoing, we hypothesize that:

H2. Insurance literacy positively influences perceived trust.

H3. Perceived trust positively influences insurance inclusion.

3.2.3 Mediation of perceived trust in the relationship between insurance literacy and insurance inclusion. Despite consumer education and market awareness campaigns being highly regarded, they will be ineffective without trust (Giz, 2013). Misinformation regarding insurance and claims processing may cause client dissatisfaction and lack of trust, negatively

impacting uptake (Deloitte, 2019; Dayour *et al.*, 2020). Furthermore, empirical research attributes distrust of insurance products to clients' misunderstanding of these products (Nguyen *et al.*, 2019; Dercon *et al.*, 2012). Given that formal education levels are low among individuals living in rural areas of developing countries, these individuals also have limited knowledge of insurance (Dayour *et al.*, 2020). Additionally, the rural poor often mistake insurance products for investment options, resulting in distrust when they do not receive claim payouts (Ali *et al.*, 2020). In this context, general distrust regarding timely insurance payments and limited insurance knowledge negatively affects insurance demand (Reshmi *et al.*, 2021).

On the contrary, financial literacy interventions do not offer simple solutions (Dercon *et al.*, 2012). Limited trust arises from inadequate understanding of insurance and insurance service delivery problems. However, Deloitte (2019) notes that the low insurance penetration rates in Africa and sub-Saharan African countries are due to illiteracy, distrust, and negative public perceptions of the insurance sector. Despite extant literature emphasizing the significance of and trust and financial literacy for insurance uptake, few research studies have examined how trust mediates the nexus between insurance literacy and insurance inclusion in Uganda. Hence, our study aimed to address this knowledge gap in the context of a developing country by hypothesizing that:

H4. Perceived trust mediates the relationship between insurance literacy and insurance inclusion.

4. Methods

4.1 Design, population and sample size

The population for this study was 314,501 voluntarily insured Ugandans distributed across the country's thirteen sub-regions (Uganda Bureau of Statistics [UBOS], 2022). A sample of 400 participants was selected to partake in the study. These were determined using Yamane's (1973) sample size estimation technique. The technique was adopted due to its ability to calculate the required sample size accurately. The respondents were chosen through simple random sampling without replacement. The sample was proportional to the distribution of participants across the thirteen sub-regions of Uganda. The data were captured using five-point Likert scale close-ended survey questionnaires. The questionnaire was prechecked for validity and reliability before rolling it out. The survey instrument was tested for discriminant, content, and convergent validity. Reliability was tested through composite reliability. Multicollinearity was assessed using variance inflation factors. The research was correlational, cross-sectional, and quantitative by design. The study variables, as presented in Table 1, were operationalized and measured based on extant literature. Access and usage were used to measure insurance inclusion, as guided by Cheston *et al.* (2018). Perceived trust was operationalized as benevolence, reliability, integrity, and credibility, as suggested by Mayer *et al.* (1995). Lastly, insurance literacy was operationalized in terms of skills, behavior, attitude and knowledge (Lin *et al.*, 2019).

5. Empirical findings

5.1 Diagnostic results

The data collection tool was prechecked for content validity and construct validity. Content validity was established by piloting the instrument with two academicians and four practitioners in the insurance field. Their responses were adopted in the final version of the instrument used for in the pilot and main studies. The pilot study involved 50 clients who had voluntarily enrolled in insurance. These clients were purposefully selected based on recommendations from insurance service agents. Before estimating statistics for the study objectives, diagnostic tests were conducted to determine and adjust any potential bias. The tests included assessments of reliability, validity, multicollinearity, and homogeneity of

Table 1. Measurement of variables

Variable	Measurement item
Insurance inclusion	I can easily reach out to my insurance provider when I require insurance (IIAC2)
	The insurance offerings align well with my insurance requirements (IIAC3)
	I plan to continue utilizing insurance services (IIUS1)
	I would suggest to others that they purchase insurance (IIUS2)
	Should I require financial protection, I will invest in insurance (IIUS3)
	I anticipate acquiring insurance in the future (IIUS4)
	I am content with my decision to invest in insurance (IIUS5)
	The likelihood of me purchasing insurance is extremely high (IIUS6)
Perceived trust	In my opinion, the insurance firm conducts ethical practices in customer interactions (PTBN4)
	My insurance provider will do their utmost to aid me (PTBN5)
	I believe the insurance provider has the best interests of its customers at heart (PTBN6)
	Overall, I have confidence in the competence of the insurance firm (PTCR4)
	I have complete faith that the insurance firm will honor its commitments (PTIG1)
	I place my trust in the insurance firm due to its solid reputation (PTIG2)
	The insurance firm strives to be impartial in its transactions (PTIG3)
	I have faith that the insurance firm operates with transparency and truthfulness (PTIG4)
	Even without monitoring, I believe the insurance firm will fulfill its responsibilities adequately (PTIG5)
	Overall, the insurance firm meets my expectations regarding insurance (PTRB1)
	My insurance provider is generally reliable (PTRB2)
	The actions of the insurance firm are consistently in line with expectations (PTRB3)
	I trust that the insurance firm is attentive to fulfilling my specific needs (PTRB4)
Insurance literacy	I acknowledge that premiums contribute to insurance that protects me against uncertainties (ILKN5)
	I am capable of comparing various insurance policies and selecting the optimal choice (ILSK1)
	I possess the ability to find an insurance policy that suits my requirements best (ILSK2)
	I can assess whether I can afford a specific insurance policy (ILSK3)
	I have the competence to devise a personalized insurance plan (ILSK4)

Source(s): Primary data

variance. All tests returned results within the recommended thresholds. Specifically, composite reliability and content validity results were above 0.7 (Hair *et al.*, 2019). All the constructs met the convergent and discriminant validity thresholds of above 0.5 and below 0.85 respectively (Henseler *et al.*, 2015). Additionally, the variance inflation factors for all variables were below the cut-off of 3.330, as recommended by Kock (2017), confirming that there was no multicollinearity. Consequently, the data were deemed suitable for further analysis to provide valid and reliable results. Results from the diagnostic tests are presented in Table 2.

Table 2. Reliability and validity

Variables	Composite reliability	Average variance extracted (AVE)	Heterotrait-monotrait ratio (HTMT)	Variance inflation factors (VIF)
Insurance inclusion	0.916	0.622	0.601	1.541
Insurance literacy	0.907	0.638	0.745	1.000
Perceived trust	0.948	0.611	0.636	1.541

Source(s): Primary data

5.2 Sample demographics

Our sample consisted of 56% females and 44% males, reflecting a gender distribution that is consistent with UBOS (2022), which reported that 57% of insured individuals were female and 43% were male. The data further revealed that most of the insured individuals were 34–49 years (49%). Those aged 18–33 years accounted for 46%, while the age group 50–65 years had the lowest representation at 5%. This demographic distribution aligns with UBOS (2022), which indicated that 53% of insured Ugandans were 16–35 years, and 34% were 36–55 years. The least represented age group among the insured was 55–65 years, comprising 12% of the insured population. Regarding educational attainment, most respondents had achieved education beyond secondary level (95%). Only 5% of the respondents had secondary education or lower. In Uganda, the education hierarchy includes Primary Leaving Education (PLE) as the lowest level, followed by Ordinary level certificate, and Advanced level certificate. The results suggest a low enrollment in insurance among individuals with these lower education levels, which may imply that lower education could be associated with lower insurance enrollment. These findings are consistent with UBOS (2022), which reported that most insured Ugandans (87%) had completed secondary education or above. Table 3 details a breakdown of the demographic characteristics of the sample.

5.3 Pearson correlation analysis results

A zero-order correlation was conducted to examine the associations between study constructs. The results demonstrated significant correlations among all variables under study. Specifically, Table 4 depicts a positive ($r = 0.574$, $p < 0.01$) correlation between insurance literacy and insurance inclusion. Additionally, a moderate and significant positive association manifested between insurance literacy and perceived trust ($r = 0.522$, $p < 0.01$). Also, a positive association ($r = 0.696$, $p < 0.01$) manifested between perceived trust and insurance inclusion. These correlations were both statistically and practically significant. Given perceived trust's positive and significant relationship with both insurance literacy and insurance inclusion, we proceeded to investigate its mediating effect on insurance literacy and insurance inclusion.

Table 3. Demographic characteristics of the respondents

	Frequency	%	Cumulative %
Gender			
Male	173	43.2	43.2
Female	227	56.8	100
Total	400	100	
Age bracket distribution			
18–33 years	183	45.8	45.8
34–49 years	197	49.3	95.0
50–65 years	20	5.0	100
Total	400	100	
Highest level of education			
Primary leaving examination (PLE)	1	0.3	0.3
Uganda certificate of education (UCE)	2	0.5	0.8
Uganda advanced certificate of education (UACE)	15	3.8	4.5
Diploma	66	16.5	21.0
Degree	269	67.3	88.3
Masters	45	11.3	99.5
PhD	2	0.5	100
Total	400	100	

Source(s): Primary data

Table 4. Pearson's correlation results

	Insurance literacy	Perceived trust	Insurance inclusion
Perceived value			
Insurance literacy	1.000		
Perceived trust	0.592**	1.000	
Insurance inclusion	0.574**	0.696**	1.000

Note(s): ** Correlation is significant at the 0.01 level (2-tailed)
Source(s): Authors' own estimation

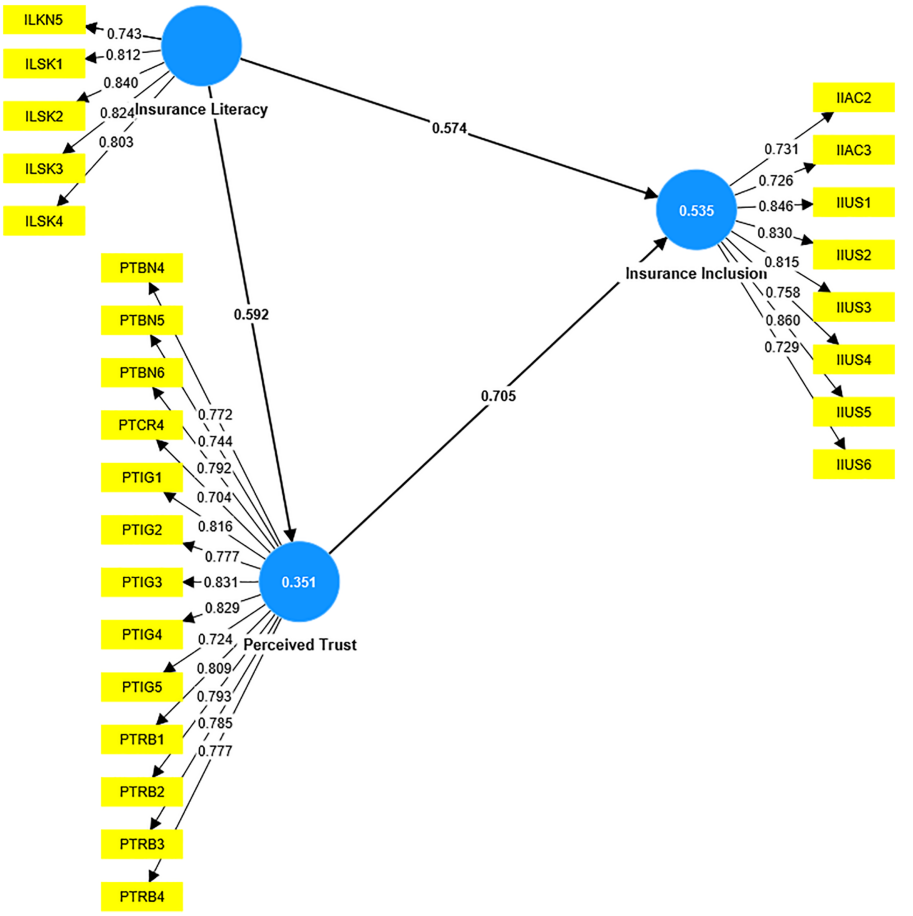
5.4 Hypothesis testing results

PLS-SEM with bootstrapping was used to assess the effect of predictors on the exogenous variable. We used PLS-SEM version 4 to fit the data to the conceptual model in accordance with the study objectives. SEM approaches enable multivariate estimation of relationships by combining statistical and qualitative causality assumptions (Hair *et al.*, 2019). SEM analyses address measurement error, perform simultaneous estimation of structural equations, and test hypotheses for both observed and latent variables (Hoyle, 1995). Additionally, SEM can test and develop theories by estimating relationships between latent variables measured by multiple indicators. It also facilitates factor analysis, regression analysis, and path analysis. Therefore, PLS-SEM enabled the modeling of the relationships between insurance literacy, perceived trust, and insurance inclusion, as outlined in the research objectives.

Through PLS-SEM, we were able to estimate the mediating role of perceived trust. This allowed us to comprehend how insurance literacy influences insurance inclusion. The outcomes from structural equation modeling demonstrated a positive, significant ($\beta = 0.241$; $p < 0.0001$) influence of insurance literacy on insurance inclusion, supporting the study's first hypothesis-H1. Additionally, PLS-SEM analysis showed that insurance literacy has a significantly positive ($\beta = 0.592$; $p < 0.0001$) effect on perceived trust, further corroborating the hypothesis that insurance literacy positively influences perceived trust. Moreover, PLS-SEM analysis showed that perceived trust positively ($\beta = 0.563$; $p < 0.0001$) affects insurance inclusion, aligning with the hypothesis that perceived trust positively impacts insurance inclusion. Interestingly, the mediation estimation indicated that perceived trust partially mediates the relationship between insurance literacy and insurance inclusion. This partial effect is apparent, with the association between insurance literacy and insurance inclusion still showing significance ($\beta = 0.241$, $p < 0.05$) even with the introduction of perceived trust as a mediator in the model. This suggests that perceived trust does not wholly account for the effects of insurance literacy on insurance inclusion. Additionally, the findings demonstrated an indirect effect of perceived trust ($\beta = 0.333$, $p < 0.01$) on insurance inclusion. When perceived trust was integrated into the model, the total effect of insurance literacy decreased from $\beta = 0.574$, $p < 0.01$ to $\beta = 0.241$, $p < 0.01$, but remained statistically significant. These findings imply that variations in insurance literacy influence perceived trust, which in turn partly causes variations in insurance inclusion. Furthermore, the indirect effect ($\beta = 0.333$, $p < 0.01$) contributes more to the effect on insurance inclusion compared to the mediated effect ($\beta = 0.241$, $p < 0.05$). Remarkably, it was established that the interaction between insurance literacy and perceived trust explains 53.5% of the changes in inclusive insurance as illustrated in Figures 2 and 3. Table 5 presents the hypothesis testing results.

6. Discussions

This research aimed to explore the mediating effect of perceived trust in the relationship between insurance literacy and insurance inclusion in Uganda. We hypothesized that both insurance literacy and perceived trust positively influence insurance inclusion. Building on

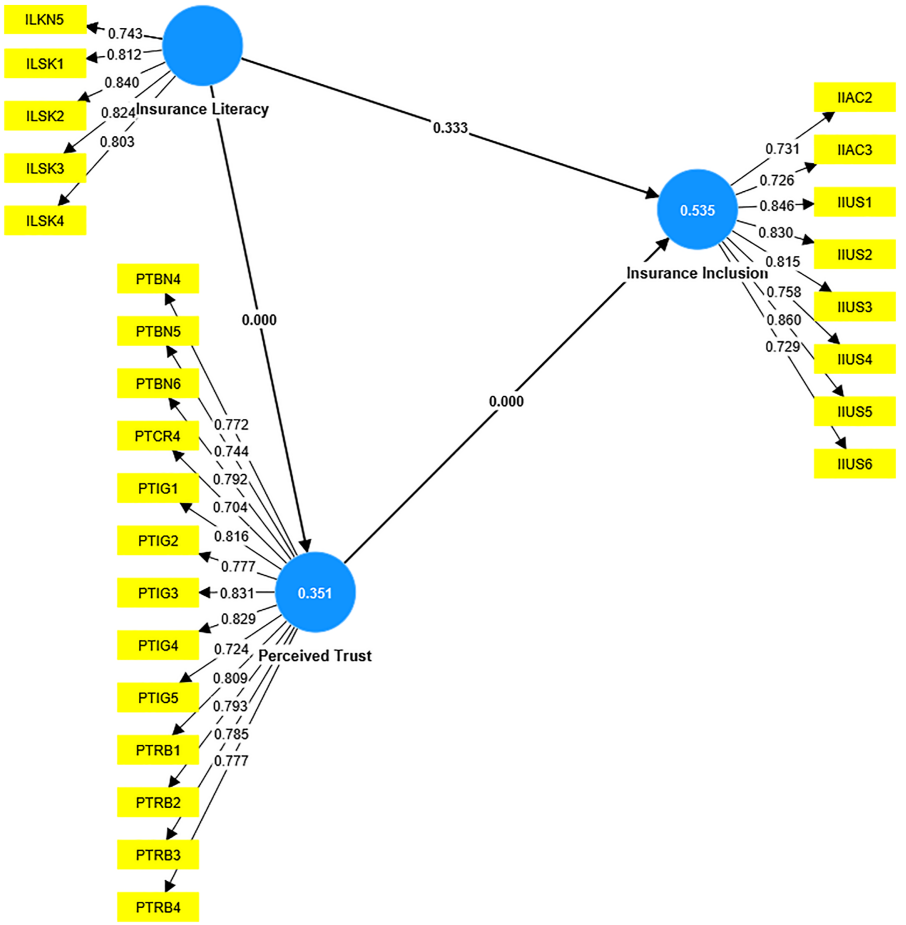


Source(s): Authors' own estimation

Figure 2. PLS-SEM algorithm with direct effects and factor loadings

previous research that has documented how financial literacy, insurance literacy, and trust affect access to financial services and insurance (Kiwanuka and Sibindi, 2023; Dayour *et al.*, 2020; Lin *et al.*, 2019), our research makes a novel contribution by demonstrating how trust and insurance literacy and interplay to influence insurance inclusion. The research revealed that perceived trust partially mediates the association between insurance literacy and insurance inclusion, suggesting that perceived trust mediates a substantial part of the impact of insurance literacy on inclusive insurance. This suggests that while insurance literacy significantly impacts insurance inclusion, not all of the impact is direct; a considerable portion of the effect is mediated through perceived trust. Thus, the partial mediation effect provides a clearer understanding of how insurance literacy affects insurance inclusion.

This implies that consumer insurance literacy alone does not independently lead to insurance inclusion. Even with knowledge about insurance, consumers need to perceive insurance providers as benevolent, credible, reliable, and exhibiting integrity to influence their enrollment decisions. Thus, in addition to being insurance literate, consumers evaluate the trustworthiness of the insurance provider before making purchasing decisions. The results also



Source(s): Authors' own estimation

Figure 3. PLS-SEM algorithm with indirect effects

Table 5. Hypothesis results

Hypothesized path	Path coefficient	Standard dev.	*t*-values	*p*-values	Decision
Insurance literacy → insurance inclusion	0.241	0.056	4.264	0.000	Supported
Insurance literacy → perceived trust	0.592	0.037	15.882	0.000	Supported
Perceived trust → insurance inclusion	0.563	0.050	11.332	0.000	Supported
Insurance literacy → perceived trust → insurance inclusion	0.333	0.035	9.534	0.000	Supported

Source(s): Authors' own estimation

revealed that when perceived trust is introduced as a mediator, the indirect effect of insurance literacy through perceived trust retains a more significant share of the impact on insurance inclusion. This suggests that the partial mediation of perceived trust explains a greater portion

of the variance in the insurance literacy and insurance inclusion nexus. Implying that, even if consumers possess the skills, abilities, positive attitudes, and behaviors towards insurance, insurers should also be honest, competent, and dependable to increase the likelihood of enrollment. Empirically, there is a lack of studies investigating the mediating effect of perceived trust in the insurance literacy and insurance inclusion nexus. Although prior research has examined trust's role toward insurance inclusion, no study has fully explained how this relationship contributes to variations in insurance inclusion. Nevertheless, previous studies have laid the groundwork for exploring the mediating effect of perceived trust in this realm.

As such, Cruijsen *et al.* (2019) argue that the financially literate tend to trust insurance firms and their management's competence and integrity. Similarly, Mukagendo *et al.* (2018) note that a consumer's insurance knowledge and perceived trust are crucial in influencing their decision to take on an insurance policy. Accordingly, Weedige *et al.* (2019) argue that trust enhances insurance purchase decisions, particularly when a buyer, despite having all necessary knowledge and skills, has no control over the likely outcome. In this regard, Hansen (2012) found financial knowledge to influence trust in financial providers. Additionally, financially literate people were found to exhibit increased trust compared to those who are financially illiterate (Cruijsen *et al.*, 2019). Notably, in the context of personal insurance, Weedige *et al.* (2019) concluded that clients who are insurance literate have more trust and a higher value perception towards insurance services.

Based on these findings, Baron and Kenny's (1986) procedures for mediation estimation were utilized to test for trust's mediation effect in the insurance literacy and insurance inclusion nexus. Accordingly, a partial mediation was revealed. Theoretically, these findings imply that the theory of trust and financial literacy theory and the can be integrated to explain insurance inclusion, providing a multi-theoretical perspective on the subject.

7. Summary and conclusions

This research was designed to explore whether perceived trust mediates the nexus between insurance literacy and insurance inclusion in Uganda. Our results suggest that insurance literacy has a direct and positive impact on both perceived trust and insurance inclusion. Additionally, perceived trust positively influenced inclusive insurance. Notably, perceived trust partially mediates the insurance literacy and insurance inclusion relationship. The direct effect of insurance literacy remained significant even after introducing perceived trust into the model. Moreover, the indirect effect of perceived trust on insurance inclusion was substantially greater than the direct effect. This indicates that perceived trust plays a more significant role in explaining how insurance literacy affects insurance inclusion than insurance literacy alone. These findings are statistically significant and practically relevant. The study supports the idea that perceived trust and insurance literacy influence insurance inclusion. Thus, being in agreement with the financial literacy theory and the theory of trust. In terms of novelty, our study is the first to explain how insurance literacy causes insurance inclusion. Our research highlights the interaction between insurance literacy and perceived trust in explaining insurance inclusion in Uganda. Importantly, these findings have significant theoretical, practical and policy implications.

7.1 Theoretical implications

The study's contribution to academia and theory is fivefold. Firstly, it focuses on insurance inclusion, a minimally researched component of financial inclusion. While much research on financial inclusion has concentrated on banking, limited attention has been given to insurance. This has created a gap in knowledge about insurance inclusion, as banking inclusion measures cannot be applied to insurance inclusion. Consequently, this study provides new insights into insurance inclusion that have not been previously explored in financial inclusion studies.

Secondly, to our knowledge, our study comes first in examining how perceived trust mediates the insurance literacy and insurance inclusion relationship in Uganda. For the first time, our research informs both theory and practice on how perceived trust and insurance literacy influence insurance inclusion. Thirdly, while previous studies have generalized financial literacy to influence banking inclusion, financial literacy does not guarantee insurance literateness. This research contributes to knowledge by specifically examining how insurance literacy influences insurance inclusion. It developed and utilized insurance literacy-specific measures that can be adopted in future studies on insurance literacy. Financial literacy measures are not suitable for assessing insurance literacy.

Fourthly, the study complements existing research that examines the impact of demand-side behavioral factors on insurance usage. It confirmed that demand-side behavioral aspects, such as insurance literacy and trust, influence insurance inclusion. While previous research has primarily focused on supply-side drivers, insurance uptake remains low even in saturated markets. This study contributes by explaining how insurance inclusion can be improved in Uganda. Lastly, our research demonstrated that a multi-theoretical perspective can be valuable in explaining insurance inclusion. Specifically, it shows that the effects of perceived trust and insurance literacy on insurance inclusion can be explored through a multi-theoretical lens. The study integrates the financial literacy theory and the theory of trust to provide a comprehensive explanation of insurance inclusion in Uganda. The findings support both theories and contribute to the advancement of a model that can enhance insurance inclusion. Additionally, the study offers usable psychometric measures that can be employed to assess insurance inclusion, moving beyond reliance on banking inclusion measures in financial inclusion studies.

7.2 Practical implications

From the perspective of insurance practitioners, insurance providers should focus on building and communicating trustworthiness within the industry. To address potential barriers to trust, insurers should communicate their reliability, build a culture of ethical business practices, and establish mutuality with clients. People tend to develop increased trust when they perceive organizations as competent. Therefore, insurance providers should recognize that insurance literacy programs alone may not be sufficient to foster insurance inclusion in Uganda. Furthermore, insurance companies should demonstrate dependability, uphold ethical conduct, establish credibility, and act benevolently to encourage both initial and renewed insurance sign-ups. To build trust, insurance firms should prioritize swift and efficient claims processing and ensure clear communication about claim payment exclusions to consumers. It's crucial for insurance providers to ensure that clients have a comprehensive understanding of insurance products and procedures. Consequently, the focus should be on delivering customer value to incentivize both new and returning insurance purchases. Additionally, offering high-quality insurance coverage is essential to encourage enrollment. The findings indicated that people with insurance knowledge consider a provider's trustworthiness before enrolling for insurance. Likewise, individuals with insurance skills assess the provider's integrity before purchasing insurance. Furthermore, people with a positive attitude and behavior towards insurance evaluate the provider's reliability before enrolling.

7.3 Policy implications

Although current evidence shows that financial literateness does not guarantee insurance literacy, policymakers have continued to focus significantly on banking literacy while neglecting insurance literacy. Consequently, financial literacy efforts have primarily addressed banking elements such as saving and credit management. Therefore, this study recommends that insurance literacy receives special consideration in the Financial Inclusion Strategy of Uganda to enhance people's knowledge, attitude, and skills regarding insurance. Furthermore, the government of Uganda, through the Bank of Uganda (which is at the forefront of deepening

financial inclusion) and the Education ministry, should embed insurance literacy into the primary and secondary education scheme of learning. This will equip learners with insurance knowledge and skills from a young age, promoting a positive attitude towards insurance. Moreover, the Directorate for Higher Education should advocate for the inclusion of insurance education in higher education curricula.

The government should also consider collaborating with private insurance institutions to develop and offer comprehensive insurance literacy programs and training to the public, especially to vulnerable and underserved segments of the population. This will help raise public awareness about insurance. Public awareness programs are essential for informing and educating potential and current consumers about the insurance products they are purchasing. Additionally, the government should provide the mandate and resources to the IRA and the Insurance Institute of Uganda to increase public awareness about the benefits of insurance. Providing evidence of insurance beneficiaries can also encourage new clients to enroll in insurance. Consumers often make insurance purchases cognizant of the expected benefits.

Nonetheless, this study had delimitations. Firstly, the cross-sectional nature of our research design limited our ability to capture behavioral changes among respondents. Due to the cross-sectional design, we could not infer causality between insurance literacy, trust, and insurance inclusion. To address this limitation, longitudinal designs could be adopted in future studies. Furthermore, our research was constrained by its uniqueness. Compared to financial inclusion studies, there is limited literature on insurance inclusion in Uganda and other developing countries. The scarcity of studies with similar findings about insurance inclusion in Uganda restricted the scope for comparison with existing literature.

It is also noteworthy that the motivation for this study partly stemmed from the neglect of insurance in financial inclusion research. Financial inclusion studies have primarily measured financial inclusion using the Global Findex and related index measures, which predominantly capture banking aspects. Therefore, future research could focus on developing a Global Insurance Index to evaluate insurance inclusion using panel data. This approach could enable scholars to conduct panel studies on insurance inclusion across multiple countries.

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