# MAKERERE UNIVERSITY

**COLLEGE OF BUSINESS AND MANAGEMENT SCIENCES**

**(COBAMS)**

**SCHOOL OF STATISTICS AND PLANNING**

# QUANTIFYING THE RELATIONSHIP BETWEEN RISK PERCEPTION AND WILLINGNESS TO PAY FOR INSURANCE AMONG ACTUARIAL SCIENCE STUDENTS AT MAKERERE UNIVERSITY

**BY**

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**A DISSERTATION SUBMITTED TO THE SCHOOL OF STATISTICS AND PLANNING IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF BACHELOR OF SCIENCE IN ACTUARIAL SCIENCE OF MAKERERE UNIVERSITY**

**JULY 2026**

## DECLARATION

I, Namirimu Catherine, hereby declare that this dissertation titled "Quantifying the Relationship Between Risk Perception and Willingness to Pay for Insurance Among Actuarial Science Students at Makerere University" is my original work and has not been submitted to any other university or institution for the award of any academic qualification. All sources of information used in this study have been duly acknowledged through appropriate referencing.

Signature: _____ Date: 6th July, 2026

Name: Namirimu Catherine

## APPROVAL

This dissertation titled "Quantifying the Relationship between Risk Perception and Willingness to Pay for Insurance among Actuarial Science Students at Makerere University" has been submitted for examination with my approval as the University Supervisor.

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# DEDICATION

I dedicate this dissertation to the Almighty God for His grace, guidance, and strength throughout my academic journey.

I also dedicate this work to my lecturers for their knowledge, support, encouragement, and dedication in shaping my academic growth and helping me complete this study.

In addition, I dedicate this dissertation to my family, friends, and all those who have supported, encouraged, and inspired me during the course of my studies.

Finally, I dedicate this dissertation to all students and future researchers who may find this work useful in their academic and professional pursuits.

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# LIST OF ABBREVIATIONS/ ACRONYMS

SA – Strongly Agree

A – Agree

N – Neutral

D – Disagree

SD – Strongly Disagree

# ABSTRACT

This study examined the influence of risk perception on the demand for insurance services. The study was motivated by the low uptake of insurance services despite the increasing exposure of individuals to various financial and non-financial risks. The specific objectives were to examine the relationship between risk perception and the demand for insurance services, identify the factors influencing insurance demand, and assess the challenges affecting the uptake of insurance services.

A quantitative research approach employing a descriptive research design was adopted. Primary data were collected using structured questionnaires administered to the selected respondents. The collected data were analyzed using the Statistical Package for Social Sciences (SPSS), where descriptive statistics, correlation analysis, and regression analysis were used to examine the relationship between the study variables.

The findings revealed that risk perception has a significant positive influence on the demand for insurance services. Individuals with higher awareness and perception of potential risks were more likely to purchase insurance products. The study also found that income level, insurance awareness, trust in insurance providers, affordability of premiums, and previous experience with insurance significantly influence the demand for insurance services. However, low financial literacy, limited public awareness, misconceptions about insurance, and high premium costs remain major barriers to insurance uptake.

The study concludes that improving individuals' perception and understanding of risk can significantly increase the demand for insurance services. The study recommends that insurance companies strengthen public awareness campaigns, simplify insurance products, enhance customer trust through efficient claims settlement, and develop affordable insurance products tailored to different income groups. Policymakers should also promote financial literacy and create supportive policies that encourage wider insurance penetration.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the study

Insurance plays an important role in helping individuals manage uncertainty and protect themselves against possible financial losses.(Majka, 2024) By allowing people to transfer risk, insurance provides a sense of security when faced with unexpected events such as illness, accidents, or property damage. Because of this, it is widely considered an essential part of financial planning in many economies.(Sher & Chan, 2024)

Across the world, the demand for insurance services is often influenced by how individuals perceive risk.(Park, Borde, & Choi, 2002) People who feel more exposed to potential losses are generally more likely to seek protection through insurance. On the other hand, individuals who perceive risks as minimal or unlikely may not see the need to invest in insurance products. This shows that beyond availability and affordability, personal attitudes towards risk play a key role in shaping insurance decisions.(Weedige, Ouyang, Gao, & Liu, 2019)

In many developing countries, including Uganda, the uptake of insurance remains relatively low despite the growing presence of insurance providers under the supervision of the Insurance Regulatory Authority of Uganda.(Deepening, 2018) While factors such as income levels and access to information are often highlighted, the way individuals perceive risk may also explain why many people do not actively engage with insurance services.

Among university students, financial decision-making is still developing, and choices are often influenced by personal priorities and perceptions rather than long-term planning.(Widener, 2017) This is particularly interesting in the case of Actuarial Science students at Makerere University, who are exposed to risk management and insurance concepts as part of their academic training. One would expect that such students have a better understanding of risk and are therefore more inclined to value insurance.

However, understanding risk in theory does not always translate into personal financial action.(Willman, O'Creevy, Nicholson, & Soane, 2001) Some students may recognize the existence of risks but still choose not to allocate money towards insurance, possibly due to limited income, competing financial needs, or the belief that such risks are not immediate. This

creates a gap between how risk is perceived and the willingness to commit financially to insurance.

Therefore, this study seeks to quantify the relationship between risk perception and willingness to pay for insurance among Actuarial Science students at Makerere University. By focusing on this group, the study aims to better understand whether perceiving risk actually influences financial commitment towards insurance, or whether other factors play a more dominant role.

## 1.2 Problem statement

Even though insurance plays a key role in managing financial risks, its uptake in Uganda remains relatively low.(Perez-Viana, 2018) Many individuals still prefer to rely on personal savings or informal support when faced with unexpected events, rather than using insurance as a form of protection. This raises questions about what really drives people's decisions regarding insurance, especially in situations where they are aware of potential risks.

One important factor that may influence this behavior is how individuals perceive risk. People who feel more exposed to financial uncertainty are expected to be more willing to pay for insurance, while those who perceive risks as unlikely may not see the need to spend money on it. However, this relationship is not always straightforward, as financial decisions are also influenced by other personal and economic factors.

Among Actuarial Science students at Makerere University, there is an expectation that they have a better understanding of risk due to their academic training. These students are taught how risks are measured, managed, and priced, which should, in theory, make them more conscious of the importance of insurance. However, it is not clear whether this understanding of risk actually translates into a willingness to commit money towards insurance products.

In practice, some students may recognize the existence of risks but still choose not to pay for insurance. This may be due to limited income, competing financial needs, or the belief that such risks are not immediate or relevant to their current stage of life. As a result, there may be a disconnect between how risk is perceived and the willingness to pay for insurance.

While previous studies have focused on general awareness and attitudes towards insurance, there is still limited evidence on how risk perception specifically influences willingness to pay, particularly among students who are expected to be more informed.(Roder, Hudson, & Tarolli, 2019) Therefore, this study seeks to quantify the relationship between risk perception and willingness to pay for insurance among Actuarial Science students at Makerere University.

## 1.3 Objectives

**Main objective**

- To quantify the relationship between risk perception and willingness to pay for insurance among Actuarial Science students at Makerere University.

**Specific objectives**

1. To assess the level of risk perception among Actuarial Science students at Makerere University.
2. To determine the willingness to pay for insurance among Actuarial Science students at Makerere University.
3. To examine the influence of affordability and trust on willingness to pay for insurance among Actuarial Science students at Makerere University.

## 1.4 Hypothesis

**Ho:** Risk perception has no effect on willingness to pay for insurance among Actuarial Science students at Makerere University.

**Ho:** Actuarial Science students at Makerere University are not willing to pay for insurance.

**Ho:** Affordability and trust have no effect on the willingness to pay for insurance among Actuarial Science students at Makerere University.

## 1.5 Significance of the study

This study is important because it provides insight into how perceptions of risk influence financial decision-making, particularly in relation to insurance. By focusing on Actuarial Science students at Makerere University, the study highlights whether the knowledge and understanding of risk acquired through academic training are reflected in real-life financial choices, such as the willingness to pay for insurance.

The findings may also be useful to insurance providers by offering a better understanding of how young, educated individuals perceive risk and how this perception shapes their willingness to commit financially to insurance products. This can help insurers develop products that are more relevant and affordable to students and young professionals, while also improving how insurance is communicated to this group.

In addition, the study provides useful insights for regulators such as the Insurance Regulatory Authority of Uganda by showing whether risk perception plays a meaningful role in influencing insurance uptake. This can support efforts aimed at improving participation in insurance, especially among the youth.

More broadly, the study contributes to existing knowledge by focusing on the link between risk perception and actual financial commitment, rather than just general awareness or attitudes. It also provides a basis for further research in this area, while helping the researcher gain a deeper understanding of how theoretical concepts in actuarial science relate to everyday financial behavior.

## 1.6 Scope of the study

### Content scope

This study focuses on examining the relationship between risk perception and willingness to pay for insurance among Actuarial Science students. It specifically looks at how students perceive financial risks and how this perception influences their decision to commit money towards insurance. The study also considers other related factors such as affordability, trust in insurance providers, and income levels, as these may affect students' willingness to pay for insurance.

### Geographical Scope

The study is carried out at Makerere University, with particular focus on students pursuing Actuarial Science within the university.

### Time Scope

The study covers the period during which the research is conducted, specifically from April 2026 to May 2026. This includes the time allocated for data collection, analysis, and report writing.

## 1.7 Conceptual framework

The conceptual framework illustrates the relationship between risk perception and willingness to pay for insurance among Actuarial Science students at Makerere University. The framework is guided by Expected Utility Theory and Prospect Theory, which explain how individuals make decisions under conditions of uncertainty and financial risk.

In this study, risk perception is treated as the independent variable, while willingness to pay for insurance is the dependent variable. The framework assumes that students who perceive themselves to be exposed to financial risks are more likely to value insurance protection and therefore demonstrate a higher willingness to pay for insurance. Risk perception is reflected through the perceived likelihood of loss, perceived severity of loss, and financial vulnerability.

Willingness to pay for insurance is reflected through the likelihood to pay for insurance, the amount an individual is willing to pay, and the intention to purchase insurance in the future. The framework further recognizes that the relationship between risk perception and willingness to pay may not be direct in all cases. Affordability and trust in insurance providers are included as intervening variables because they can influence insurance decisions. Even when students perceive high financial risk, they may still be unwilling to pay for insurance if premiums are considered unaffordable. Likewise, low trust in insurance providers may discourage students from purchasing insurance despite acknowledging the importance of financial protection.

The conceptual framework therefore suggests that willingness to pay for insurance is determined not only by perceived financial risk but also by economic and behavioural factors. Affordability and trust may either strengthen or weaken the effect of risk perception on willingness to pay for insurance.

**Independent Variable (IV)**

- Risk Perception
- Perceived likelihood of loss
- Perceived severity of loss
- Financial vulnerability

**Dependent Variable (DV)**

- Willingness to Pay for Insurance
- Likelihood to pay for insurance
- Amount willing to pay
- Intention to purchase insurance

**Intervening Variables**

- Affordability
- Trust in insurance providers

# CHAPTER TWO: LITERATURE REVIEW

## 2.1 Introduction

This chapter reviews the literature relevant to the study on the relationship between risk perception and willingness to pay for insurance among Actuarial Science students at Makerere University. The review is organized into the theoretical review, conceptual review, empirical review, and research gap. The theoretical review discusses the theories that explain insurance purchasing behaviour under uncertainty. The conceptual review examines the key concepts of risk perception, willingness to pay for insurance, affordability, and trust in insurance providers. The empirical review presents findings from previous studies conducted in Uganda and other countries. Finally, the chapter identifies gaps in the existing literature that justify the need for the current study.

## 2.2 Theoretical Review

### 2.2.1 Expected Utility Theory

Expected Utility Theory was developed by Von Neumann and Morgenstern (1944) to explain how individuals make choices under conditions of uncertainty. The theory assumes that individuals are rational decision-makers who seek to maximize their expected utility rather than expected monetary value.(Schoemaker, 1982) According to the theory, individuals evaluate the possible outcomes of a decision, assign probabilities to each outcome, and choose the option that provides the greatest level of satisfaction or utility.(Chankong & Haimes, 2008) The theory has become one of the most widely used frameworks in insurance economics because insurance decisions are inherently made under uncertain conditions.(Campbell, 1980) The theory explains why risk-averse individuals are willing to pay insurance premiums even when the premium exceeds the expected loss. By purchasing insurance, individuals transfer uncertainty to an insurer and gain financial security.(Fei, Fluet, & Schlesinger, 2015) Therefore, the utility obtained from certainty may exceed the cost of the premium paid. In this regard, individuals who perceive themselves as being exposed to greater financial uncertainty are expected to place a higher value on insurance protection and consequently exhibit a greater willingness to pay for insurance.(Kunreuther, Pauly, & McMorrow, 2013)

The relevance of this theory to the present study is that it provides a basis for understanding how risk perception may influence willingness to pay for insurance. Actuarial Science students who perceive a higher probability of financial loss may derive greater utility from insurance protection and therefore demonstrate a stronger willingness to pay.

However, Expected Utility Theory has been criticized for assuming that individuals always behave rationally. In reality, people's decisions are often influenced by emotions, biases, social influences, and imperfect information. Consequently, behavioural theories such as Prospect Theory have been developed to address these limitations.(Baddeley, 2018)

### 2.2.2 Prospect Theory

Prospect Theory was developed by Kahneman and Tversky (1979) as an alternative to Expected Utility Theory. The theory argues that individuals do not always make decisions based on objective probabilities. Instead, they evaluate gains and losses relative to a reference point and often give greater weight to potential losses than equivalent gains. This tendency is known as loss aversion.

According to Prospect Theory, individuals may be more motivated to avoid losses than to achieve gains.(Kahneman & Tversky, 2013) In the context of insurance, people may purchase insurance not because of the expected financial benefits but because they wish to avoid the possibility of experiencing substantial losses.(Kunreuther et al., 2013) As a result, perceptions of vulnerability and exposure to uncertainty become important determinants of insurance demand.(Petrolia, Landry, & Coble, 2013)

The theory is particularly relevant to this study because it recognizes that risk perception is subjective. Two individuals facing the same level of objective risk may perceive that risk differently and therefore display different levels of willingness to pay for insurance. This makes Prospect Theory highly suitable for explaining variations in insurance demand among university students who possess different experiences, attitudes, and perceptions despite sharing a similar educational background.

## 2.3 Conceptual Review

### 2.3.1 Risk Perception

Risk perception refers to an individual's subjective assessment of the likelihood and severity of a potential adverse event.(Sjöberg, Moen, & Rundmo, 2004) Unlike objective risk, which is based on statistical probabilities, risk perception is influenced by personal experiences, beliefs, knowledge, and emotions. Individuals often evaluate risk differently even when faced with the same circumstances.(Weber, 2006)

Studies have shown that risk perception plays an important role in shaping insurance decisions. Individuals who perceive a higher probability of financial loss are generally more likely to seek

insurance protection than those who perceive themselves as less vulnerable.(Zaleskiewicz, Piskorz, & Borkowska, 2002) Risk perception influences how individuals evaluate the benefits of insurance and whether they consider insurance to be necessary.

Among university students, risk perception may be influenced by educational exposure, financial literacy, personal experiences with uncertainty, and awareness of insurance products.(Mudzingiri, 2019) Since Actuarial Science students are trained in probability, statistics, and risk management, their perception of uncertainty may differ from that of other students. Understanding these perceptions is therefore important in explaining their willingness to pay for insurance.

### 2.3.2 Willingness to Pay for Insurance

Willingness to pay refers to the maximum amount an individual is prepared to spend to obtain a good or service. In the insurance context, willingness to pay reflects the value that individuals attach to insurance protection and the extent to which they are prepared to commit financial resources toward insurance coverage.(Ogundeji, Akomolafe, Ohiri, & Butawa, 2019)

Research indicates that willingness to pay is influenced by several factors, including income, affordability, trust in insurance providers, previous experiences with loss, and perceptions of uncertainty. Individuals who perceive a higher likelihood of financial loss are generally willing to pay more for insurance because they value the protection it offers.(Kahneman & Tversky, 2013)

Willingness to pay is an important indicator of insurance demand because it reflects both the perceived benefits of insurance and an individual's financial capacity. In developing countries such as Uganda, willingness to pay may be constrained by limited income and competing financial priorities.

### 2.3.3 Affordability

Affordability refers to the extent to which an individual can comfortably meet the cost of insurance premiums without experiencing financial hardship. Affordability has consistently been identified as one of the major determinants of insurance uptake in developing countries.

Even when individuals recognize the importance of insurance, limited financial resources may prevent them from purchasing coverage. Studies on insurance demand have shown that income levels and premium costs significantly influence willingness to pay for insurance.

Consequently, affordability remains an important consideration in understanding insurance purchasing behaviour.

### 2.3.4 Trust in Insurance Providers

Trust refers to the confidence that individuals have in insurance providers to fulfill their obligations fairly and efficiently. Trust is particularly important in insurance because policyholders pay premiums in anticipation of future benefits that may never be immediately observed.

Research conducted in Uganda found that perceived trust has a positive influence on insurance inclusion and significantly explains variations in insurance participation. Individuals who believe that insurers will honour claims and operate transparently are more likely to purchase insurance products. Conversely, low trust can discourage participation even when insurance products are affordable and available.

## 2.4 Empirical Review

Previous studies have found a positive relationship between risk perception and insurance demand. Evidence from studies examining willingness to pay for insurance suggests that individuals who perceive themselves as vulnerable to financial losses generally demonstrate a greater willingness to purchase insurance.(Loewenstein, Weber, Hsee, & Welch, 2001) Risk perception influences how individuals evaluate the benefits of insurance and their need for financial protection.

Studies on insurance demand have also identified affordability as a major determinant of willingness to pay. Research conducted in Uganda found that income and awareness significantly influence demand for health insurance.(Medard, Yawe, & Bosco, 2022) Individuals with higher financial capacity are generally more willing to pay insurance premiums than those facing financial constraints.

Trust has similarly been found to influence insurance participation. Studies conducted in Uganda established that perceived trust significantly predicts insurance inclusion and can mediate the relationship between insurance literacy and insurance uptake.(Kiwanuka & Sibindi, 2025) These findings suggest that trust plays a crucial role in encouraging individuals to engage with insurance services.

Despite these findings, most Ugandan studies have focused on insurance inclusion, insurance literacy, and trust among the general population. Limited attention has been given to university students, particularly Actuarial Science students, whose academic training may influence how they perceive uncertainty and insurance decisions.

## 2.5 Research Gap

Existing literature demonstrates that risk perception, affordability, and trust influence insurance demand and participation. Studies conducted in Uganda have primarily focused on insurance inclusion, insurance literacy, and trust among the general population. Other studies have examined willingness to pay for insurance in the context of health insurance and broader financial inclusion.

However, there is limited empirical evidence on how risk perception influences willingness to pay for insurance among university students, particularly Actuarial Science students. Given that these students possess formal knowledge of risk and insurance concepts, they provide a unique context for examining whether perceived exposure to uncertainty translates into a willingness to commit financial resources toward insurance. This study therefore seeks to fill this gap by quantifying the relationship between risk perception and willingness to pay for insurance among Actuarial Science students at Makerere University.

# CHAPTER THREE: METHODOLOGY

## 3.1 Introduction

This chapter describes the methodology that will be employed in conducting the study. It outlines the research design, study area, study population, sample size determination, sampling techniques, data collection methods, data collection instrument, measurement of study variables, validity and reliability of the research instrument, data collection procedure, data processing and analysis, model specification, and ethical considerations. The methodology is intended to ensure that the study generates reliable and valid data for examining the relationship between risk perception and willingness to pay for insurance among Actuarial Science students at Makerere University.

## 3.2 Research Design

The study adopted a quantitative research approach using a cross-sectional survey design. A quantitative approach was considered appropriate because the study sought to quantify the relationship between risk perception and willingness to pay for insurance through statistical analysis of numerical data collected from respondents. The approach enabled objective testing of the study hypotheses and facilitated estimation of the magnitude and direction of relationships among the study variables.

A cross-sectional survey design was employed because data were collected from respondents at a single point in time. This design was suitable for examining the prevailing levels of risk perception, willingness to pay for insurance, affordability, and trust among Actuarial Science students without manipulating any of the study variables. The design is widely used in behavioural and actuarial research where the objective is to examine associations between variables within a defined population.

The cross-sectional survey design was also appropriate because it is relatively economical in terms of time and resources while allowing data to be collected from a large number of respondents simultaneously. The design therefore provided an efficient means of obtaining the information required to achieve the objectives of the study.

## 3.3 Study Area

The study was conducted at Makerere University, located in Kampala, Uganda. Makerere University is one of the country's oldest and largest public universities and offers a wide range of undergraduate and postgraduate programmes. The study specifically focused on students pursuing the Bachelor of Science in Actuarial Science under the College of Business and Management Sciences (CoBAMS).

Actuarial Science students were selected because they possess foundational knowledge in probability, statistics, risk management, and insurance principles acquired through their academic training. Their educational background was considered appropriate for providing informed opinions regarding risk perception and willingness to pay for insurance. Furthermore, the accessibility of the respondents enabled efficient administration of the questionnaire and collection of data within the study period.

## 3.4 Target population

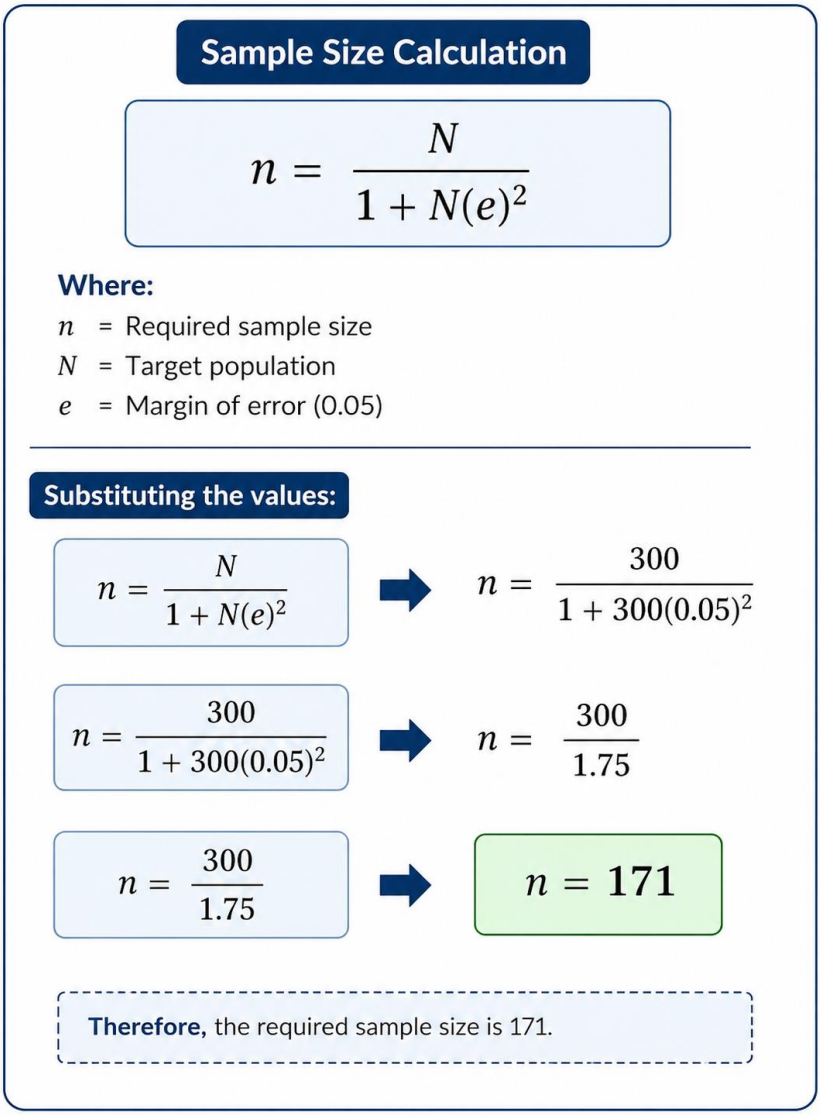
The target population comprised approximately 300 undergraduate students enrolled in the Bachelor of Science in Actuarial Science programme at Makerere University across the first, second and third years of study. These students formed the population of interest because they had sufficient exposure to concepts of risk, uncertainty, and insurance through their academic curriculum.

The accessible population consisted of students who were available and willing to participate in the study during the period of data collection. A total of 97 completed questionnaires were successfully obtained and used in the analysis. The respondents represented students from the different years of study, thereby providing views from students with varying levels of academic exposure to actuarial concepts.

## 3.5 Sample Size Determination

The sample size refers to the number of respondents selected from the target population to participate in the study. An adequate sample size is essential for ensuring that the findings are representative of the target population and that statistical analyses produce reliable results.

The target population for this study comprised approximately 300 undergraduate Actuarial Science students at Makerere University. The sample size was determined using Yamane's (1967) formula because it provides a simple and reliable method of calculating sample sizes from finite populations.




Therefore, the recommended sample size was 171 respondents**.**

However, due to constraints such as respondent availability, willingness to participate, and the time allocated for data collection, 97 completed questionnaires were successfully obtained and used in the final analysis**.** The responses were considered adequate to support the objectives of the study because they represented students from different years of study and provided sufficient observations for the planned statistical analyses.

## 3.6 Sampling Technique and Procedure

The study employed a Stratified random sampling technique to select respondents. Stratified random sampling was considered appropriate because the target population naturally consisted of three distinct strata based on the year of study, namely Year One, Year Two, and Year Three. This technique ensured that students from each year were represented in the study, thereby improving the representativeness of the sample and reducing sampling bias.

Within each stratum, respondents were selected using simple random sampling. Lists of students in each year of study served as the sampling frame, and participants were invited to complete the questionnaire. The number of respondents selected from each year was intended to be proportionate to the size of the respective class to ensure fair representation across all levels of study.

The use of stratified random sampling was appropriate because students in different years of study may possess varying levels of knowledge and experience regarding insurance and risk management. Consequently, the technique enhanced the likelihood of obtaining diverse perspectives while increasing the precision of the study findings.

## 3.7 Data Collection Instrument

Primary data were collected using a structured questionnaire developed by the researcher based on the study objectives and relevant literature. The questionnaire consisted mainly of closed-ended questions measured using a five-point Likert scale to facilitate quantitative analysis.

The questionnaire was divided into four sections. Section A collected respondents' demographic information, including gender, age group, and year of study. Section B measured respondents' perceptions regarding different types of risks and their likelihood of experiencing financial loss. Section C assessed respondents' willingness to pay for insurance through statements relating to insurance purchase intentions and premium payment preferences. Section D collected information on factors likely to influence willingness to pay, particularly affordability and trust in insurance providers.

The questionnaire was administered electronically using Google Forms. This method enabled efficient distribution of the questionnaire to respondents and facilitated automatic recording of responses while minimizing data entry errors. Electronic administration also increased convenience for respondents, allowing them to complete the questionnaire at their preferred time and location.

## 3.8 Measurement of Study Variables

The study examined one dependent variable, one principal independent variable, and two additional explanatory variables.

The dependent variable was willingness to pay for insurance. It was measured using respondents' level of agreement with statements relating to their intention to purchase insurance and their willingness to pay insurance premiums. Responses were measured on a five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree.

The principal independent variable was risk perception. This variable was measured using statements that assessed respondents' perceptions regarding their exposure to financial risks and the likelihood of experiencing unexpected financial losses. Higher scores represented higher levels of perceived risk.

The study further included affordability and trust in insurance providers as explanatory variables because previous studies have identified them as important determinants of insurance demand. Affordability was measured using respondents' perceptions regarding the affordability of insurance premiums, while trust was measured through statements assessing confidence in insurance companies' ability to honour claims and provide reliable services.

The Likert-scale responses were coded numerically to facilitate statistical analysis using SPSS/Stata.

## 3.9 Data Collection Procedure

The questionnaire was developed and deployed using the KoboCollect tool. After finalizing the questionnaire, a digital link was generated and shared with Actuarial Science students through the different class group communication platforms, including WhatsApp groups and other student forums.

Before responding, participants were informed about the purpose of the study, the voluntary nature of their participation, and the confidentiality of the information they provided. They were requested to complete the questionnaire independently and honestly without any form of pressure.

Responses submitted through KoboCollect were monitored throughout the data collection period, and reminders were sent in the class groups to encourage participation and improve the response rate. At the end of the data collection period, the completed responses were downloaded, screened for completeness, and prepared for analysis.

## 3.10 Ethical Considerations

1. Ethical principles were observed throughout the study. Participation was voluntary, and respondents were informed of the purpose of the research before completing the questionnaire. Respondents were also informed that they were free to withdraw from the study at any stage without any negative consequences.
2. No identifying information such as names or registration numbers was collected, thereby ensuring anonymity. All information obtained from respondents was treated with strict confidentiality and was used solely for academic purposes.
3. Electronic data were securely stored and accessed only by the researcher. The findings of the study were reported honestly without fabrication, falsification, or misrepresentation of data. All sources of information used in the study were appropriately acknowledged to avoid plagiarism and uphold academic integrity.

# CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS

## 4.1 Introduction

This chapter presents, analyses, and interprets the findings of the study based on data collected from Actuarial Science students at Makerere University. The findings are presented according to the study objectives using descriptive and inferential statistics. Descriptive statistics are used to summarize the characteristics of the respondents and the study variables, while inferential statistics are used to examine the relationship between risk perception and willingness to pay for insurance.

## 4.2 Response Rate

The questionnaire was distributed electronically using KoboCollect to approximately 300 Actuarial Science students across Year One, Year Two, and Year Three at Makerere University. Out of the estimated 300 students who received the questionnaire link, 97 students completed and submitted the questionnaire, giving a response rate of 32.3%.

**Table 1: Response Rate**

| **Response Category** | **Frequency** | **Percentage (%)** |
|---|---|---|
| Questionnaires distributed | 300 | 100.0 |
| Questionnaires returned | 97 | 32.3 |
| No response | 203 | 67.7 |
| Total | 300 | 100.0 |

A total of 97 completed questionnaires were received from an estimated population of 300 Actuarial Science students, resulting in a 32.3% response rate. Although not all students responded, the responses obtained were sufficient for statistical analysis and represented students from all three years of study.

## 4.3 Demographic Characteristics of Respondents

### 4.3.1 Gender Distribution

**Table 2: Gender Distribution of Respondents**

| Gender | Frequency | Percentage (%) |
|---|---|---|
| Male | 43 | 44 |
| Female | 54 | 56 |
| Total | 97 | 100.0 |

This presents the gender distribution of the respondents. Out of the 97 respondents who participated in the study, 54 (56%) were female, while 43 (44%) were male. This indicates that female students constituted a slightly higher proportion of the respondents than their male counterparts. Nevertheless, the participation of both genders provided a reasonably balanced representation of Actuarial Science students, allowing the study to capture diverse perspectives on risk perception and willingness to pay for insurance.

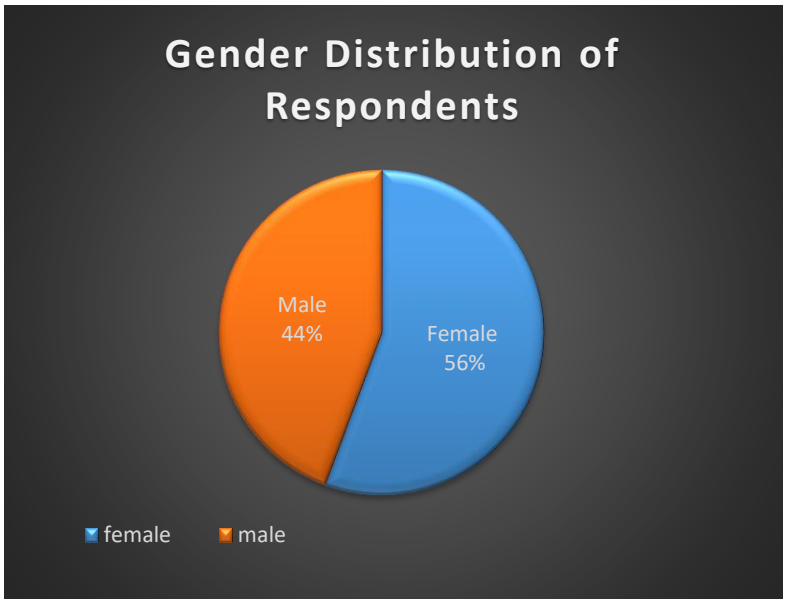



*Figure 1: Gender Distribution of Respondents*

**Figure 1** further illustrates the gender distribution of the respondents, showing that female respondents formed the majority of the study participants.

### 4.4 Summary Statistics

**Table 3: Summary Statistics**

| Construct | Mean | Standard Deviation |
|---|---|---|
| Risk Perception | 1.69 | 0.23 |
| Willingness to Pay | 0.40 | 0.49 |
| Affordability | 0.21 | 0.39 |
| Trust | 0.34 | 0.48 |

The summary statistics indicate that risk perception had a mean score of 1.69 with a standard deviation of 0.23. The relatively low standard deviation suggests that respondents had fairly similar views regarding financial risks and the need for insurance protection. This implies a generally consistent perception of risk among the students.

Willingness to pay for insurance recorded a mean of 0.40 and a standard deviation of 0.49. The mean indicates that less than half of the respondents were willing to pay for insurance, while the relatively high standard deviation shows considerable variation in willingness across students.

The mean score for affordability was 0.21 with a standard deviation of 0.39. This suggests that only a small proportion of respondents perceived insurance products as affordable, indicating that affordability may be a significant barrier to insurance uptake among students.

Finally, trust in insurance companies had a mean score of 0.34 and a standard deviation of 0.48. This indicates that trust levels were relatively low and varied substantially among respondents, suggesting that confidence in insurance providers is not uniformly established among the students.

The descriptive statistics show that although students exhibited relatively consistent perceptions of financial risk, willingness to pay for insurance was generally low, and both affordability and trust appeared to be weak among the respondents. These findings provide preliminary evidence that affordability and trust may play an important role in shaping willingness to pay for insurance among Actuarial Science students at Makerere University.

## 4.5 Reliability Analysis

Cronbach's Alpha was used to assess the internal consistency of the questionnaire items measuring the major constructs of the study.

**Table 4: Reliability Analysis**

| Construct | Items | Cronbach's Alpha | Interpretation |
|---|---|---|---|
| Risk Perception | 3 | 0.6463 | Acceptable for exploratory research |
| Willingness to Pay | 2 | 0.9940 | Excellent reliability |
| Affordability | 2 | 0.8038 | Good reliability |

The results in Table 4.3 indicate varying levels of internal consistency among the study constructs. The Risk Perception scale recorded a Cronbach's Alpha coefficient of 0.6463**.** Although this value is slightly below the commonly recommended threshold of 0.70, it indicates a moderate level of internal consistency and is considered acceptable for exploratory studies, particularly where the construct is measured using only a few items.

The Willingness to Pay scale produced a Cronbach's Alpha coefficient of 0.9940, indicating excellent internal consistency. This suggests that the questionnaire items used to measure willingness to pay were highly consistent in capturing the same underlying construct.

Similarly, the Affordability and Trust construct recorded a Cronbach's Alpha coefficient of 0.8038**,** indicating good internal consistency. This shows that the items measuring affordability and trust were reliable and suitable for subsequent statistical analyses.

### 4.6 Findings According to the Study Objectives

#### 4.6.1 To assess the level of risk perception among Actuarial Science students at Makerere University

**Table 5: Responses on Risk Perception among Actuarial Science Students (n = 97)**

| Statement | SA (1) | A (2) | N (3) | D (4) | SD (5) |
|---|---|---|---|---|---|
| I believe I may face financial uncertainties in my daily life. | 23 (23.7%) | 62 (63.9%) | 9 (9.3%) | 1 (1.0%) | 2 (2.1%) |
| I feel exposed to events such as illness, accidents, or loss. | 30 (30.9%) | 44 (45.4%) | 17 (17.5%) | 4 (4.1%) | 2 (2.1%) |
| I believe the challenges I may face require some form of financial protection. | 28 (28.9%) | 58 (59.8%) | 11 (11.3%) | 0 (0.0%) | 0 (0.0%) |

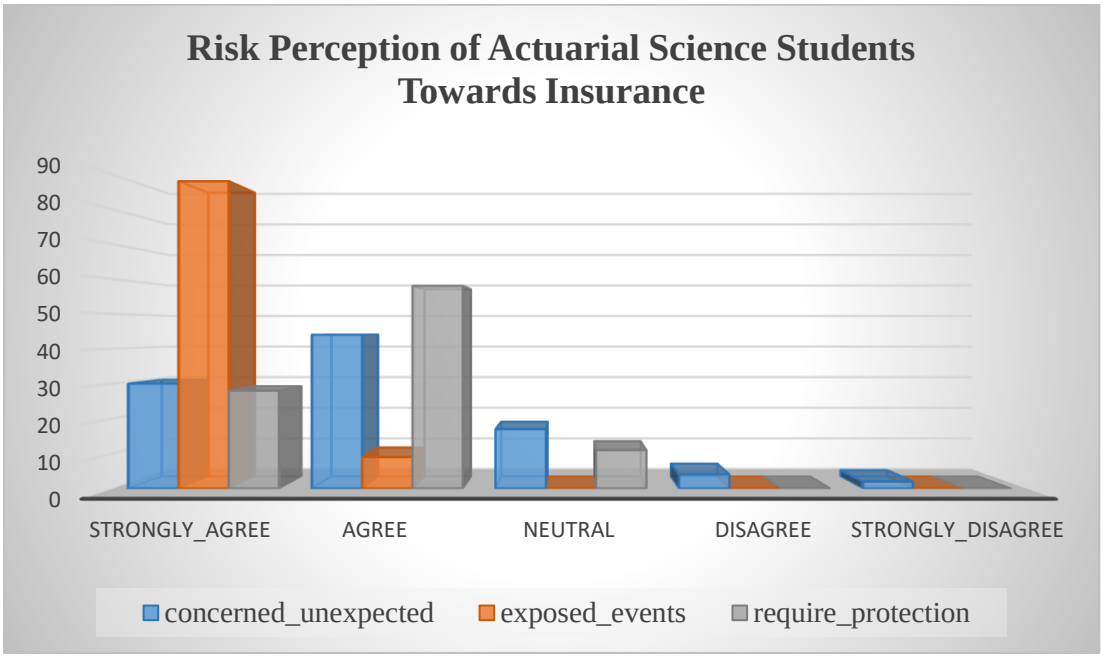



*Figure 2: Risk Perception of Actuarial Science Students towards Insurance*

Table 4.4 presents respondents' perceptions regarding financial risks and the need for financial protection. Overall, the findings indicate that the respondents demonstrated a relatively high level of risk perception. Across all three statements, the majority of respondents either agreed or strongly agreed, suggesting that most Actuarial Science students recognize the possibility of experiencing financial risks and appreciate the importance of financial preparedness.

For the first statement, 85 respondents (87.6%) either agreed or strongly agreed, while only 3 respondents (3.1%) disagreed or strongly disagreed. Similarly, 74 respondents (76.3%) agreed or strongly agreed with the second statement, whereas only 6 respondents (6.2%) expressed disagreement. Regarding the third statement, the level of agreement was even higher, with 86 respondents (88.7%) either agreeing or strongly agreeing, while none of the respondents disagreed.

The proportion of respondents who remained neutral ranged between 9.3% and 17.5%, indicating that only a small segment of the respondents was undecided about the statements. The consistently high levels of agreement across all three statements suggest that Actuarial Science students generally acknowledge their exposure to financial risks and recognize the need for financial protection against unforeseen events.

### 4.6.2 Willingness to Pay for Insurance among Actuarial Science Students

This section presents the findings relating to the second objective of the study, which sought to determine the willingness to pay for insurance among Actuarial Science students at Makerere University. The analysis focuses on respondents' willingness to pay for insurance, their likelihood of purchasing insurance within the next two years, and the amount they would be willing to pay as a monthly premium.

**Table 6: Willingness to Pay for Insurance among Respondents (n = 97)**

| Statement | SA (%) | A (%) | N (%) | D (%) | SD (%) |
|---|---|---|---|---|---|
| I am willing to pay for insurance | 5 (5.2) | 34 (35.1) | 47 (48.5) | 10 (10.3) | 1 (1.0) |
| I am likely to purchase insurance within the next two years | 8 (8.2) | 32 (33.0) | 45 (46.4) | 11 (11.3) | 1 (1.0) |

*Source: Primary Data (2026).*

Table 4.5 presents the respondents' willingness to pay for insurance and their intention to purchase insurance in the near future. The findings reveal that respondents exhibited a moderate level of willingness to pay for insurance, with a considerable proportion expressing uncertainty.

Regarding willingness to pay for insurance, 39 respondents (40.2%) either agreed or strongly agreed that they were willing to pay for insurance, while 47 respondents (48.5%) remained neutral. Only 11 respondents (11.3%) disagreed or strongly disagreed with the statement. The large proportion of neutral responses suggests that although many students recognise the value

of insurance, a substantial number have not yet made a definite decision about paying for insurance.

Similarly, 40 respondents (41.2%) indicated that they were likely to purchase insurance within the next two years, whereas 45 respondents (46.4%) remained neutral. Only 12 respondents (12.4%) disagreed or strongly disagreed. This pattern indicates that while there is interest in purchasing insurance among some students, many remain undecided, possibly due to financial constraints, limited purchasing power, or uncertainty about the suitability of available insurance products.

Overall, the findings suggest that although respondents generally have a positive attitude towards purchasing insurance, their willingness to pay is not yet sufficiently strong, as reflected by the high proportion of neutral responses.

**Table 7: Monthly Premium Respondents Are Willing to Pay (n = 97)**

| **Monthly Premium (UGX)** | **Frequency** | **Percentage (%)** |
|---|---|---|
| Below 10,000 | 19 | 19.6 |
| 10,000 – 50,000 | 42 | 43.3 |
| 50,000 – 100,000 | 23 | 23.7 |
| Above 100,000 | 13 | 13.4 |
| **Total** | **97** | **100.0** |

*Source: Primary Data (2026).*

Table 4.6 shows the amount respondents were willing to pay as a monthly insurance premium. The findings indicate that the largest proportion of respondents, 42 (43.3%), were willing to pay between UGX 10,000 and UGX 50,000 per month for insurance. This was followed by 23 respondents (23.7%) who were willing to pay between UGX 50,000 and UGX 100,000**,** while 19 respondents (19.6%) preferred premiums below UGX 10,000**.** Only 13 respondents (13.4%) indicated that they would be willing to pay more than UGX 100,000 per month.

These findings suggest that although many Actuarial Science students are open to purchasing insurance, they generally prefer affordable premium levels**.** The concentration of responses within the UGX 10,000–50,000 range indicates that affordability is likely to play an important role in influencing insurance uptake among university students.

### 4.6.3 Affordability and Trust in Relation to Willingness to Pay for Insurance

This section presents the findings on respondents' perceptions regarding affordability and trust, which were examined as factors that may influence willingness to pay for insurance among Actuarial Science students at Makerere University.

**Table 8: Responses on Affordability and Trust (n = 97)**

| Statement | SA (%) | A (%) | N (%) | D (%) | SD (%) |
|---|---|---|---|---|---|
| My income level affects my ability to pay for insurance | 32 (33.0) | 50 (51.5) | 11 (11.3) | 4 (4.1) | 0 (0.0) |
| Insurance products are affordable to me | 0 (0.0) | 18 (18.6) | 40 (41.2) | 33 (34.0) | 6 (6.2) |
| I trust insurance companies | 5 (5.2) | 28 (28.9) | 40 (41.2) | 17 (17.5) | 2 (2.1) |

*Source: Primary Data (2026).*

Table 4.7 presents respondents' views on affordability and trust regarding insurance.

The findings suggest that income is widely perceived as an important factor affecting the ability to pay for insurance. A total of 82 respondents (84.5%) either agreed or strongly agreed that their income level influences their ability to pay insurance premiums, while only 4 respondents (4.1%) disagreed. This indicates that most students recognize income as a key consideration when deciding whether they can afford insurance.

Regarding the affordability of insurance products, the findings reveal a more cautious perception. Only 18 respondents (18.6%) agreed that insurance products are affordable, whereas 39 respondents (40.2%) disagreed or strongly disagreed. In addition, 40 respondents (41.2%) remained neutral. These results suggest that many students are uncertain about the affordability of available insurance products, while a substantial proportion believe that insurance products are beyond their financial reach.

The findings on trust also indicate mixed perceptions. While 33 respondents (34.1%) either agreed or strongly agreed that they trust insurance companies, 40 respondents (41.2**%)** were neutral and 19 respondents (19.6%) disagreed or strongly disagreed. The relatively high proportion of neutral responses suggests that many students have not yet formed strong opinions about insurance companies, whereas the proportion expressing disagreement indicates that trust remains a concern for some respondents.

Overall, the descriptive findings indicate that affordability and trust are important considerations among Actuarial Science students. Income appears to be a major factor affecting

students' ability to pay for insurance, while uncertainty regarding the affordability of insurance products and confidence in insurance companies may influence their willingness to purchase insurance.

### 4.7 Binary Logistic Regression Analysis

A binary logistic regression analysis was conducted to determine the relationship between risk perception, affordability, trust, and willingness to pay for insurance among Actuarial Science students at Makerere University. Willingness to pay for insurance was used as the dependent variable, while risk perception, affordability, and trust were entered as independent variables. The results are presented in Table 4.8.

**Table 9: Binary Logistic Regression Results**

| Variable | Odds Ratio | Standard Error | z-value | p-value | 95% Confidence Interval |
|---|---|---|---|---|---|
| Risk Perception | 0.680 | 0.533 | -0.49 | **0.623** | 0.146 – 3.162 |
| Affordability | 3.831 | 2.262 | 2.27 | **0.023** | 1.204 – 12.188 |
| Trust | 4.413 | 2.083 | 3.15 | **0.002** | 1.750 – 11.130 |

*Source: Primary Data (2026).*

The results indicate that risk perception did not have a statistically significant relationship with willingness to pay for insurance among Actuarial Science students (OR = 0.680, p = 0.623). Since the p-value is greater than the 0.05 level of significance, the study did not find sufficient evidence that the risk perception measure included in the model was associated with willingness to pay for insurance.

The findings further show that **a**ffordability had a statistically significant relationship with willingness to pay for insurance **(**OR = 3.831, p = 0.023**).** The odds ratio greater than one indicates that respondents who perceived insurance products as affordable were more likely to express willingness to pay for insurance than those who perceived them as unaffordable.

Similarly, trust in insurance companies was found to have a statistically significant relationship with willingness to pay for insurance (OR = 4.413, p = 0.002**).** This implies that respondents who trusted insurance companies were significantly more likely to be willing to pay for insurance compared to those with lower levels of trust.

Among the predictor variables, trust exhibited the strongest relationship with willingness to pay, followed by affordability. These findings suggest that initiatives aimed at improving trust

in insurance companies and enhancing the affordability of insurance products may increase willingness to pay for insurance among university students.

### 4.7.1 Diagnostic Tests for the Logistic Regression Model

To assess the adequacy of the binary logistic regression model, the Hosmer–Lemeshow goodness-of-fit test was performed.

**Table 10: Diagnostic Tests for the Logistic Regression Model**

| **Statistic** | **Value** |
|---|---|
| Number of observations | 97 |
| Number of groups | 6 |
| Hosmer–Lemeshow $\chi^2(4)$ | 2.23 |
| Prob > $\chi^2$ | 0.6938 |

The Hosmer–Lemeshow goodness-of-fit test produced a chi-square value of 2.23 with 4 degrees of freedom and a p-value of 0.6938. Since the p-value is greater than the 0.05 level of significance, the null hypothesis that there is no difference between the observed and predicted values cannot be rejected. This indicates that the binary logistic regression model fits the data adequately.

The result suggests that the predicted probabilities generated by the model are consistent with the observed responses on willingness to pay for insurance among Actuarial Science students. Therefore, the model was considered appropriate for estimating the relationship between risk perception, affordability, trust, and willingness to pay for insurance.

### 4.7.2 Classification Accuracy of the Logistic Regression Model

The predictive performance of the binary logistic regression model was assessed using the classification table.

**Table 11:Classification Accuracy of the Logistic Regression Model**

| **Predicted Classification** | **Willing to Pay (D)** | **Not Willing to Pay (~D)** | **Total** |
|---|---|---|---|
| Positive (+) | 27 | 16 | 43 |
| Negative (-) | 12 | 42 | 54 |
| Total | 39 | 58 | 97 |

The classification results show that the model correctly identified 27 respondents who were willing to pay for insurance and 42 respondents who were not willing to pay. Overall, the model correctly classified 69 out of 97 respondents, giving a classification accuracy of **71.13%**.

A classification accuracy of 71.13% indicates that the logistic regression model has a reasonably good ability to distinguish between students who are willing and those who are not willing to pay for insurance. This suggests that the predictors included in the model—risk perception, affordability, and trust—provide useful information in explaining willingness to pay for insurance among Actuarial Science students at Makerere University.

### 4.7.3 Link Test for Model Specification

A link test was performed to assess whether the binary logistic regression model was correctly specified.

**Table 12: Link Test for Model Specification**

| Variable | Coefficient | Std. Err. | z | p-value |
|---|---|---|---|---|
| _hat | 0.9612 | 0.2653 | 3.62 | 0.000 |
| _hatsq | -0.1451 | 0.2781 | -0.52 | 0.602 |
| Constant | 0.1150 | 0.3362 | 0.34 | 0.732 |

The link test results show that the predicted value (_hat) was statistically significant (p = 0.000), while the squared predicted value (_hatsq) was not statistically significant (p = 0.602). In logistic regression, a significant _hat combined with a non-significant _hatsq suggests that the model is correctly specified and that there is no evidence of major specification error or omitted variable bias.

Therefore, the binary logistic regression model used in this study was considered appropriately specified for examining the relationship between risk perception, affordability, trust, and willingness to pay for insurance among Actuarial Science students.

### 4.7.4 Multicollinearity Test

A Variance Inflation Factor (VIF) test was conducted to assess the presence of multicollinearity among the independent variables included in the logistic regression model.

**Table 13: Multicollinearity Test**

| **Variable** | **VIF** |
|---|---|
| products affordable | 1.01 |
| trust companies | 1.01 |
| concerned unexpected | 1.00 |
| **Mean VIF** | **1.01** |

The VIF values for all independent variables were approximately 1, and the mean VIF was 1.01. Since all VIF values were far below the commonly accepted threshold of 10, there was no evidence of multicollinearity among the predictor variables.

This indicates that affordability, trust, and risk perception were not highly correlated with one another and that each variable contributed independently to the logistic regression model. Therefore, multicollinearity was not considered a problem in this study.

## 4.8 Hypothesis Testing

The hypotheses were tested at a 5% level of significance ($\alpha = 0.05$)**.** A null hypothesis was rejected where the p-value was less than 0.05, while it failed to be rejected where the p-value was greater than or equal to 0.05.

**Table 14: Summary of Hypothesis Testing**

| **Hypothesis** | **p-value** | **Decision** | **Conclusion** |
|---|---|---|---|
| **$H_{01}$:** Risk perception has no significant relationship with willingness to pay for insurance among Actuarial Science students at Makerere University. | 0.623 | Fail to reject $H_0$ | The study did not find a statistically significant relationship between the risk perception measure used in the regression model and willingness to pay for insurance. |
| **$H_{02}$:** Affordability has no significant relationship with willingness to pay for insurance among Actuarial Science students at Makerere University. | 0.023 | Reject $H_0$ | Affordability has a statistically significant relationship with willingness to pay for insurance. |
| **$H_{03}$:** Trust has no significant relationship with willingness to pay for | 0.002 | Reject $H_0$ | Trust has a statistically significant relationship with willingness to pay for insurance. |

| Hypothesis | p-value | Decision | Conclusion |
|---|---|---|---|
| insurance among Actuarial Science students at Makerere University. | | | |

The results indicate that affordability and trust in insurance companies had statistically significant relationships with willingness to pay for insurance because their p-values were below 0.05. Specifically, students who perceived insurance products as affordable and those who trusted insurance companies were more likely to express willingness to pay for insurance. However, risk perception did not show a statistically significant relationship with willingness to pay ($p = 0.623$). Therefore, the study failed to reject the null hypothesis for risk perception but rejected the null hypotheses for affordability and trust.

# CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Introduction

This chapter discusses the findings of the study in relation to the study objectives and existing literature. It also presents the conclusions drawn from the findings, recommendations, limitations of the study, and suggestions for further research.

## 5.2 Discussion of Findings

### 5.2.1 Risk Perception among Actuarial Science Students

The study found that risk perception did not have a statistically significant relationship with willingness to pay for insurance among Actuarial Science students. This finding may not necessarily imply that risk perception is unimportant in insurance decision-making. One possible explanation is the moderate reliability of the risk perception scale ($\alpha = 0.6463$), which may have weakened the ability of the study to detect a significant relationship. In addition, the relatively small sample size of 97 respondents may have reduced the statistical power of the analysis.

Another explanation is that Actuarial Science students may possess theoretical knowledge about financial risks but still face practical financial constraints that limit their willingness to pay for insurance. Affordability and trust in insurance companies may therefore play a stronger role than perceived risk in influencing insurance decisions among students. The non-significant result should therefore be interpreted with caution and considered alongside the methodological limitations of the study.

### 5.2.2 Willingness to Pay for Insurance

The findings showed that respondents demonstrated a moderate willingness to pay for insurance. Although a reasonable proportion of students agreed that they were willing to pay for insurance and intended to purchase insurance within the next two years, nearly half of the respondents selected the neutral option. This suggests uncertainty among many students regarding their future insurance decisions.

The findings also revealed that the majority of respondents were willing to pay between UGX 10,000 and UGX 50,000 per month for insurance, indicating that students generally prefer affordable insurance premiums that match their financial capabilities.

### 5.2.3 Influence of Affordability and Trust

The study established that affordability and trust significantly influence willingness to pay for insurance. The logistic regression analysis showed that affordability had a statistically significant relationship with willingness to pay **(**$p = 0.023$**),** while trust demonstrated an even stronger significant relationship **(**$p = 0.002$**).**

The odds ratios indicate that respondents who perceived insurance products as affordable and those who trusted insurance companies were more likely to express willingness to pay for insurance. These findings highlight the importance of designing affordable insurance products and strengthening public confidence in insurance institutions to improve insurance uptake among university students.

## 5.3 Conclusion

The study sought to examine the relationship between risk perception and willingness to pay for insurance among Actuarial Science students at Makerere University.

The findings indicate that students generally possess a high level of risk perception and understand the importance of financial protection. However, this awareness alone was not found to have a statistically significant relationship with willingness to pay for insurance. This suggests that awareness, while important, is insufficient to drive insurance purchasing decisions on its own.

The study further established that affordability and trust are significant determinants of willingness to pay for insurance. Students who viewed insurance products as affordable and who had greater trust in insurance companies were significantly more willing to purchase insurance. Therefore, efforts aimed at increasing insurance uptake among university students should focus on improving product affordability and strengthening confidence in insurance providers.

## 5.4 Recommendations

Based on the findings of the study, the following recommendations are made:

1. Insurance companies should design affordable insurance products that specifically target university students, taking into account their limited financial resources.
2. Insurance companies should strengthen public trust by improving transparency, simplifying claims procedures, and providing accurate information about insurance products and services.

3. Makerere University should continue promoting financial literacy and insurance awareness through seminars, workshops, and collaborations with insurance providers, while also addressing practical aspects of insurance purchasing.
4. Policy makers and the Insurance Regulatory Authority of Uganda should encourage the development of student-focused insurance products that are affordable and accessible to young adults.

## 5.5 Limitations of the Study

This study had several limitations that should be considered when interpreting the findings.

1. The study achieved a response rate of 32.3% because only 97 students responded out of an estimated population of 300 Actuarial Science students. The achieved sample was therefore lower than the target sample size of 171 respondents. This may have introduced non-response bias, as students who chose to participate could have differed from those who did not respond.
2. The relatively small sample size may have reduced the statistical power of the study and limited the ability to detect significant relationships among some variables, particularly risk perception.
3. The risk perception scale recorded a Cronbach's Alpha coefficient of 0.6463, which indicates moderate internal consistency. This suggests that the items used may not have captured all dimensions of risk perception adequately.
4. Finally, the study focused only on Actuarial Science students at Makerere University. Consequently, the findings may not be fully generalizable to students in other academic programmes or universities in Uganda.

## 5.6 Areas for Further Research

Future studies should:

- Include students from different universities and academic disciplines to improve generalizability.
- Examine additional factors such as financial literacy, previous insurance experience, and parental influence on willingness to purchase insurance.
- Use larger sample sizes to increase the robustness of statistical analyses.
- Conduct longitudinal studies to assess changes in students' willingness to purchase insurance over time.

# REFERENCES


Baddeley, M. (2018). *Behavioural economics and finance*: Routledge.

Campbell, R. A. (1980). The demand for life insurance: An application of the economics of uncertainty. *The journal of Finance, 35*(5), 1155-1172.

Chankong, V., & Haimes, Y. Y. (2008). *Multiobjective decision making: theory and methodology*: Courier Dover Publications.

Deepening, F. S. (2018). Report on uptake of insurance services in Uganda. *Financial Sector Deepening Uganda. Kampala: Financial Sector Deepening Uganda*.

Fei, W., Fluet, C., & Schlesinger, H. (2015). Uncertain bequest needs and long-term insurance contracts. *Journal of Risk and Insurance, 82*(1), 125-148.

Kahneman, D., & Tversky, A. (2013). Prospect theory: An analysis of decision under risk. In *Handbook of the fundamentals of financial decision making: Part I* (pp. 99-127): World Scientific.

Kiwanuka, A., & Sibindi, A. B. (2025). Insurance literacy, perceived trust and insurance inclusion in Uganda. *Management Matters, 22*(1), 35-51.

Kunreuther, H. C., Pauly, M. V., & McMorrow, S. (2013). *Insurance and behavioral economics: Improving decisions in the most misunderstood industry*: Cambridge University Press.

Loewenstein, G. F., Weber, E. U., Hsee, C. K., & Welch, N. (2001). Risk as feelings. *Psychological bulletin, 127*(2), 267.

Majka, M. (2024). The Crucial Role of Insurance in Risk Mitigation Strategies. In.

Medard, T., Yawe, B. L., & Bosco, O. J. (2022). Determinants of demand for private health insurance in Uganda. *African Journal of Economic Review, 10*(3), 25-47.

Mudzingiri, C. (2019). *The impact of financial literacy on risk and time preferences and financial behavioural intentions.* University of the Free State,

Ogundeji, Y. K., Akomolafe, B., Ohiri, K., & Butawa, N. N. (2019). Factors influencing willingness and ability to pay for social health insurance in Nigeria. *PloS one, 14*(8), e0220558.

Park, H., Borde, S. F., & Choi, Y. (2002). Determinants of insurance pervasiveness: a cross-national analysis. *International Business Review, 11*(1), 79-96.

Perez-Viana, B. (2018). *Risk and development: an experimental study of insurance demand and risky decision making in rural Uganda.* University of East Anglia,

Petrolia, D. R., Landry, C. E., & Coble, K. H. (2013). Risk preferences, risk perceptions, and flood insurance. *Land Economics, 89*(2), 227-245.

Roder, G., Hudson, P., & Tarolli, P. (2019). Flood risk perceptions and the willingness to pay for flood insurance in the Veneto region of Italy. *International Journal of Disaster Risk Reduction, 37*, 101172.

Schoemaker, P. J. (1982). The expected utility model: Its variants, purposes, evidence and limitations. *Journal of economic literature*, 529-563.

Sher, T. K. T., & Chan, M. P. (2024). Insurance as the First step in Financial Planning: A Review on Developing World. *Dinkum Journal of Economics and Managerial Innovations, 3*(01), 65-71.

Sjöberg, L., Moen, B.-E., & Rundmo, T. (2004). Explaining risk perception. *An evaluation of the psychometric paradigm in risk perception research, 10*(2), 665-612.

Weber, E. U. (2006). Experience-based and description-based perceptions of long-term risk: Why global warming does not scare us (yet). *Climatic change*, *77*(1), 103-120.

Weedige, S. S., Ouyang, H., Gao, Y., & Liu, Y. (2019). Decision making in personal insurance: Impact of insurance literacy. *Sustainability*, *11*(23), 6795.

Widener, K. N. (2017). Financial management issues of college-aged students: Influences and consequences.

Willman, P., O'Creevy, M. P. F., Nicholson, N., & Soane, E. (2001). Knowing the risks: Theory and practice in financial market trading. *Human Relations, 54*(7), 887-910.

Zaleskiewicz, T., Piskorz, Z., & Borkowska, A. (2002). Fear or money? Decisions on insuring oneself against flood. *Risk, Decision and Policy, 7*(3), 221-233.