

## Relationship between risk assessment and performance of projects in non-government organizations in South Sudan. A cross-sectional study.

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### ABSTRACT

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#### Background:

The study aimed to determine the relationship between risk Assessment and performance of projects in NGOs in South Sudan.

#### Methodology:

The study adopted a cross-sectional survey design using both qualitative and quantitative approaches. The target population comprised 220 NGO staff, from which a sample of 136 respondents was selected using stratified, purposive, and simple random sampling. Primary data were collected through questionnaires, interviews, and focus group discussions, while secondary data were obtained from documents and literature. Instruments were pretested for validity and reliability, achieving acceptable Cronbach's alpha values above 0.7. Data were analyzed using SPSS for quantitative data and content analysis for qualitative data, adhering to ethical standards

#### Results:

Out of 136 sampled respondents, 120 returned completed questionnaires, yielding a response rate of 88.89%, exceeding the recommended 70% threshold. Age analysis showed 40% were 31-40 years, 22% were 41-50 years, 24% were 20-30 years, 12% were above 50, and 2% below 20. Educationally, 67.5% held bachelor's degrees, 20.83% postgraduate qualifications, 10% diplomas, and 1.67% secondary certificates. Regarding experience, 34% had worked 1-5 years, 33% 5-10 years, 21% over 10 years, and 13% less than one year. Project officers constituted 48% of respondents, followed by finance officers (18%) and supervisors (15%). Risk assessment affected project performance to a great extent (37%) and a very great extent (32%). Regression results showed risk prevention had a positive, significant effect on performance ( $\beta=0.175$ ,  $t=3.712$ ,  $p<0.001$ ). Non-response accounted for 11.11%, while university and postgraduate respondents together represented 88.33% of the total sample population. Characteristics were consistent.

#### Conclusion:

Risk Assessment has a positive and significant effect on the performance of the projects.

#### Recommendation:

Project management should fully integrate systematic risk assessment practices into project implementation to identify, analyze, and prioritize potential risks early.

**Keywords:** Risk Assessment, Ngos Projects, Project Performance, Risk Perception.

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### BACKGROUND OF THE STUDY

Risk assessment forms the foundation of effective risk management. According to the Project Management Institute (PMI, 2013), risk management provides a structured approach through which risks are identified, analyzed, evaluated, and managed in a consistent and systematic manner. Similarly, Burtonshaw-Gunn (2017) emphasizes that structured risk management enables organizations to anticipate uncertainties and improve decision-making during project implementation. Historically, risk has been defined as the possibility of an uncertain loss or gain, particularly in relation to investments or undertakings, while loss exposure refers to the magnitude of potential loss an organization may face due to a specific event (Gorrod, 2004). Project risk analysis, therefore, creates room for project success by

anticipating uncertainties that may arise during project implementation.

Risk perception is a critical component of risk assessment. Risk perception refers to how individuals interpret and evaluate potential hazards to which they may be exposed. According to Kothari (2004), perceptions of risk are shaped by experience, beliefs, and contextual factors, which in turn influence decision-making. These perceptions vary among individuals and organizations depending on past experiences and exposure to uncertainty, thereby affecting responses to potential project risks. Although risks cannot be directly observed, project stakeholders continuously form judgments about possible threats that may affect project timelines, costs, and quality, which influences the overall effectiveness of risk assessment practices.

Theoretical perspectives emphasize that improving project performance requires effective management of all forms of risk. Kerzner (2017) proposes that project success depends on early identification, analysis, and prioritization of risks, supported by continuous monitoring and control. Similarly, the Project Management Institute (PMI, 2008) defines risk as the probability of loss or gain arising from uncertainty and emphasizes that proactive risk assessment enhances the likelihood of achieving project objectives. These perspectives highlight the importance of systematic risk assessment in improving project performance. The study, therefore, aimed to determine the relationship between risk assessment and the performance of projects in NGOs in South Sudan.

## METHODOLOGY

### Research Design

The study applied a cross-sectional survey design. It was

chosen because the study involved various groups of people. The study selected various participants in a short period of time and never intended to carry out follow-ups with the participants. The study adopted both qualitative and quantitative procedures of data collection and analysis. Quantitative methods provided data for statistical purposes, while qualitative methods provided data in detail through content analysis of the information provided by the respondent.

### Study Population

A population is a set of members who belong to a group within which research is carried out that possess homogeneous observable characteristics (Barasa, Ikamari, Kiplang'at& Oladipo, 2015). The target population for this study will consist of a total of 220 respondents, including 20 general managers, 45 project supervisors, 40 M&E officers, 70 project officers, and 45 finance officers.

**Table 1 Target Population**

Department	Respondents
General Managers	20
Project Supervisors	45
Monitoring & Evaluation officers	40
Project Officers	70
Finance Officers	45
<b>Total</b>	<b>220</b>

### Sampling procedure and size

#### Sampling Procedure

The study applied both stratified and simple random sampling procedures.

A **simple random sampling technique** was applied for randomly distribution of the research questionnaire to various categories of people in various departments of the AAH-I South Sudan mission.

A **stratified sampling technique** was used to organize the various selected key Respondents were selected to obtain a cross-section of the targeted population, giving equal opportunity to all chosen participants to take part in the study and provide accurate information on risk management, particularly on the tools used for risk identification, mitigation, and monitoring.

#### Sample size

A sample is defined as a subset of a population (Amin, 2005). The study considered a sample size of 136

respondents, as determined using the Krejcie and Morgan (1970) table for sample size determination. The sample comprised project managers, project officers, human resource personnel, project assistants, and beneficiaries. A simple random sampling method was used because it provided equal opportunity for all members of the finite population to participate. The sample size was considered adequate, representative of the population, and manageable in terms of time, cost, and other resources.

Therefore, the sample is represented by:

$n$  = required sample size.

$X^2$  = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).  $N$  = the population size.

$P$  = the population proportion (assumed to be .136 since this would provide the maximum Sample size).

$d$  = the degree of accuracy (the margin of error) expressed as a proportion (.05).

The target population may have potential participants;

therefore, by using Krejcie and Morgan’s method of determining a sample size, it came up with 220 respondents was obtained. According to the Central Limit Theorem, if the sample size is large enough ( $N > 30$ ), then the data follows a normal distribution curve (Gilbert & Churchill, 2001), and 500 is sufficient to give credible results of a field investigation.

Purposive sampling and simple random sampling shall be used for the selection of respondents in each department.

### Sampling techniques

**Table 2: Sample Size**

Department	Respondents/Population	Sample size	Sample method
General Managers	20	10	Purposive
Project Supervisors	45	26	Simple random
Monitoring & Evaluation officers	40	26	Simple random
Project Officers	70	52	Simple random
Finance Officers	25	21	Simple random
<b>Total</b>	<b>220</b>	<b>136</b>	

### Data Collection Sources

#### Primary data

Questionnaires and interviews were used to collect primary data, and both open-ended questions were included to obtain detailed information from respondents about the topic under study.

#### Secondary data

Available secondary data were used, particularly from personnel and records departments of the institutions, as well as textbooks, journals, newspapers, the library, the internet, and councilors, among other sources, to provide critical evidence and relevant references.

### Data collection techniques and pretesting

Data were collected using questionnaires, observations, and interviews during the study. The choice of these methods was based on the type of data required, the time available, and the objectives of the study.

Public transport such as taxis and bodabodas was used to access the study area, and notebooks were used to keep track of the information collected.

### Questionnaire Guide

Questionnaires were used as the key data collection tool during the study. They consisted of open-ended questions administered to different respondents, including project assistants, managers, officers, and human resource

personnel, enabling them to provide accurate information on the impact of risk management on projects. The completed questionnaires were collected for data processing and analysis. An interview guide was also used to obtain additional information relevant to the study.

Key questions were designed for key informants such as heads of NGOs, project managers, human resource personnel, and project officers. A structured list of questions was used during personal interviews to ensure that qualitative data were effectively collected during the study.

### Focus group discussions

Focused group discussions were conducted in which some human resource personnel was requested to help in identifying some survivors who participated in the interviews, those with legitimate knowledge about how they have been managed after the incident. The KII focused on issues such as risk management, identification, analysis, project performance before and after risk mitigation, involvement of stakeholders, and project values.

### Validity of the Instruments

Validity refers to the extent to which an item measures what it's established to measure. Hair and Lukas (2014) define the validity of a data collection instrument questionnaire as the extent to which it measures what it

claims to measure. To eliminate bias and unclear phrases, the piloted questionnaire was tested. Testing of the piloted questionnaire ensured that the final questionnaire has the capability of eliciting information that answers the research question. Content and Construct validity were also determined in this study. To confirm the validity of the structured questionnaires, questionnaires were administered to managers and supervisors. Invalid questions were then removed from the final questionnaires after the review process.

### Reliability of the Instruments

Reliability refers to the consistency of the outcome when a test is carried out over and over. Cronbach's alpha ( $\alpha$ ) will be employed in the analysis of the pilot test data to determine the internal consistency or

average correlation of items in a survey instrument to gauge its reliability. According to Yin (2017), Cronbach's alpha ( $\alpha$ ) indicates the extent to which the set of research instruments is reliable, making it appropriate for the study. A coefficient value of above 0 implies that the research instruments (questionnaire) are reliable, thus appropriate for use in the study.

### Reliability Test

The study conducted a pilot study, which was used to test the reliability of the study instruments by assessing the consistency of data arising from the use of the study research method. A Cronbach's alpha was used to measure the reliability of the research questionnaires. The Cronbach findings were as shown in Table 3.

**Table 3: Reliability Test**

Variable	Number of Coefficient	Cronbach Alpha
Risk prevention	5	0.794
Risk control	5	0.809
Risk assessment	5	0.862
Average		0.823

*Source: Field data, 2024*

The study indicated that risk transfer as a risk management practice had a Cronbach's Alpha of 0.827, risk prevention had a coefficient of 0.794, and risk control had a coefficient of 0.809. Since the Cronbach alpha coefficients were all more than 0.7, the data collection instruments were deemed statistically reliable to collect data for the study.

### Data Processing and Analysis

#### Data analysis

Following the collection of primary data, the questionnaires were thoroughly reviewed and corrected to guarantee accuracy and completeness. Using the SPSS Statistical package, where analysis was done and summarized in tables with the aid of frequencies and percentages in response to questionnaires. Additions and deductions were also made from the necessary materials in the form of secondary data that were used in the analysis in a manner that yielded answers to the research questions. Qualitative data were analyzed using content analysis.

#### Data processing

Collected data was edited to ensure that the information from respondents was accurate and consistent, and this

was conducted after every interview with respondents. The coding involved assigning numerical figures to each question according to the different codes of response. And data Tabulation was done basically with illustrative writing interpretation and analysis. That involved the use of frequency distribution tables that made it easy to understand and for comparison purposes.

### Ethical Consideration

The study was conducted in an ethical manner. Ethics, defined as norms governing human conduct with a significant impact on human welfare (Kothari, 2004), guided the research process. Permission to carry out the study was obtained through a formal letter requesting approval and explaining the purpose of the research. Respondents were assured that all information provided would be treated with strict confidentiality, and the study was conducted professionally throughout.

## RESULTS

### Response Rate

Out of the 136 respondents sampled for the study, 120 of them completed the questionnaires and presented them for analysis. This is presented in the table 3.

**Table 4: Response Rate**

Response rate	Frequency	Percentage
Response	120	88.89
Non-Response	15	11.11
<b>Total</b>	<b>135</b>	<b>100</b>

*Source: Field data, 2024*

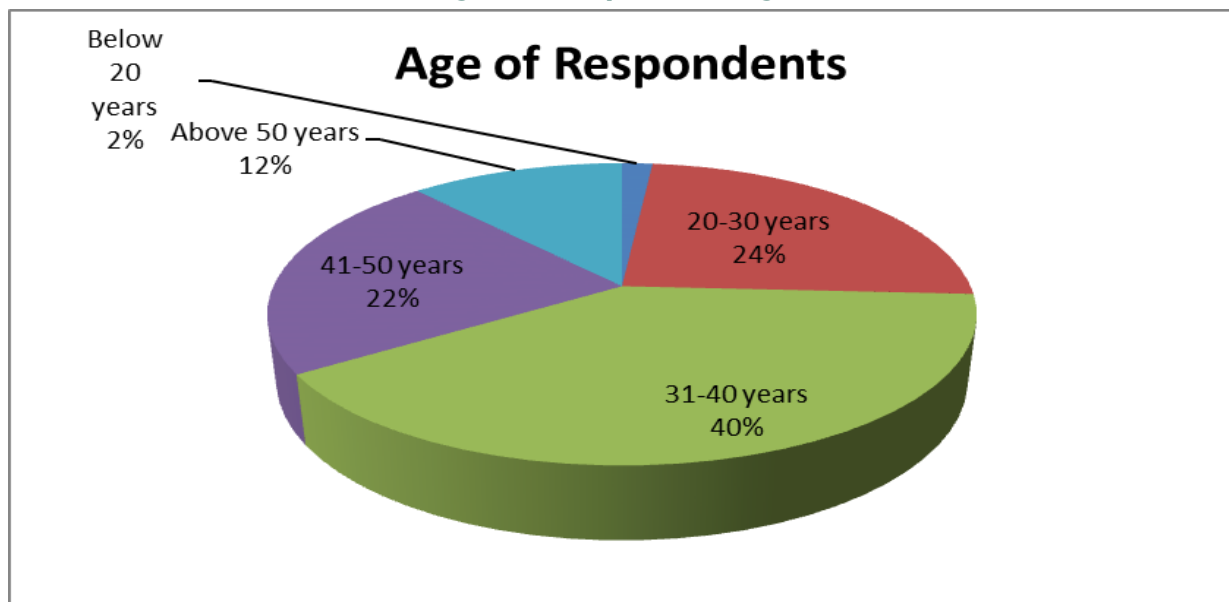
**Demographic Data**

The study assessed the demographic background of the respondents among the projects in NGOs in South Sudan, based on their age, highest education level, period worked among the projects, and the job designations of the respondents. The findings were as presented below.

**Age of Respondents**

The study analyzed the age distribution of the respondents who were employees in the projects in AAH-1. This was to ascertain their level of maturity and appropriateness as employees and respondents to the study. The pie chart below presents the findings.

**Figure 1: Respondents' Age**



*Source: Field data, 2024*

As presented in Figure 1, 40% of the respondents were aged between 31 and 40 years, 24% were aged between 20 and 30 years, 2% were below 20 years, 12% were above 50 years, while 22% were between 41 and 50 years. This indicates that the majority of the respondents were aged above 30 years. This shows that they were grown-ups in the active labour force and above to deliver on their

mandate.

**Highest Academic Level**

The study sought to establish the highest education level of the respondents. The findings were tabulated below.

**Table 5: Highest Academic Qualification**

Academic Qualification	Frequency	Percentage
Primary certificate	0	0
Secondary certificate	2	1.67

College diploma	12	10.00
University graduate	81	67.50
Post-graduate	25	20.83
Total	120	100

*Source: Field data, 2024*

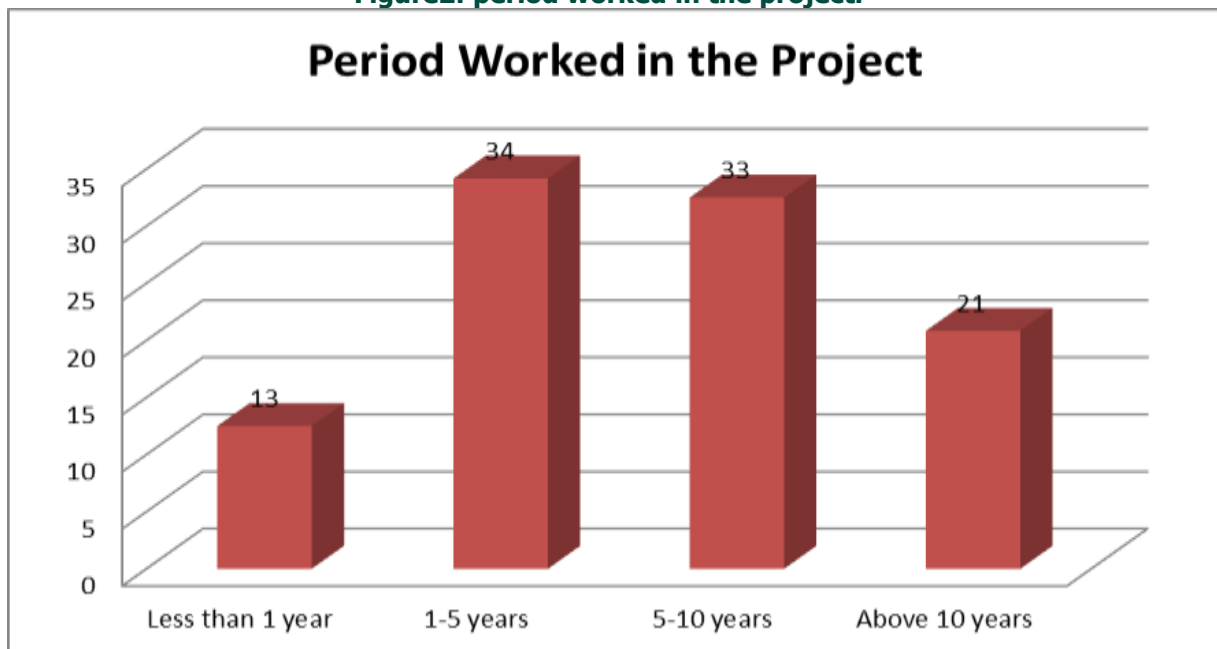
The study established that 1.67% of the respondents among the projects in Nairobi City County were secondary school graduates, 10% had college diplomas, and 67.5% were university undergraduates, while 20.83% had post-graduate qualifications. This indicates that most of the project staff among the projects were bachelor's degree holders. This shows that the staff had the necessary

academic skills and knowledge to perform their duties.

**Period worked in the current organization.**

The study sought to find out the number of years the respondents had worked on their respective projects. The findings were presented in the figure 2.

**Figure2: period worked in the project.**



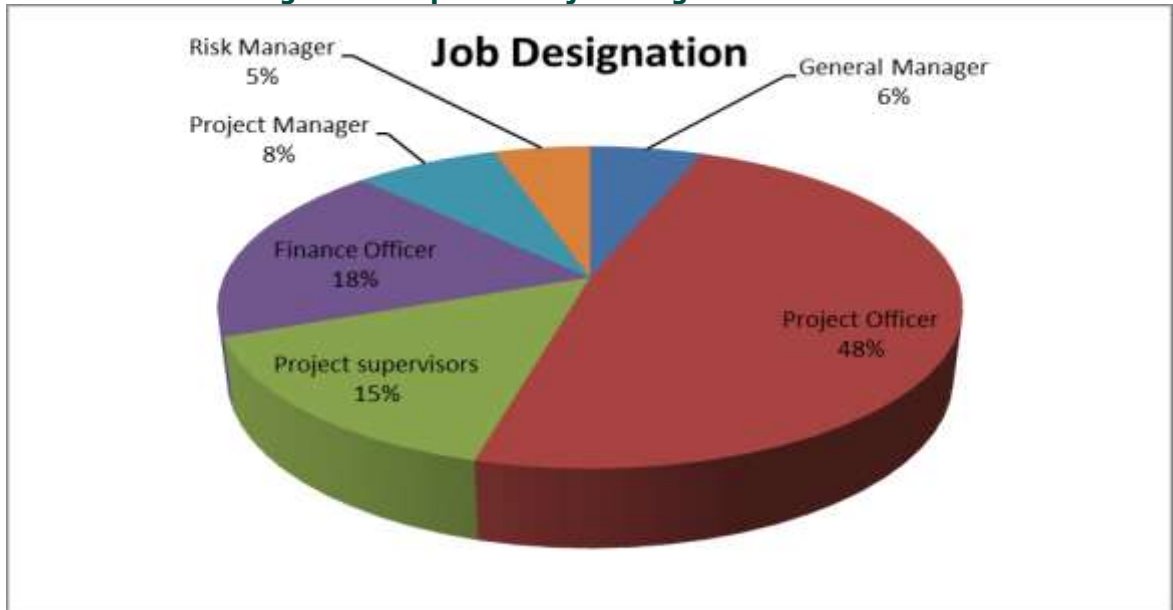
*Source: Field data, 2024*

The study established that 13% of the respondents had worked for less than 1 year in the projects of AAH-1, 34% had worked for between 1 and 5 years, 33% had worked for between 5 and 10 years, while 21% had worked for more than 10 years. This indicates that most of the project staff had worked for more than 1 year in their project, hence understood the operations, risks encountered, possible mitigation strategies, and project performance. This makes them better at making the study valid.

**Job designation**

The study, in the process of assessing the background information regarding the respondents' suitability for the study, sought to determine the job designation of the respondents in their respective organizations or projects. The figure below presents the findings.

**Figure 3: Respondents' job designation**



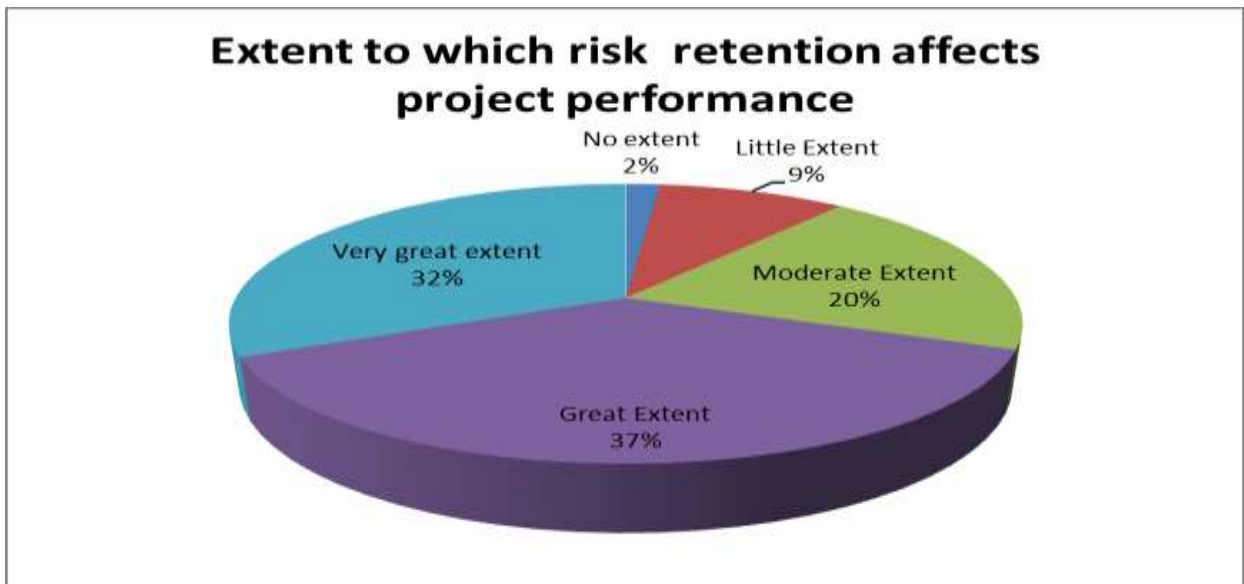
*Source: Field data, 2024*

As presented in Figure 3, 5% of the respondents were risk managers in the respective organizations, 8% were project managers, 6% were general managers, 48% were project officers, 15% were project supervisors, while 18% were finance officers. This indicates that the majority of the respondents were project officers. All cadres of management in the organizations or projects were fairly and significantly represented.

**Risk Assessment and Project Performance**

The study sought to establish the effect of risk assessment on project performance. The respondents were therefore asked to indicate the extent to which risk assessment contributed to project performance.

**Figure 4: Risk Assessment and Project Performance**



*Source: Field data, 2024*

The study respondents indicated that to a great extent (37%) risk assessment affected project performance, 20% of them indicated that risk assessment had a moderate effect on performance, 9% indicated that it had a little effect, 2% indicated that it had no effect, while 32%

indicated that it had a very great effect. This indicates that risk assessment, to a significant extent, had an effect on the performance of projects in AAH-1. Naktare (2021) in his study also made similar findings that adopting a contingency plan to minimize hazard risks,

financial risks, operational and strategic risks has a direct and significant effect on project performance.

The study further asked respondents to indicate the extent to which they agreed or disagreed with the following statements on risk retention on a scale of 1-5, where 1=strongly disagree, 2=disagree, 3- undecided, 4= agree, and 5= strongly agree.

### Regression Coefficient

The study used a regression coefficient to establish the effect of individual variables of risk management practices on the performance of projects in AAH-1, South Sudan. The findings are indicated in Table 6.

**Table 6: Regression Coefficient  
Unstandardized Standardized coefficients**

Model	B	Std. Error	Beta	T	Sig.
(constant)	5.194	1.06		2.213	.000
Risk prevention	0.799	.039	.175	3.712	.000

a. Dependent variable: Project Performance

*Source: Field data, 2024*

### DISCUSSION

The study established that risk assessment significantly influenced the performance of projects in AAH-1, South Sudan. Findings indicated that risk assessment to a great extent affected project performance, particularly in terms of timely completion and effective resource utilization. Respondents generally agreed that their organizations had adopted practices such as self-insurance to minimize the impact of adverse events that could delay projects. However, it was also noted that in some cases, organizations took no action on identified risks, despite the potential negative effects on project duration, especially where the risks were perceived to be manageable.

The study further revealed that organizations advocated for the use of alternative plans to avoid circumstances that could lead to project delays. This indicates that the organizations significantly employed risk assessment practices such as calculated risk-taking, self-insurance, and contingency planning. These findings are consistent with studies by Adeleke et al. (2016) and Kinyua et al. (2015), which established that effective risk assessment practices contribute positively to project performance. Additionally, Carvalho and Rabechini (2015) argue that integrating risk assessment into project planning enhances organizational preparedness and improves project outcomes. Overall, the findings demonstrate that effective application of risk assessment practices plays a critical role in enhancing project performance.

### CONCLUSION

It was concluded that risk Assessment had a positive and significant effect on the performance of the projects. To a great extent, risk retention as a risk management practice had a positive effect on project performance.

### Limitations of the study

Some challenges were encountered during the study, but appropriate measures were taken to ensure it proceeded

smoothly. The time allocated for the research was limited due to tasks such as data collection, editing, coding, analysis, and report presentation; this was managed by strictly following the set work plan.

Difficulty was experienced with some respondents who were unwilling to share information, fearing that confidential organizational data might be compromised. This concern was addressed by presenting the student's identity card and a formal introduction letter from Team University.

Financial constraints also arose due to multiple trips, the purchase of tools and equipment, and other related expenses. These were managed by adhering strictly to the set budget.

### RECOMMENDATION

Project management should fully integrate systematic risk assessment practices into project implementation to identify, analyze, and prioritize potential risks early, as existing practices were present but not effectively applied to support optimal project performance.

### ACKNOWLEDGEMENT

I would like to thank the Almighty God for giving me the opportunity and strength to pursue my education. It is through His abundant grace that this research work has been brought this far. This work would not have been possible without my supervisor, Mr. Richard Semanda, who guided me all along the process. I would like to thank my family for their support and wonderful ideas throughout this process. I further wish to thank my older siblings for their invaluable advice and companionship on how to tackle life challenges; they have always been a source of inspiration from whom I get my strength and intelligence. Lastly, I also appreciate my friends who share this journey with me and encouraged me in the adventure of academics, and have been my anchor.

### LIST OF ABBREVIATIONS

**ISO:** International Organization for Standardization  
**PMBOK:** Project Management Body of Knowledge  
**PMI:** Project Management Institute  
**PRM:** Project Risk Management  
**SWOT:** Strength Weakness Opportunities, and threat  
**SRT:** Strength, Risk, and Threat  
**ERM:** Emergency Response Mechanism  
**ANOVA:** Analysis of Variance

### SOURCE OF FUNDING

The study had no funding.

### CONFLICT OF INTEREST

The authors declare no conflict of interest.

### DATA AVAILABILITY

Data is available upon request from the author.

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### AUTHOR CONTRIBUTIONS

**GM** collected the data.

**NW**, Supervised the study.

**SK** supervised the study.

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