

ASSESSMENT OF SKILLS REQUIRED FOR SUCCESS IN UGANDA'S AI
DRIVEN INSURANCE INDUSTRY

BY
ABITEKANIZA NASWIF
23/U/23810/PS
2300723810

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DECLARATION

I, Abitekaniza Naswif, hereby declare that this dissertation entitled “Skills required for success in Uganda’s Ai driven insurance industry “is my original work and has not been submitted, either in whole or in part, to any other institution for the award of an academic qualification. All sources of information, references, and other forms of assistance used in the preparation of this dissertation have been clearly acknowledged.

ABITEKANIZA NASWIF

23/U/23810/PS

SIGNATURE



DATE: 25/08/2026

APPROVAL

This dissertation has been reviewed and approved as meeting the required standards for partial fulfilment of the requirements for the degree of Bachelors of Science in Actuarial Science at Makerere University.

Supervisor's Name

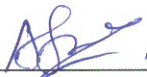
Dr. Zabibu Afazali.

Position

Senior Lecturer, Makerere University

Department

Statistical Methods and Actuarial Science

SIGNATURE 

DATE: 25th 08 / 2026

DEDICATION

I dedicate this dissertation to my parents, Mr Yusuf Balikagira and Mrs Fatuma Nansikombi and to my beloved brother Byaruhanga Nasser together with my family, whose unwavering support, love, and encouragement have contributed greatly to this research and to my academic journey as a whole.

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LIST OF ACRONYMS

AI	Artificial Intelligence
IT	Information Technology
OECD	Organisation for Economic Co-operation and Development
STATA	Statistics and Data Analysis
TAM	Technology Acceptance Model
WEF	World Economic Forum

ABSTRACT

This study examined the skills required for success in Uganda's AI driven insurance industry. Its main objective was to identify the skills required for success and assess the preparedness of insurance professionals and university students for an AI-driven insurance environment. A sample of 224 respondents participated in the study and a structured questionnaire was used to collect primary data that was thereafter cleaned and analysed at two levels, that is; univariate and bivariate levels of analysis. The analysis centred on workforce preparedness for an AI-driven insurance environment as the main outcome variable, while AI related skills, AI awareness, exposure to AI related courses, education and training, and confidence in using AI tools were examined as explanatory factors. Results from the Chi square analysis revealed significant associations between computer/IT skills and preparedness and between communication skills and preparedness. However, no significant associations were found between preparedness and data analysis, problem-solving, critical thinking, adaptability and programming skills. The study concludes that preparedness for an AI-driven insurance environment is influenced by selected skills, particularly computer/IT and communication skills, highlighting the importance of developing both technical and human centred competencies among current and future insurance professionals. Based on the findings, it is recommended that insurance companies and educational institutions should strengthen AI, digital and data-related training, promote continuous professional development, and enhance collaboration between industry and universities to improve workforce preparedness. Insurance professionals and students should also be encouraged to continuously develop relevant technical and human centred skills to remain prepared for the changing demands of the AI driven insurance industry.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter presents the background to the study, statement of the problem, general objective, specific objectives, research questions, significance of the study, justification, conceptual framework, and scope of the study. The chapter establishes the context of the study by examining the growing adoption of artificial intelligence within the insurance industry and the implications this has for the skills required by both current and future professionals in Uganda.

1.2 Background to the Study

The rapid advancement of Artificial Intelligence (AI) has sparked one of the most significant debates in today's labour market: Will AI replace human workers, or will it redefine the skills required for success? While some view AI as a threat to employment, others argue that it is creating new opportunities for individuals who possess the ability to work alongside intelligent technologies. This shift has prompted organizations across the world to rethink the competencies they expect from their workforce, placing increasing value on digital literacy, analytical thinking, adaptability, and continuous learning rather than traditional qualifications alone.

The insurance industry is among the sectors experiencing this transformation. AI is increasingly supporting underwriting, claims processing, fraud detection, customer service, and risk assessment, enabling insurers to make faster and more informed decisions. In Uganda, the insurance sector is gradually embracing digital technologies as part of broader efforts to improve efficiency and remain competitive. As these technologies become more integrated into insurance operations, the expectations placed on both current professionals and new graduates are also evolving, making the acquisition of relevant AI related skills increasingly important for career success.

Although AI adoption within insurance continues to grow, limited research has examined the specific skills required for success in Uganda's AI driven insurance industry. It remains unclear whether current professionals and university students possess the competencies needed to adapt to these technological changes. This study therefore seeks to identify the skills required for success

in Uganda's AI driven insurance industry and provide evidence that can inform workforce development, curriculum improvement, and career preparedness.

1.3 Statement of the Problem

Artificial Intelligence (AI) is increasingly transforming the insurance industry through the automation of underwriting, claims processing, fraud detection, customer service, and risk assessment. While these technological advancements improve efficiency and productivity, they are simultaneously changing the skills required for success in the insurance workforce. According to the World Economic Forum (2023), 44% of workers' skills are expected to be disrupted within the next five years, while six in ten workers will require training before 2030 to remain competitive in the labour market. Consequently, individuals who fail to acquire emerging digital and analytical competencies risk becoming less relevant in an increasingly technology driven workplace.

In Uganda, the insurance sector is gradually embracing digital transformation as universities continue to produce graduates in actuarial science, insurance, finance, and related disciplines who are expected to enter a labour market that is increasingly influenced by AI driven technologies. However, there is growing concern that a gap may exist between the skills possessed by current and future insurance professionals and those demanded by an AI driven industry. This mismatch may limit employability, reduce workplace productivity, and hinder the sector's ability to fully benefit from technological innovation, particularly in a country where youth unemployment remains a significant challenge.

Despite the growing integration of AI within insurance operations, limited empirical evidence exists regarding the specific skills required for success in Uganda's AI driven insurance industry. Without such evidence, educational institutions, employers, students, and professionals may struggle to make informed decisions regarding training, curriculum development, and workforce preparation. This study therefore seeks to identify the skills required for success in Uganda's AI driven insurance industry and provide recommendations for enhancing workforce readiness in a rapidly evolving technological environment.

1.4 General Objective

To identify the skills required for success in Uganda's AI driven insurance industry and assess the preparedness of current and future insurance professionals to adapt to emerging technological changes.

1.4.1 Specific Objectives

- i. To identify the key skills required for success in Uganda's AI driven insurance industry.
- ii. To assess the level of preparedness of insurance professionals and university students for working in an AI driven insurance environment.
- iii. To examine perceptions regarding the impact of Artificial Intelligence on job roles and career opportunities in Uganda's insurance industry.
- iv. To recommend strategies for enhancing workforce readiness and long term career success in Uganda's AI driven insurance industry.

1.5 Hypothesis

Null Hypothesis (H₀):

There is no statistically significant relationship between AI related skills and workforce readiness for an AI driven insurance industry in Uganda.

1.6 Research Questions

- i. What skills are required for success in Uganda's AI driven insurance industry?
- ii. To what extent are insurance professionals and university students prepared to work in an AI driven insurance industry?
- iii. What are the perceptions of insurance professionals and university students regarding the impact of Artificial Intelligence on job roles and career opportunities in Uganda's insurance industry?

- iv. What strategies can enhance workforce readiness and long term career success in Uganda's AI driven insurance industry?

1.7 Significance of the Study

The findings of this study will provide valuable insights to university students pursuing actuarial science, insurance, finance, and related disciplines by helping them understand the skills required to remain competitive and successful in an AI driven insurance industry. This will enable them to make informed decisions regarding skills development and career preparation.

The study will benefit insurance professionals by identifying the competencies necessary to adapt to technological changes within the industry. The findings may encourage continuous learning and reskilling, thereby enhancing career growth and long term employability.

Insurance companies will benefit from the study through a better understanding of the skills required in an increasingly digital work environment. The findings may support recruitment, training, and workforce development initiatives aimed at improving organizational productivity and competitiveness.

The study will also be useful to universities and other training institutions by providing evidence that can inform curriculum review and development. This may help ensure that academic programmes remain relevant to the changing needs of the insurance industry.

Finally, the study will contribute to the existing body of knowledge on Artificial Intelligence and workforce development within the insurance sector. It will serve as a reference for future researchers interested in AI adoption, skills development, employability, and the future of work in Uganda and beyond.

1.8 Justification of the Study

The increasing adoption of Artificial Intelligence (AI) within the insurance industry is transforming traditional job roles and creating demand for new skills and competencies. As insurance companies continue to embrace digital technologies to improve efficiency, productivity, and customer service, there is a growing need to understand the capabilities required for individuals to remain relevant and successful in an AI driven work environment. Failure to identify and

develop these skills may result in a workforce that is inadequately prepared to meet the evolving demands of the industry.

Furthermore, Uganda's development agenda emphasizes human capital development, innovation, and digital transformation as key drivers of socio-economic growth. However, limited empirical evidence exists regarding the specific skills required for success in Uganda's AI driven insurance industry. This study is therefore justified because it seeks to bridge this knowledge gap by providing evidence that can guide students, professionals, employers, and educational institutions in preparing for the future of work within the insurance sector.

1.9 Conceptual Framework

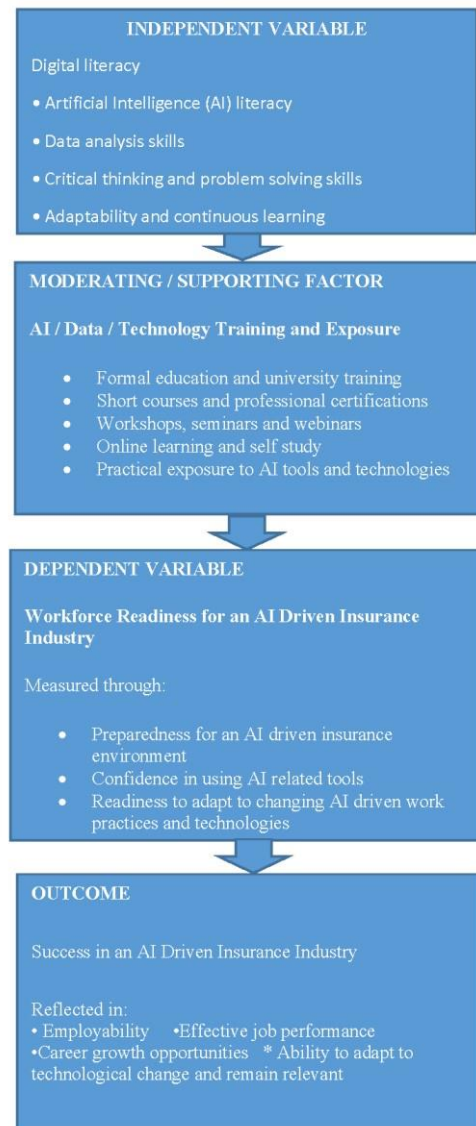


Figure 1. 1; Conceptual framework

1.10 Scope of the Study

This study will focus on the skills required for success in Uganda's AI driven insurance industry. It will examine the level of preparedness of insurance professionals and university students pursuing actuarial science, insurance, finance, and related disciplines for working in an increasingly technology driven environment. The study will explore perceptions regarding the impact of Artificial Intelligence on job roles, career opportunities, and workforce requirements within the insurance sector, as well as strategies for enhancing workforce readiness and long term career success. The research will be conducted in Uganda, with data collected primarily from respondents in Kampala and surrounding areas where a significant number of insurance companies and higher learning institutions are located. The study focuses on the current skills, preparedness, perceptions and workforce readiness needs associated with the growing adoption of AI and digital technologies in Uganda's insurance sector.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews existing literature related to Artificial Intelligence (AI), workforce skills, employability, and preparedness within technology driven industries, with particular emphasis on the insurance sector. The review is organized according to the objectives of the study and examines the skills required for success in an AI driven insurance environment, the preparedness of insurance professionals and university students, perceptions regarding the impact of AI on job roles and career opportunities, and strategies for enhancing workforce readiness. The chapter also presents the theoretical framework and identifies gaps in the existing literature that justify the study.

2.2 Theoretical Framework

This study is guided by three theories: Human Capital Theory, Technology Acceptance Model (TAM), and Skill Biased Technological Change Theory. These theories provide a foundation for understanding the relationship between skills development, technology adoption, and success in an AI driven insurance industry.

2.2.1 Human Capital Theory

Human Capital Theory, developed by Becker (1964), argues that education, training, and skill acquisition are investments that enhance an individual's productivity and economic value. The theory suggests that individuals who continuously acquire relevant skills are more likely to succeed in changing labour markets. In the context of an AI driven insurance industry, professionals and students who develop digital, analytical, and technological competencies are likely to enjoy greater employability and career advancement opportunities. However, the theory has been criticized for placing excessive emphasis on education and training while overlooking environmental and organizational factors that may influence success.

2.2.2 Technology Acceptance Model (TAM)

The Technology Acceptance Model, proposed by Davis (1989), explains how individuals adopt and use new technologies. The model suggests that perceived usefulness and perceived ease of use influence an individual's willingness to embrace technological innovations. Within the insurance industry, the successful adoption of AI depends not only on the availability of technology but also on employees' willingness and ability to utilize it effectively. This theory is relevant to the study because it helps explain the preparedness of professionals and students to work in AI driven environments.

2.2.3 Skill Biased Technological Change Theory

Skill Biased Technological Change Theory argues that technological advancements increase demand for highly skilled workers while reducing demand for routine and repetitive labour (Autor, Levy & Murnane, 2003). The theory suggests that as AI automates routine insurance functions, individuals possessing advanced analytical, digital, and problem solving skills become more valuable. Consequently, workforce readiness increasingly depends on the acquisition of skills that complement rather than compete with AI technologies

2.3 Reviewed Literature According to Study Objectives

2.3.1 Objective One: Skills Required for Success in an AI-Driven Insurance Industry

The increasing use of Artificial Intelligence in the insurance industry is changing the skills required of insurance professionals. As routine tasks become increasingly automated, workers need a combination of technological, analytical and human-centred skills to work effectively alongside AI (Autor, Levy & Murnane, 2003; OECD, 2023).

Digital literacy, AI literacy and data analysis skills are important for understanding and using emerging technologies, while critical thinking, problem-solving, adaptability and communication skills enable workers to interpret information, make appropriate decisions and adjust to changing work environments (OECD, 2023; World Economic Forum, 2023). These skills are therefore increasingly relevant to workforce readiness and success in an AI-driven insurance industry.

However, limited research has examined the specific combination of technical and human-centred skills required by insurance professionals and university students in Uganda. This study therefore examines the skills considered important for success in Uganda's AI-driven insurance industry.

2.3.2 Objective Two: Preparedness of Insurance Professionals and University Students for AI Driven Work Environments

The increasing adoption of AI technologies has created a growing need for workforce preparedness across various industries. Preparedness refers to the extent to which individuals possess the knowledge, skills, and confidence necessary to effectively operate in technology driven environments. According to the World Economic Forum (2023), approximately 60% of workers will require additional training by 2030 due to the changing demands of the labour market. This highlights the importance of continuous learning and adaptation in ensuring workforce competitiveness.

Within the insurance sector, preparedness has become a critical concern as companies increasingly integrate AI into their operations. Studies indicate that many organizations face challenges related to skills shortages and resistance to technological change (Deloitte, 2022). Employees who lack digital and analytical competencies may find it difficult to adapt to new technologies, reducing their effectiveness and career prospects. Consequently, employers are increasingly investing in training and reskilling programs to improve workforce readiness.

University students are equally affected by these developments. Higher education institutions are under pressure to align curricula with emerging industry requirements. In Uganda, concerns about graduate employment and the changing labour market highlight the importance of developing skills that enable young people to transition into productive employment (Merotto, 2020). Despite these concerns, limited research has examined the preparedness of both insurance professionals and university students for AI driven work environments within Uganda's insurance industry. This study therefore examines the level of preparedness of insurance professionals and university students for AI driven work environments in Uganda's insurance industry.

2.3.3 Objective Three: Perceptions Regarding the Impact of Artificial Intelligence on Job Roles and Career Opportunities

The growing use of AI has generated significant debate regarding its impact on employment and career development. While some scholars argue that AI may replace certain jobs through automation, others contend that it will create new opportunities and transform existing roles rather than eliminate them entirely. According to the World Economic Forum (2023), technological advancement is expected to create millions of new jobs globally while simultaneously displacing others, resulting in a shift in skill requirements rather than a complete reduction in employment opportunities.

Within the insurance industry, AI has automated many routine and repetitive tasks such as data entry, claims processing, and fraud detection. This has raised concerns among employees regarding job security and career progression. However, researchers argue that AI is more likely to augment human capabilities than replace them entirely (Autor, 2015). Tasks requiring critical thinking, judgment, creativity, and interpersonal interaction continue to rely heavily on human expertise.

Perceptions regarding AI play an important role in determining how individuals respond to technological change. Employees who perceive AI as an opportunity may be more willing to acquire new skills and embrace innovation, while those who view it as a threat may resist change. Despite increasing discussions regarding AI and employment, limited evidence exists concerning the perceptions of insurance professionals and university students regarding the impact of AI on job roles and career opportunities within Uganda's insurance industry. This study therefore seeks to provide insights into these perceptions.

2.3.4 Objective Four: Strategies for Enhancing Workforce Readiness in an AI-Driven Insurance Industry

As AI continues to reshape workplaces, researchers and policymakers have emphasized the importance of strategies aimed at enhancing workforce readiness and long term career success. Continuous learning and professional development are widely recognized as essential mechanisms for enabling individuals to adapt to technological change. According to Becker's Human Capital

Theory (1964), investment in education and training improves productivity and increases an individual's ability to respond to evolving labour market demands.

Organizations are increasingly adopting reskilling and upskilling initiatives to prepare employees for technology driven work environments. Deloitte (2022) notes that successful organizations prioritize workforce development by providing employees with opportunities to acquire digital, analytical, and technological competencies. Such initiatives not only improve productivity but also enhance employee confidence and adaptability.

Educational institutions also play a crucial role in workforce preparation. Researchers have argued that curricula should incorporate digital literacy, data analytics, problem solving, and technology related competencies to better align graduate skills with industry needs (OECD, 2023). Collaboration between universities and industry stakeholders has been identified as an effective strategy for ensuring that training programs remain relevant to changing labour market requirements. However, limited research has explored the most appropriate strategies for enhancing workforce readiness and career success within Uganda's AI driven insurance industry. This study seeks to address this gap by generating evidence based recommendations for students, professionals, employers, and educational institutions.

2.4 Gaps and Controversies in the Literature

Despite the growing body of literature on Artificial Intelligence and the future of work, several gaps remain. First, most studies focus on the impact of AI on employment and organizational performance rather than the specific skills required for success in AI driven industries. Second, a large proportion of existing studies have been conducted in developed economies, limiting their applicability to developing countries such as Uganda. Third, limited research has examined the preparedness of both current insurance professionals and university students for AI driven work environments. Fourth, few studies have specifically focused on Uganda's insurance sector despite its increasing adoption of digital technologies. Consequently, there is insufficient evidence regarding the skills required for success, workforce preparedness, perceptions of AI and strategies for enhancing workforce readiness within Uganda's AI-driven insurance industry.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the methodology that will be used in conducting the study. It describes the research design, research approach, study area, study population, sampling strategies, data collection methods, data quality control, measurement of variables, and data analysis procedures.

3.2 Research Design

The study will adopt a descriptive cross sectional survey research design. The design is appropriate because it enables the researcher to collect data from respondents at a single point in time and describe their views regarding the skills required for success in the Uganda's AI driven insurance industry. The design is also suitable for examining preparedness levels, perceptions regarding Artificial Intelligence, and strategies for enhancing workforce readiness.

3.3 Research Approach

This study will employ a mixed methods research approach, with greater emphasis on quantitative methods. Quantitative data will be collected using a structured questionnaire consisting mainly of closed ended questions measured using Likert scales and multiple choice responses. These data will enable the researcher to quantify respondents' views on the skills required for success in Uganda's AI driven insurance industry, their level of preparedness, and perceptions regarding the impact of Artificial Intelligence on insurance jobs. In addition, the questionnaire includes an open ended question that allows respondents to provide further opinions and recommendations regarding AI driven workforce readiness. The qualitative responses will complement the quantitative findings by providing deeper insights into respondents' perspectives, thereby enhancing the overall understanding of the study.

3.4 Study Area

The study will be conducted in Uganda, with particular focus on Kampala and surrounding areas where a significant number of insurance companies, universities, and higher learning institutions are located.

These areas were selected because they host a large proportion of insurance professionals and university students who are relevant to the study.

3.5 Study Population

The study population will consist of insurance professionals working in insurance companies and university students pursuing actuarial science, insurance and finance. These groups were selected because they represent both the current and future workforce of Uganda's insurance industry and are therefore directly affected by the increasing adoption of Artificial Intelligence within the sector.

3.6 Data Collection Methods

Primary data will be collected using a structured questionnaire administered through Google Forms. The questionnaire will contain both closed ended and open ended questions designed to gather information on skills required for success in an AI driven insurance industry, preparedness for technological changes, perceptions regarding AI, and strategies for enhancing workforce readiness.

3.7 Data Quality Control

To ensure validity, the questionnaire will be reviewed by the research supervisor and to determine whether the questions adequately address the study objectives. Reliability will be enhanced through the use of clear and consistent questionnaire items. A pilot test may also be conducted on a small group of respondents before the actual data collection exercise to identify and correct ambiguities.

3.8 Measurement of Variables

The variables in the study were measured according to the response formats used in the questionnaire. The AI related skills were measured as binary variables based on respondents' selection of skills considered important for success in an AI driven insurance industry, where 0 represented a skill not selected and 1 represented a skill selected. The skills assessed included data analysis, computer/IT skills, problem solving, communication, critical thinking, adaptability, and programming skills.

Workforce readiness was assessed using indicators that captured respondents' preparedness and confidence in working in an AI driven insurance environment. Preparedness was measured using three response categories: No, Don't know, and Yes. Confidence in using AI

related tools was measured using four categories: Not confident, Neutral, Confident, and Very confident. Exposure to AI, data and technology training was measured using a Yes/No response.

Other study variables, including perceptions of changes in insurance job roles, creation of new insurance job opportunities, perceived risk to jobs, and perceptions of education and training, were measured using a five point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree.

3.9 Data Analysis

Data obtained from Google Forms will be exported to Microsoft Excel, cleaned, coded and imported into STATA for analysis. Quantitative data will be analyzed using descriptive statistics, including frequencies and percentages, and presented using tables and appropriate charts. Pearson's Chi square test of independence will be used to examine associations between selected AI related skills and workforce readiness indicators, with statistical significance assessed at the 5% level ($\alpha = 0.05$). Qualitative responses from open ended questions will be analyzed thematically and presented narratively to complement the quantitative findings.

CHAPTER FOUR

PRESENTATION OF RESULTS

4.1 Introduction

This chapter presents the findings of the study on Skills Required for Success in Uganda's AI Driven Insurance Industry. The findings are based on responses obtained from participants through a structured questionnaire. The chapter presents the characteristics of the respondents, their awareness and exposure to Artificial Intelligence, perceptions regarding the changing nature of insurance work, skills considered important for success in an AI driven insurance industry, and respondents' preparedness for technological change. The findings are presented using frequencies, percentages, tables and appropriate graphical representations. Where applicable, statistical tests are used to examine relationships among selected study variables and assess the study hypothesis

4.2 Response Rate

A total of 284 questionnaires were distributed to the targeted respondents. Of these, 224 questionnaires were successfully completed and returned, representing a response rate of 78.9%.

The remaining 60 questionnaires, representing 21.1%, were not returned.

Table 4. 1; Response rate

Response status	Frequency	Percentage (%)
Questionnaires distributed	284	100.0
Questionnaires completed	224	78.9
Questionnaires not returned	60	21.1
Total	284	100.0

The study obtained 224 completed questionnaires out of 284 distributed, representing a response rate of 78.9%.

4.3 Characteristics of Respondents

The study examined the characteristics of the respondents in terms of gender, age group, respondent category and field of study. These characteristics provide an overview of the composition of the

sample from which the findings on skills required for success in Uganda's AI driven insurance industry were obtained.

Table 4. 2; Characteristics of respondents

Characteristic	Category	Frequency (n)	Percentage (%)
Gender	Female	114	50.89
	Male	110	49.11
Age group	20 30	156	69.64
	30 40	52	23.21
	Above 40	16	7.14
Respondent category	Student	95	42.41
	Intern	14	6.25
	Employee	97	43.30
	Manager	18	8.04
Field of study	Insurance	49	21.88
	Actuarial science	105	46.88
	Finance	37	16.52
	Other	33	14.75
Total		224	100.00

Interpretation of Findings

Table 4.2 shows that the study had a relatively balanced representation by gender, with female respondents accounting for 50.89% and male respondents accounting for 49.11%. This indicates that the sample did not have a substantial gender imbalance.

The majority of respondents were aged 20–30 years (69.64%), while 23.21% were aged 30–40 years and 7.14% were above 40 years. The relatively large proportion of younger respondents is relevant to the study because the research examines skills required in an increasingly technology

driven insurance environment, in which students and early career professionals constitute an important part of the future insurance workforce.

Regarding respondent category, employees constituted the largest proportion (43.30%), closely followed by students (42.41%). Managers accounted for 8.04%, while interns represented 6.25% of the respondents. The inclusion of both individuals already working in the insurance related environment and those preparing to enter the workforce provides perspectives from different stages of professional development.

In terms of field of study, Actuarial Science was the most represented field (46.88%), followed by Insurance (21.88%), Finance (16.52%) and other fields (14.73%). This composition provides substantial representation from disciplines closely associated with the insurance industry.

4.4 Awareness and Exposure to Artificial Intelligence

The study assessed respondents' awareness of Artificial Intelligence (AI) and their exposure to AI applications within their organisations or respective fields. These measures were considered important in establishing the extent to which respondents are familiar with the technological changes relevant to an AI driven insurance industry.

Table 4. 3; Respondents' awareness and exposure to Artificial Intelligence

Indicator	Response	Frequency (n)	Percentage (%)
Awareness of Ai	No	35	15.63
	Yes	189	84.38
Ai used in organisation	No	32	14.29
	Not sure	43	19.20
	Yes	149	66.52
Total respondents		224	100.00

Interpretation of Findings

The findings in Table 4.3 indicate a high level of awareness of Artificial Intelligence among the respondents. Of the 224 respondents, 189 (84.38%) reported having heard about AI, while 35 (15.63%) had not. This suggests that AI is already relatively familiar to most of the respondents included in the study.

Regarding actual exposure to AI, 149 respondents (66.52%) reported that AI is being used in their organisation or field. However, 43 respondents (19.20%) were unsure whether AI was being used, while 32 (14.29%) reported that it was not being used. The difference between general awareness of AI and reported exposure to its application suggests that being aware of AI does not necessarily mean that respondents have direct experience with AI technologies in their work or field.

This finding is particularly relevant to the study because awareness alone may not be sufficient for success in an AI driven insurance environment. As AI becomes increasingly integrated into insurance activities, individuals may require practical competencies that enable them to understand, interact with and adapt to AI enabled systems.

4.5 Perceptions of Artificial Intelligence and the Changing Nature of Insurance Work

The study examined respondents' perceptions regarding the implications of Artificial Intelligence for insurance employment. Specifically, respondents were asked whether AI is changing insurance job roles, whether it is creating new employment opportunities, and whether their current or future jobs are at risk due to AI. Responses were measured using a five point Likert scale ranging from strongly disagree to strongly agree.

Table 4. 4; Respondents' perceptions of AI and the changing nature of insurance work

Statement	Strongly Disagree (n) (%)	Disagree (n) (%)	Neutral (n) (%)	Agree (n) (%)	Strongly (n) (%)
Ai is changing insurance job roles	14(6.23)	17(7.59)	62(27.68)	102(45.54)	29(12.95)
Ai is creating new insurance job opportunities	17(7.59)	36(16.07)	71(31.70)	81(36.16)	19(8.48)
My current/future job is at risk because of Ai	16(7.14)	53(23.66)	94(41.96)	48(21.43)	13(5.80)

Note: Percentages are based on 224 respondents.

Interpretation of Findings

The findings indicate that respondents generally perceived Artificial Intelligence as a significant influence on the nature of insurance work. More than half of the respondents (58.49%) agreed or strongly agreed that AI is changing insurance job roles, while 44.64% agreed or strongly agreed that AI is creating new insurance job opportunities. In contrast, only 27.23% agreed or strongly agreed that their current or future jobs are at risk because of AI, while 41.96% remained neutral on this issue. The findings therefore suggest that respondents largely view AI as a force changing the way insurance work is performed, rather than solely as a threat to employment. This perception highlights the importance of developing relevant skills that enable insurance professionals to adapt to changing technological demands.

Table 4. 5; Skills considered important for success in an AI driven insurance industry

Rank	Skill	Frequency (n)	Percentage (%)
1	Data analysis	108	48.21
2	Computer/IT skills	109	45.98
3	Critical thinking	99	44.20
4	Programming skills	96	42.86
5	Problem solving	94	41.96
6	Adaptability	92	41.07
7	Communication skills	89	39.73

Note: Respondents could select more than one skill; therefore, percentages do not sum to 100%.

Interpretation

The findings indicate that respondents considered a range of technical, analytical and interpersonal skills important for success in an AI driven insurance industry. Data analysis was the most frequently selected skill (48.21%), followed by computer/IT skills (45.98%) and critical thinking (44.20%). Programming skills, problem solving and adaptability were selected by 42.86%, 41.96% and 41.07% of respondents, respectively, while communication skills recorded the lowest proportion at 39.73%. Overall, the findings suggest that success in an AI driven insurance

environment is perceived to require a combination of data related, technological, analytical and interpersonal competencies, rather than reliance on a single skill category

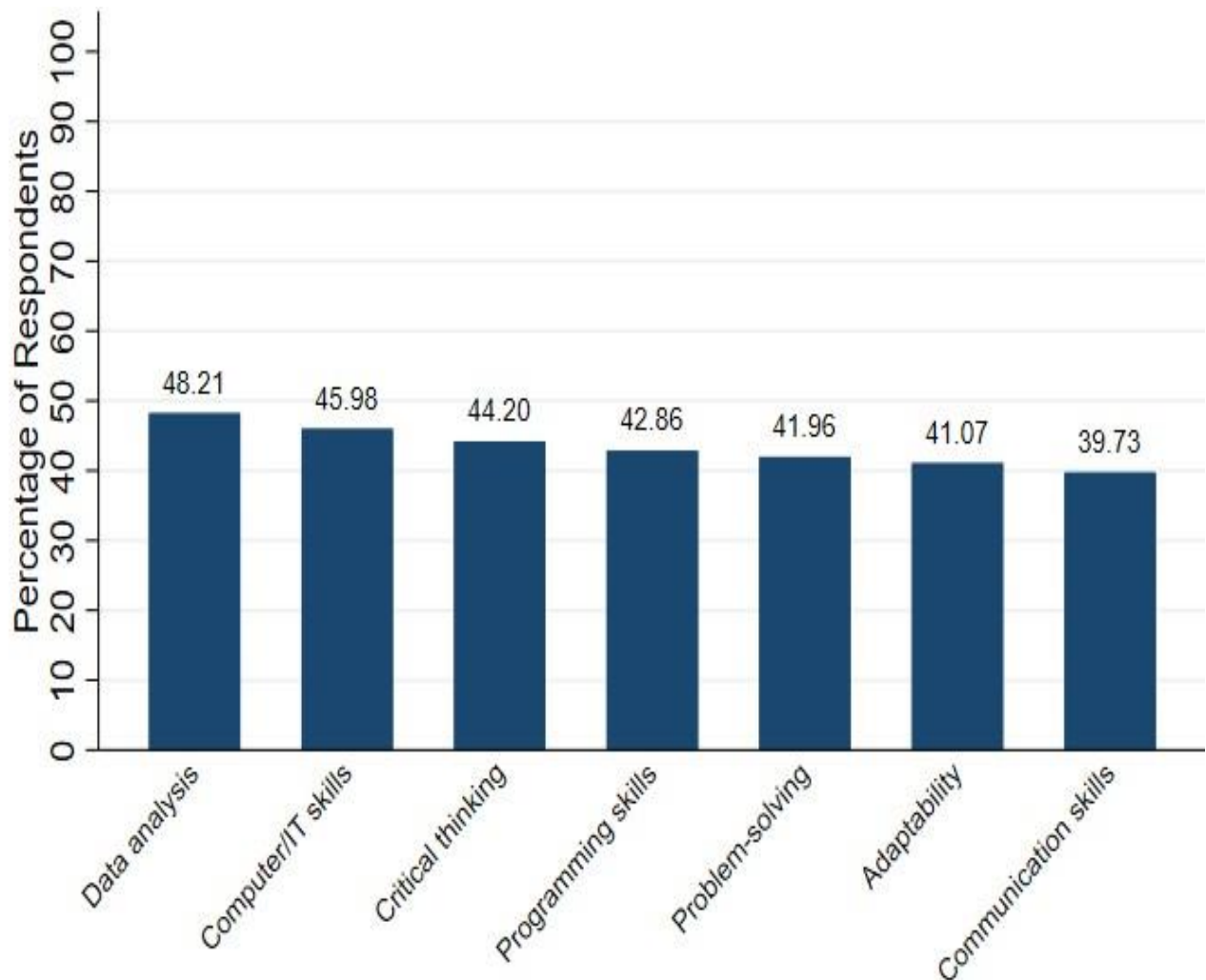


Figure 4. 1; Skills Considered Important for Success in an AI Driven Insurance Industry

4.6 Preparedness and Training for an AI Driven Insurance Environment

The study further assessed respondents' preparedness for an AI driven insurance environment, the extent to which their education and training provide relevant AI skills, their exposure to AI, data and technology courses, and their confidence in using AI related tools.

Table 4. 6; Preparedness and Training for an AI Driven Insurance Environment

Indicator	Response	Frequency (n)	Percentage (%)
Prepared for an Ai driven insurance environment	No	66	29.46
	Don't know	49	21.88
	Yes	109	48.66
Your current education/training provides Ai related skills	Strongly disagree	17	7.59
	Disagree	52	23.21
	Neutral	77	34.38
	Agree	67	29.91
	Strongly agree	11	4.91
Taken an AI, data or technology course	Yes	124	55.36
	No	100	44.64
Confidence in using AI related tools	Not confident	31	13.84
	Neutral	77	34.38
	Confident	87	38.84
	Very confident	29	12.95

Interpretation of Findings

The findings reveal a mixed level of preparedness for an AI driven insurance environment. Although almost half of the respondents considered themselves prepared, a substantial proportion were either not prepared or uncertain about their readiness. Respondents also expressed mixed views regarding whether their existing education and training adequately provide the skills required for an AI driven workplace. This is further reflected in the relatively limited exposure to formal courses in AI, data and technology. Despite these gaps, respondents generally demonstrated a reasonable level of confidence in using AI related tools. Overall, the findings suggest that awareness and confidence in AI are developing, but opportunities for structured training and skills development remain important for improving workforce readiness.

4.7 Respondents' Views on Remaining Relevant in the AI Era

The open-ended responses provided further insight into what respondents considered important for remaining relevant in an AI driven work environment. A recurring theme was the need for continuous learning and skills development, with respondents emphasising the importance of keeping up with emerging technologies, acquiring new knowledge and undertaking additional training. This suggests that respondents view relevance in the AI era as an ongoing process that requires individuals to continually update their skills rather than relying solely on existing academic qualifications.

Another prominent theme was the need to develop AI and digital competencies while remaining adaptable to technological change. Respondents highlighted the importance of learning how to use AI tools and integrating them into their work. For example, one respondent stated that individuals should “keep up to date with emerging technologies and find ways of integrating AI into your workflows,” while another emphasised “focusing on skills AI cannot easily replace, like critical thinking.” These responses indicate that respondents recognise the importance of combining technological competence with human capabilities that complement rather than compete with AI.

Overall, the qualitative findings suggest that remaining relevant in the AI era requires a combination of continuous learning, digital and AI skills, adaptability and human centred capabilities such as critical thinking. These findings complement the quantitative results presented in the preceding sections and reinforce the need for individuals, educational institutions and employers to support continuous skills development in Uganda's evolving insurance industry.

4.8 Inferential Analysis

Pearson's Chi square test of independence was used to examine the association between the AI related skills identified by respondents and preparedness for an AI driven insurance environment.

The analysis was conducted at the 5% level of significance.

Table 4. 7; Association between AI related skills and preparedness for an ai driven insurance environment

AI-related skill	Not prepared n (%)	Don't know n (%)	Prepared n (%)	Total selected	Pearson χ^2	p-value	Decision
Data analysis	25(23.1)	24(22.2)	59(54.6)	108	4.362	0.113	Not significant
Computer/IT	23(22.3)	18(17.5)	62(60.2)	103	10.193	0.006	significant
Problem-solving	28(29.8)	21(22.3)	45(47.9)	94	0.043	0.979	Not significant
Communication	34(38.2)	23(25.8)	32(36.0)	89	9.789	0.007	significant
Critical thinking	27(27.3)	21(21.2)	51(51.5)	99	0.622	0.733	Not significant
Adaptability	32(34.8)	21(22.8)	39(42.4)	92	2.824	0.244	Not significant
Programming	33(34.4)	14(14.6)	49(51.0)	96	5.654	0.059	Not significant

Note: Percentages are calculated within each skill-selection group. Respondents could select more than one skill; therefore, the skill totals do not sum to 224.

Interpretation

The findings indicate that computer/IT skills and communication skills were significantly associated with preparedness for an AI driven insurance environment. Computer/IT skills showed a statistically significant association with preparedness, $\chi^2(2) = 10.193$, $p = 0.006$, while communication skills were also significantly associated with preparedness, $\chi^2(2) = 9.789$, $p = 0.007$. However, no statistically significant associations were found for data analysis, problem solving, critical thinking, adaptability, or programming skills. Overall, the findings provide partial evidence of an association between AI related skills and workforce readiness, with significant relationships observed for computer/IT and communication skills.

CHAPTER FIVE

SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the major findings, conclusions and recommendations of the study on the skills required for success in Uganda's AI driven insurance industry. The conclusions and recommendations are based on the findings presented in Chapter Four.

5.2 Summary of Findings

The study found that respondents generally recognised the growing importance of Artificial Intelligence in Uganda's insurance industry. Most respondents were aware of AI, and a substantial proportion indicated that AI was already being used in their organisation or field. The findings also showed that respondents identified a range of technical and human centred skills as important for success in an AI driven insurance environment, including data analysis, computer/IT skills, problem solving, communication, critical thinking, adaptability and programming.

The findings further showed varying levels of preparedness for an AI driven insurance environment. While nearly half of the respondents indicated that they were prepared, a considerable proportion were either not prepared or uncertain about their preparedness. The study also found that respondents who had undertaken AI, data or technology courses tended to report higher levels of confidence in using AI related tools. Respondents generally perceived that AI would change insurance job roles and create new opportunities, although concerns about the potential impact of AI on some jobs were also evident.

The open ended responses reinforced the quantitative findings, with respondents emphasising continuous learning, development of AI and digital competencies, adaptability, practical use of technology, and the continued importance of human skills such as critical thinking and communication. The inferential analysis further showed statistically significant associations between computer/IT skills and preparedness, and between communication skills and preparedness. However, no statistically significant associations were found for data analysis, problem solving, critical thinking, adaptability or programming. Overall, the findings indicate that developing relevant technical and human centred skills, together with continuous exposure to

emerging technologies, is important for workforce readiness in Uganda's AI driven insurance industry.

5.3 Discussion of Findings

The study found that data analysis, computer/IT skills, problem solving, communication, critical thinking, adaptability, and programming were considered important skills for success in an AI driven insurance industry. This is consistent with the World Economic Forum (2023), which identifies analytical thinking, technological literacy, AI and big data, adaptability, and interpersonal skills as increasingly important in the changing labour market. The findings therefore suggest that success in Uganda's insurance industry will require both technical and human skills as AI becomes more integrated into insurance operations.

The study further found significant associations between computer/IT skills and preparedness, $\chi^2(2) = 10.193$, $p = 0.006$, and between communication skills and preparedness, $\chi^2(2) = 9.789$, $p = 0.007$. This supports the literature reviewed in Chapter Two, which emphasizes continuous learning and skills development as technology changes workplace requirements. However, data analysis, problem solving, critical thinking, adaptability, and programming were not significantly associated with preparedness. This does not mean that these skills are unimportant, but rather that their relationship with preparedness was not statistically evident among the respondents in this study.

The findings also show that respondents recognized that AI is likely to change insurance job roles and career opportunities. This agrees with Autor (2015), who argues that technological change can transform work rather than simply eliminate jobs. The findings therefore suggest that AI should be viewed not only as a potential threat to employment but also as a driver of changing skill requirements. Consequently, continuous training, practical digital skills development, and collaboration between universities and insurance employers are important for preparing Uganda's insurance workforce for an AI driven environment. This is consistent with the literature reviewed in Chapter Two, which emphasizes reskilling and upskilling as important responses to technological change.

5.4 Conclusions

The study concludes that success in Uganda's AI driven insurance industry will require a combination of technical, analytical and human centred capabilities. The findings demonstrate that

respondents recognise the importance of developing skills that enable individuals to work effectively in an increasingly digital and AI driven insurance environment.

The study further concludes that workforce readiness remains an important issue as AI adoption increases. Although many respondents reported being prepared, the proportion who were either unprepared or uncertain indicates a continuing need for training, practical exposure and continuous professional development. The significant associations between computer/IT skills, communication skills and preparedness further demonstrate the relevance of both technological and human capabilities.

Finally, the study concludes that AI should not be viewed solely as a threat to employment in the insurance industry. Rather, it is likely to transform existing roles while creating new opportunities and changing the skills required. Continuous learning and adaptation will therefore be essential for current and future insurance professionals to remain relevant.

5.5 Recommendations

5.5.1 Insurance Companies

Insurance companies should invest in continuous training and professional development programmes that strengthen employees' AI, digital and data related capabilities while also developing communication, critical thinking and problem-solving skills.

5.5.2 Universities and Higher Learning Institutions

Universities offering actuarial science, insurance, finance and related programmes should strengthen the integration of AI, computer/IT, data analysis and programming skills into their curricula. Greater emphasis should also be placed on practical applications of these skills within insurance.

5.5.3 Professional Bodies and Training Providers

Professional bodies and training providers should develop accessible short courses, workshops and continuing professional development programmes focused on AI, digital technologies and emerging insurance practices.

5.5.4 Students and Future Insurance Professionals

Students and future insurance professionals should engage in continuous learning and seek practical exposure to AI tools, data analysis and digital technologies while maintaining strong communication, critical thinking and problem-solving abilities.

REFERENCES

- Autor, D.H. (2015). Why are there still so many jobs? The history and future of workplace automation. *Journal of Economic Perspectives*, 29(3), 3–30. doi: 10.1257/jep.29.3.3.
- Autor, D.H., Levy, F. & Murnane, R.J. (2003). The skill content of recent technological change: An empirical exploration. *The Quarterly Journal of Economics*, 118(4), 1279–1333. doi: 10.1162/003355303322552801.
- Becker, G.S. (1964). *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*. New York: National Bureau of Economic Research.
- Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. doi: 10.2307/249008.
- Deloitte. (2022). *The AI Upskilling Imperative for Financial Services: Building a Future-Ready Workforce for the AI Age*. Deloitte.
- Merotto, D.L. (2020). *Uganda: Jobs Strategy for Inclusive Growth*. Washington, D.C.: World Bank Group.
- Organisation for Economic Co-operation and Development (OECD). (2023). *OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market*. Paris: OECD Publishing. doi: 10.1787/08785bba-en.
- World Economic Forum (WEF). (2023). *The Future of Jobs Report 2023*. Geneva: World Economic Forum.

APPENDICES

Appendix 1: THE RESEARCH QUESTIONNAIRE:

SKILLS REQUIRED FOR SUCCESS IN UGANDA'S AI-DRIVEN INSURANCE INDUSTRY

Dear Respondent,

I am conducting a study on the skills required for success in Uganda's AI-driven insurance industry. Your responses will be used strictly for academic purposes and will be treated with confidentiality. Participation is voluntary, and you may choose not to answer any question you are uncomfortable with. Thank you for your time and participation.

SECTION A: BACKGROUND INFORMATION

- 1. Gender:** Male / Female
- 2. Age:** 20–30 / 30–40 / Above 40
- 3. Category:** Student / Intern / Employee / Manager
- 4. Field of study:** Actuarial Science / Insurance / Finance / Other

SECTION B: AWARENESS AND USE OF AI

5. Have you heard about Artificial Intelligence (AI)?

Yes / No

6. Is AI being used in your organization or field of study?

Yes / No / Not sure

7. In which areas is AI most used?

Underwriting / Claims Processing / Fraud Detection / Customer Service / Data Analysis / Not Sure

SECTION C: IMPACT OF AI

8. AI is changing job roles in the insurance industry.

Strongly disagree / Disagree / Neutral / Agree / Strongly agree

9. AI creates new job opportunities in insurance.

Strongly disagree / Disagree / Neutral / Agree / Strongly agree

10. I feel my current/future job is at risk due to AI.

Strongly disagree / Disagree / Neutral / Agree / Strongly agree

SECTION D: SKILLS REQUIRED FOR SUCCESS

11. Which skills do you think are MOST important in an AI-driven insurance industry?

Data analysis / Computer/IT skills / Problem-solving / Communication skills / Critical thinking /
Adaptability / Programming skills

SECTION E: PREPAREDNESS

12. Do you feel prepared to work in an AI-driven insurance environment?

Yes / No / Don't know

13. Your current education/training equips you with AI-related skills.

Strongly disagree / Disagree / Neutral / Agree / Strongly Agree

14. Have you taken any courses related to AI, data, or technology?

Yes / No

15. How confident are you in your ability to work with AI-related tools?

Not confident / Neutral / Confident / Very confident

SECTION F: STRATEGIES FOR SUCCESS

16. In your opinion, what is the MOST important thing someone should do to remain relevant in the AI era?