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Project Risk Management Process and Performance of Mpazi Channel Construction Project in Nyabugogo, Kigali-Rwanda

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Abstract

The general objective of this research was to assess the risk management process and project performance. The descriptive research design with a mixed qualitative and quantitative approach was used to a sample of 118 respondents selected from 168 target population using stratified sampling technique and Sloven's formula. SPSS Statistical software was used in the analysis of the collected data into descriptive statistics by the help of mean and standard deviation. The inferential statistics were also analyzed as regression and correlation analysis. The results of this research have shown that project risk identification and performance of Mpazi channel construction project has a highly positive and significant relationship, with a coefficient of correlation of 0.970 and sig=.000, which is less than 0.05 level significance. The correlation results have also revealed r=0.979 and sig=0.00 which is less than 0.05 level of significance, hence proving a highly positive and significant relationship between project risk management strategy and performance of Mpazi channel construction project. The correlation results have also shown an r =0.985 and sig=0.00 which is less than 0.05 proving significant and positive relationship between project risk plan response and Mpazi Channel construction project performance. The research also found that a combination of project risk identification, risk management plan and risk plan response contributed to 97.5 percent (R^2= 0.975) of the Mpazi Channel construction project success. Thus, the researcher concluded that the project risk management procedure has an impact on the performance of the Mpazi Channel construction project. Basing on the findings of the study, researcher recommends that a formal and planned project risk management procedure should be implemented throughout project planning to key construction personnel, support staff, and laborers.

Keywords: *Project Risk Management Process, Project Performance, Construction, Rwanda*

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1. Introduction

Projects with weak risk management practices lose time, experience cost overruns, get low profit margins, and are not cost effective which results in the increase of risk management as a critical issue to project performance (Shunmugam & Rwelamila, 2014). The study conducted in Hong Kong on risk management method has shown that the most significant impediments to risk management are lack of talent and are people who are ready to change. The empirical literature has also shown that risk management helps project to succeed (Tummala *et al.*, 1997).

Poor scope management and lack of risk management in the early stages of a project are the most significant obstacles to the risk management process as per the research conducted in Ghana on risk management process in construction sector (Makombo, 2012). The empirical researchers, audits and annual reports have shown that most of the projects in construction industry are plagued by delays, poor performance and cost overruns not only in Rwanda or in Africa but across the globe (Hayford & Sarfraz, 2013).

Therefore, for the case of Rwanda, there were delays and cost overruns at Bushenge Hopital (OAG, 2013). The national bank branches in the Districts of Huye, Rwamagana, Rusizi, and Musanze were beset by time delays and cost overruns (Gitau, 2015). In terms of time, 45.2 percent of the construction projects surveyed failed, while 35.7 percent failed in terms of finance (Gitau, 2015). Thus, it is in this regard the researcher has conducted this researcher to evaluate the effect of risk management process on performance of construction project in Rwanda with a case of Mpazi channel project.

1.1 Objectives of the study

1.1.1 General objective

The main objective of the study was to assess project risk management process and performance of MPAZI Channel construction project in Nyabugogo, Kigali- Rwanda.

1.1.2 Specific Objectives

The specific objectives are the following.

(i) To assess the effect of project risk identification on performance of MPAZI Channel construction project.
(ii) To assess the effect of project risk management plan on performance of MPAZI Channel construction project.
(iii) To find out the effects of project risk plan responses on performance of MPAZI Channel construction project.

1.1.3 Research Hypotheses

H_{01}: Project risk identification has no major effect on the performance of the MPAZI Channel construction project.

Ho_2: The project risk management plan has no significant effect on the performance of the MPAZI Channel construction project.

Ho_3: Project risk response plan has no significant effect on the performance of the MPAZI Channel construction project.

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2.1 Empirical Literature Review

2.1.1 Project risk identification and project performance

A research conducted by Petrovic (2017) in Swedish construction industry where they use different methods to identify risk. The checklist was used together with the experience from former projects where the selected respondents around 88%, after comes brainstorming approximately 48% and interviews at 12%. Also found that the use of checklists and documentation was regular the initial stage of a project in terms of risk identification. The method of brainstorming also used by many so that they can contribute their experience even discusses the lesson learned from similar projects. Checklists is an important tool for identifying risk in the work atmosphere, mostly in work inventory with treats needed to measure basing in the surrounding legislation.

The research found that depends on the size of the project, security checks used every day or every week, in risk identification where checklist is used as an essential mist method. In Ghana, use risk management in projects where highly ranked tools used include checklist and brainstorming in micro to small-scale construction firm (Hayford & Sarfraz, 2013). Ropel and Gajewska (2011) found that in Swedish a construction project of school, past experience, discussion, brainstorming and case based method is the tool for risk identification. The research also found that number of risks in construction project can be collected in the method of checklist for upcoming projects.

Bajaj *et al.,* (1997), in Australia, New South Wales found that top down approach practices are applied in most of the methods of risk identification in order to evaluated the project basically in starting point. The study of Renault, *et al.,* (2018) proved that identification of risk includes forming of essential risks to be managed in a project. A study by Reddy (2015) in British Airways Authority confirms that identification of the risks is most significant for the contractor to receive alert and prepare in advance uncertainty that can occur. Without proper identification management of risk is difficult and impossible to manage risk, most uncertainties occur due to lack of appropriate identification. Gitau (2015), 92.5 percent of the surveyed Rwanda construction projects had a risk identification process during the phase of planning the project. Risk management process was informal in 60% of the projects and formal in 40%.

2.1.2 Project Risk Management Plan and project performance

A study conducted by ALSaadi and Norhayatizakuan (2021) on risk management practices and construction project performance. The link was investigated using quantitative methods in this study. The assessment includes construction enterprises in Oman with grades ranging from exceptional to second. The findings demonstrated that risk management considerably improves the performance of construction projects. As a result of this finding, qualified project managers with significant knowledge of risk management and its key activities must be hired.

The risk management plan establishes the strategy for controlling project risk and specifies the methods, procedures, means, and tools to be used. Risks are not trivial, and if they are not managed properly, they can have a significant influence on the project's goals. When an event occurs and its impact is felt, it can be a source of concern. The possibility, duration, schedule, scope, budget, and quality of the risk are all factors to consider. The main worry for treats and

response activities stems from the level of risk exposure. Risk is factored into project decision-making, planning, and day-to-day activities. Certain hazards emanate from the outside, such as environmental activities and negative project and person acts. Inside elements, such as an acceptable assumption, incorrect design decisions, or an overly optimistic strategy, all pose dangers. The strategy aims to identify and mitigate risk as early as possible in the procedure (EDR, 2011).

2.1.3 Project Risk Plan Response and project performance

The study conducted in South Africa, only 27% of those polled always responded positively to risk. The findings revealed that risk are discovered more frequently than they are addressed implying that respondents do not support the actual implementation of risk management (Shunmugam & Rwelamila, 2014). The project manager must make an effort to mitigate risks while also ensuring that opportunities arise. The project manager's job is to decrease likelihood and influence of risk while increasing the likelihood and impact of opportunities.

The study conducted by Aimable (2015) in Rwanda, risk avoidance assisted RSSB in ensuring quality in multi-store constructions by 29 percent, while risk avoidance assisted them in managing resources by 41 percent, and risk avoidance assisted them in ensuring project plan by 11 percent. Risk transfer is a mechanism for allocating the risk of a commercial contract's performance among contracting parties. Risk retention is a tactic that passes hazard from one party to another, with 44 percent of risk retention having an influence on multi-story constructions. The majority of respondents regard avoidance at 62 percent, mitigation at 61 percent, and acceptance at 55 percent in Swedish construction projects, whilst transfer received a response rate of 36 percent.

2.2 Research Gap

Despite that there is other studies conducted in this field of risk management specifically in the domain of construction, delays are nevertheless typical in Rwandan construction projects. As a result, further research is needed to better understand what constitutes an effective construction risk management plan. Risk management is a hot issue these days. The majority of statistics on risk management can be obtained in various publications. However, the material in that source is disorganized and confusing, and the concepts supplied by risk management literature are applicable to construction projects, so greater emphasis should be placed on selecting appropriate data (Gawska & Ropel, 2011).

Despite that risk management has to be assured for success of the project, numerous initiatives were hampered by cost discrepancies in one or more sectors. Construction workers do not receive risk management training, therefore they are unable to spot risks and build expertise in dealing with them (Osipova, 2008). Risk management isn't done consistently throughout the project's life cycle.

2.3 Conceptual Framework

The conceptual framework shows the relationship between independent variable as project risk management process and dependent variable as performance of construction project. The project risk management process is measured with project risk identification, project risk management plan and project risk management responses and performance of construction project is measured with time, cost and quality.

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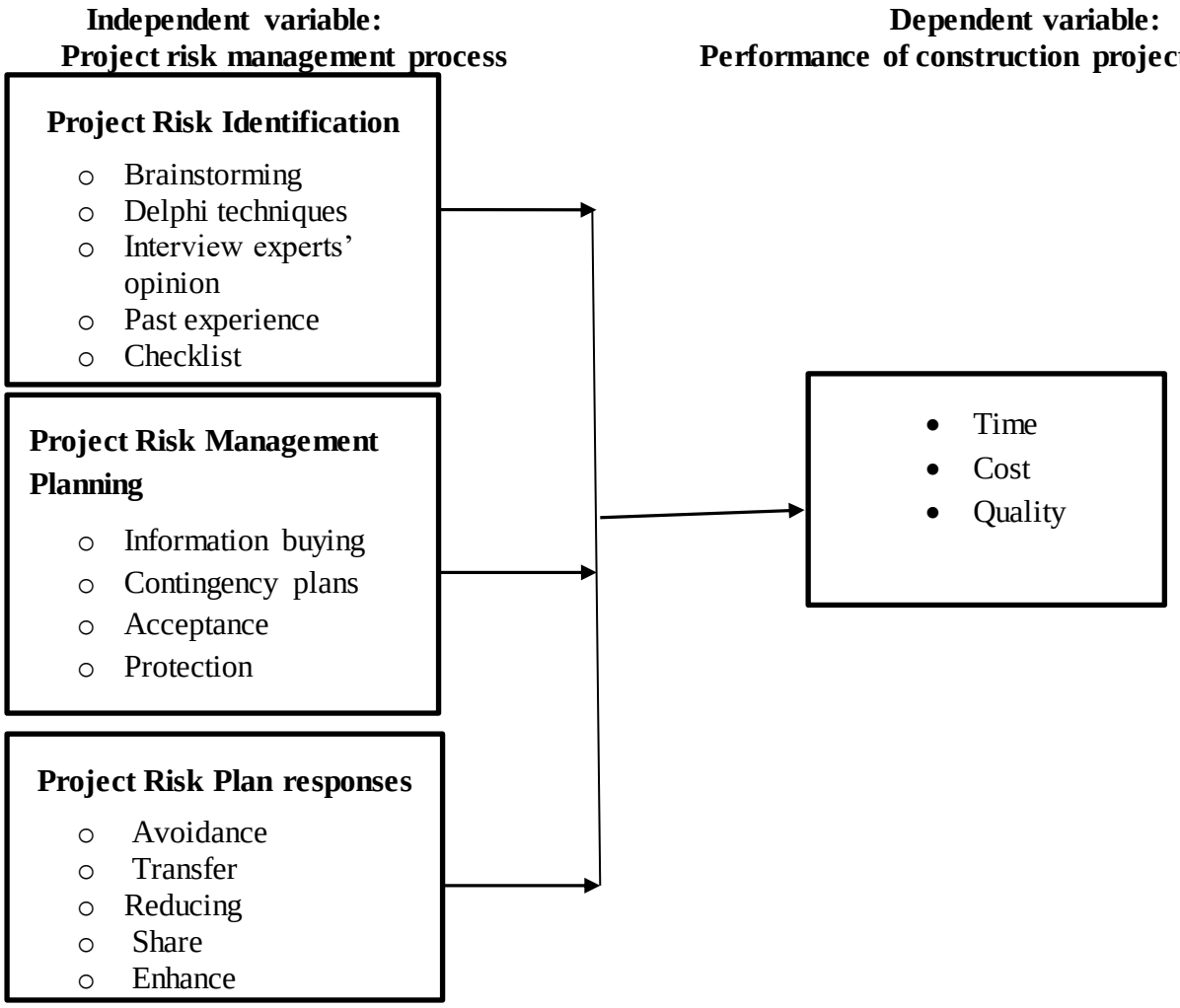

Source: Research, 2021
Figure 1: Conceptual Framework

3. Materials and Methods

This research has used descriptive research design with a mixed approach of qualitative and quantitative data where the correlation and regression analysis were also used to analyze the relationship between project risk management and performance of Mpazi Channel construction project in Nyabugogo, Kigali, Rwanda. Hence, the target population of the research was 168 people includes 10 Key staff, 7 support staff and 115 labors of Mpazi Channel construction project who work in Kigali city, Nyarugenge District. The sample size of 118 respondents was selected using stratified sampling techniques and Solven's formula.

In this research, data were collected using questionnaire and interview guide. The analysis of qualitative data was carried out on three levels. The first step was to conduct a descriptive analysis, which included the use of frequencies, mean and SD. At the second level, correlation analysis was utilized to establish relationships while multiple regression analysis was employed to examine how risk management affects project performance.

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For the inferential statistics, Pearson correlation and regression analysis were used to analyse the collected data. Thus, the coefficient of correlation was used to measure statistical correlation (r) where the r >0 was attributed to positive relationship, r<0 was attributed to negative relationship, while r=0 meant there was no relationship, r=+1 meant perfect positive relationship while r=-1 meant perfect negative relationship. Thus, the stronger the positive or negative relationships between variables, the closer the coefficients are to +1 or -1. The regression model used was $Y= \alpha+\beta_1X_1+ \beta_2X_2+ \beta_3X_3 +ę$, where Y referred to project performance, α refers to constant, βs were coefficient of determination which measures the changes in standard deviation of dependent variable per the rise in independent variable while X= Any change occurs at each independent variable.

4. Research Findings

4.1 The Effects of Project Risk Identification on Mpazi Channel Construction Project Performance

Table 1: Perception of the respondents on the effects of Project Risk Identification on MPAZI Channel Construction Project Performance

Particular(s)	SD	D
Brainstorming approach is effectively used to identify risk	3.36	1.424
Delphi techniques method is done properly in identifying the project risk	3.06	1.458
Interview expert opinion is considered when to identify the risk	3.51	1.546
Past experience used efficiently to identify the risk	3.76	1.279
Checklist is provided to identify the risk	3.63	1.357

Source: Primary Source of data (2021)

Table 1 shows the respondents' opinions on impact of the project risk identification on the performance of MPAZI Channel construction projects. 15.3 percent strongly disagreed, 16.1 percent disagreed, and 12.7 percent chose the neutral choice, despite the fact that 28.8% of respondents agreed and the majority agreed. 27.1% of respondents strongly agree that the Brainstorming method is effective, with a neutrality of 3.36 and a homogeneous standard deviation of 1.428. Despite the fact that 25.4 % of respondents agree and the majority did not, 21.2 percent of respondents strongly agreed that the Delphi techniques method is properly applied, 19.5 percent strongly disagreed, 22.9 % disagreed, and 22.9 percent strongly disagree. Neutrality of 3.36 with diverse standard deviation of 1.458, 11.0 % of respondents chose the neutral option, while the majority (25.4 percent) strongly agreed. According to the findings, 19.5 percent of respondents strongly disagreed, 10.2 percent highly disagreed, and 7.7 percent severely disagree, whereas 25.4 percent of respondents agreed and the majority 37.3 percent strongly agreed that interview expert opinion is taken into account. Mean is 3.51 also standard deviation of 1.548, as presented above.

Researcher discovered that 10.2 % of respondents strongly disagree, 9.3 percent disagreed, and 6.8% chose the neutral option; however, 41.5 percent of respondents agreed and 32.2 percent strongly agreed that past experience was effectively used; presented through a high mean of 3.76, heterogeneous standard deviation of 1.279. Although 33.9 percent of the

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respondents agreed and 32.2 percent of the respondents strongly agreed that Checklist is provided, a high mean of 3.63 and homogeneous standard deviation of 1.357 revealed that 11.9 percent strongly disagree, 11.9 percent disagreed, and 10.2 percent of the respondents chose neutral.

To support the view of respondents, researcher asked the manager of Mpazi channel construction project whether there is project risk management plan for the Mpazi channel construction project and he replied, "*yes, the Contractor has a project risk management plan for this project"* and at the same time he stated that, "*the relationship between the project risk identification and the Mpazi channel construction project's performance is that the project risk identification enables to manage and/or avoid this risk which leads to project's performance*".

4.2 The effect of project risk management plan on MPAZI Channel construction project performance

Table 2: Perception of the Respondents on Assessing the Effects of Project Risk Management Plan on MPAZI Channel Construction Project

Particular(s)	M	SD
Information Buying is done properly for risk management plan	3.53	1.363
Contingency plans is used effectively in planning the risk management	3.37	1.266
Risk acceptance is applicable in risk management plan	3.58	1.440
Risk protection used efficiently as planned in risk management	3.58	1.342

Source: Primary source of data (2021)

Table 2 shows that 11.0 % of respondents strongly disagreed, 16.9 % strongly disagreed, 9.3 % strongly disagreed, 33.1 % of respondents agreed, and 29.7 % strongly agreed that Information Buying is done properly, strong mean of 3.53 and homogeneous standard deviation of 1.363. 11.0 % strongly disagreed, 12.7 % disagreed, 27.3 % picked neutral, 28.0 % agreed, and the majority 22.0 % strongly agreed that contingency plans are employed well; this is provided with 3.37 of strong mean and 1.266 homogeneity in standard deviation.

The 3.58 strong mean and 1.440 of consistent standard deviation which proved that 16.1% of respondents strongly agreed, while, 9.3% opposed, 7.6 % remained neutral, 33.9% agreed and 33.1 strongly agreed that risk acceptance is suitable. The 3.58 mean and 1.342 uniform standard deviation, 12.7% of respondents opposed it strongly, 10.2 percent disagreed, 12.7 percent chose neutral, while 35.6 percent agreed and the majority 28.8 percent strongly agreed that Risk protection was used efficiently.

Mpazi channel construction project manager also was asked about the effect of project risk plan response on the Mpazi channel construction project's performance; he stated that " *the project risk plan impacts on the Mpazi channel construction project's performance*" and he continued by saying that: "*The connection among the project risk management plan and the Mpazi channel construction project's performance is that project risk management plan facilitates the efficient response to risks on project for a good project's performance and again the project risk plan relates to the Mpazi channel construction project's performance helps to respond on time and efficiently any risk on the project*".

4.3 Effects of Project Risk Plan Responses on Mpazi Channel Construction Project Performance

Table 3: Perception of the Respondents on the Effects of Project Risk Plan Responses on Mpazi Channel Construction Project

Particular(s)	M	SD
Risk avoidance is used properly in risk response plan	3.75	1.274
Risk transfer is effective in responding to the risk	3.33	1.468
Risk mitigation is applicable through the risk response plan	3.31	1.374
Risk share is used properly in risk plan response	3.85	1.137
Through the risk plan response risk enhance is effective	3.70	1.335
Risk acceptance is considered in risk plan response	3.79	1.293
Contingency plans is efficient in risk plan response	3.72	1.253

Source: Primary source of data (2021)

Table 3 shows that respondents had varying opinions on project risk plan responses on the MPAZI Channel construction project; in fact, 10.2 % disagreed, 7.6 % disagree, and 11.9 % chose neutral option, despite the fact that 37.3 % agree and 33.1 % strongly agreed that risk avoidance is used properly; strong mean of 3.75 and a homogeneous standard deviation of 1.274. Although 20.3 % of respondents believed that risk transfer is effective, and the majority (31.4 %) strongly agreed, 14.4 % of respondents strongly disagree.

The majority of respondents opted neutral, with 21.2 percent disagreeing and 4.5 percent choosing not taking sides. Strong mean of 3.33 and a diverse standard deviation of 1.468, 59.1 percent of respondents strongly agreed that risk transfer is successful. Even though the fact that 30.5 percent agreed and 23.7 percent strongly agreed that risk mitigation is appropriate, 11.9 percent strongly disagreed, 32.7 percent disagreed, and 10.2 percent chose the neutral option, according to the findings, 11.9 percent strongly disagreed, 32.7 percent disagreed, and 10.2 percent chose the neutral option. The 3.31 strong mean and 1.374 of standard deviation were revealed.

Then also proved that 5.9 percent disagreed strongly while 9.3 percent remained neutral even if 44.9% of the respondents agreed and 30.5 percent of respondents agreed strongly that share of risk is used in a proper way. Thus, proving a homogenous 1.137 standard deviation and 3.85 of strong mean. The results also showed 11.0 percent of respondents disagreed strongly, 10.2 percent of respondents made disagreements with the statement. 11.0 percent remained neutral, 33.1 percent agreed, the majority of 34.7 percent agreed with 3.70 of strong mean and 1.335 homogenous standard deviation.

The results revealed that 6.8% of respondents highly agreed, 3.4 percent disagreed, 4.5 percent picked neutral choice, 30.7 percent agreed, and the majority 54.5 percent strongly agreed that risk acceptance is appropriate, with a strong mean of 3.72 and uniform standard deviation of 1.253.

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4.4 Mpazi Channel Project Performance

The project risk management process gives a company the tools it needs to identify and manage critical risks. Researcher requested respondents to give their views on MPAZI Channel construction project the results were summarized in table below.

Table 4: Mpazi Channel Project Performance

Particular(s)	M	SD
Cost is well managed	3.79	1.383
Quality is efficient	3.65	1.355
Time is considered	3.89	1.068

Source: Primary source of data (2021)

Table 4 shows that 11.9% strongly disagreed, 10.2 % strongly disagree, 5.9 % strongly disagreed, 31.4 percent strongly agreed, and the majority 40.7 percent strongly agreed that the Mpazi Channel project's cost is well managed; this is presented with a strong mean of 3.79 and homogeneous standard deviation of 1.383. The respondents were also asked if the Mpazi Channel project's quality is efficient; 11.9 percent strongly disagreed, 11.0 percent disagree, 10.2 percent chose neutral; and 33.9 percent agree, with 33.1 percent strongly agreeing; this is presented 3.65 strong mean and homogenous of 1.355 standard deviation.

The results also showed that 6.8 percent of respondents disagreed strongly with the statement, 5.1 percent disagreed, 6.8 percent kept neutral, 55.1 percent agreed while the 26.3 percent of respondents agreed strongly that time was considered in the project meaning this presented 3.97 of strong mean and homogenous 0.652 of standard deviation.

4.5 Correlation analysis between project risk management and project performance

Table 5: Summary of Correlation

		Cost	Quality	Time
Project risk identification	Pearson Correlation	.962**	.979**	.874**
	Sig. (2-tailed)	.000	.000	.000
	N	118	118	118
Project risk management plan	Pearson Correlation	.965**	.986**	.891**
	Sig. (2-tailed)	.000	.000	.000
	N	118	118	118
Project risk plan response	Pearson Correlation	.967**	.985**	.913**
	Sig. (2-tailed)	.000	.000	.000
	N	118	118	118

Correlation is significant at the 0.01 level (2-tailed).

Source: Primary source of data (2021)

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Table 5 demonstrated that there was a strong positive relationship among risk identification project within Mpazi Channel construction performance through cost, with a strong relationship of 962; the research also revealed a robust relationship of 0.979 among risk identification and project completion time; and finally, the research revealed a robust link amongst risk identification and quality of project.000, which is less than 0.05, is the probability value.

The research also revealed a robust positive connection amongst project risk management plan with Mpazi Channel construction project performance, with a relationship of 0.965 between project risk management plan and cost of Mpazi Channel construction project, strong relationship of 0.986 between project risk management plan and time of completion of the project, and finally, the research revealed that there is a strong positive link between project risk management plan with time completion of project. .000, which is less than 0.05, is the probability value.

Finally, the correlation revealed a moderate correlation concerning project risk plan response and Mpazi Channel construction project performance, with a relationship of 0.967 between project risk plan response and cost of Mpazi Channel construction project, a strong relationship of 0.985 between project risk plan response with project completion time, and finally, the research revealed that there is a strong relationship of 0.985 between project risk plan response and project completion time. .000, which is less than 0.05, is the probability value.

4.6 Regression analysis

This research examined the model summary, variances and coefficients of variables.

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.988[a]	.975	.975	.59036

Source: Primary source of data (2021)

a. Predictors: (Constant), Project risk plan response, Project risk identification and Project risk management plan.

The regression analysis of table 6 found a favorable connection (R = 988). The R coefficient of 0.988 means that the model's predictors, project risk identification, project risk management plan, and project risk plan response, have a 98.8% correlation with the dependent variable as Mpazi Channel construction project performance. The research also found that a combination of project risk identification, project risk management plan, and project risk plan reaction contributed to 97.5 percent (R2= 0.97.5) of the Mpazi Channel construction project's success.

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Table 7: Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1562.378	3	520.793	1.494E3	.000[a]
	Residual	39.732	114	.349		
	Total	1602.110	117			

Source: Primary source of data (2021)
a. Predictors: (Constant), Project risk plan response, Project risk identification, Project risk management plan.

b. Dependent Variable: Mpazi Channel construction project performance.

Table 7 shows that the model can explain 97.5 percent of the differences in Mpazi Channel construction project performance (1562.378 out of 1602.110), whereas other variables not captured by the model can explain 2.47 percent (39.732 out of 1602.110). F value of the model given a p-value of 0.015, where significantly different from zero. P-value of 0.015 is below predetermined level of significance of 0.05 for distributed data (0.0150.05). Suggestion is that the model can be beneficial to determine the success of Mpazi Channel construction project.

Table 8: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.522	.209		2.494	.014
	Project risk identification	.300	.071	.557	4.253	.000
	Project risk management plan	.281	.098	.404	2.860	.005
	Project risk plan response	.474	.053	.137	8.870	.000

Source: Primary source of data (2021)
a. Dependent Variable: Mpazi Channel project performance

The recognized regression equation was:

$$Y = 0.522 + 0.557X_1 + 0.404X_2 + 0.137X_3$$

Table 8 shows the results of the regression. The relative importance of the significant predictors of Mpazi Channel construction project success was determined using standardized coefficients (Beta). According to the T-statistics, the larger the absolute standardized coefficient, the greater the contribution of that predictor to Mpazi Channel construction project performance. Mpazi Channel construction project performance is influenced by project risk identification (=0.557), project risk management plan (=0.404), and project risk plan response (=0.137).

In fact, a unit change in project risk identification would increase Mpazi Channel construction project performance through a factor of 0.557, the greatest predatory of the study, an element change in Project risk management plan would increase Mpazi Channel construction performance with a factor of 0.404, and a part change on project risk plan response should rise Mpazi Channel construction performance with a factor of 0.137. All of

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p-values in the study remained less than 0.05, indicating that variables was statistically essential in impacting performance of Mpazi Channel construction project.

4.7 Summary of Hypotheses Testing Results

Table below 9 presented the linear regression model summary. Therefore, the table shows (R^2), the core effects so as the optimal on the hypothesis formula.

Table 9: Summary of Hypotheses Testing Results

Hypothesis Formulated	Beta (β)	P-values	Decision on H_o	R^2
$H0_1$: There is no significant effect of project risk identification on MPAZI Channel construction project performance.	.557	.000	Rejected	.975
$H0_2$: There is no significant effect of project risk Management plan on MPAZI Channel construction project performance	.404	.005	Rejected	
$H0_3$: There is no significant effect of project risk responses plan on MPAZI Channel construction project performance.	.137	.000	Rejected	

Source: Primary source of data (2021)

Table 9, the first hypothesis states that project risk identification has no significant impact on Mpazi Channel construction project performance, the second hypothesis states that project risk management plan has no significant impact on Mpazi Channel construction project performance, and the third hypothesis states that project risk plan response has no significant impact on Mpazi Channel construction project performance.

5.1 Conclusion

In conclusion, The research was aimed to analyzed the effect of project risk management process on performance of Mpazi Channel construction project; specifically, research established the effect of project risk identification on Mpazi Channel construction project performance, assessed the influence of project risk management plan on the MPAZI Channel construction project performance and established the effects of project risk plan responses on Mpazi Channel construction project performance. The data collected and analyzed indicated that there is existence of project risk management process in MPAZI Channel construction project through the risk identification, project risk management plan and project risk plan response as the mean to those statements were high and regression analysis revealed a positive relationship (R = 988).

The R coefficient of 0.988 indicates that the predictors of the model which project risk identification, Project risk management plan and project risk plan response, have a correlation of 98.8% with the dependent variable as performance of Mpazi channel construction project. The study also revealed that a combination of project risk identification, Project risk management plan and project risk plan response together contributed to 97.5% (R2= 0.97.5) of the Mpazi Channel construction project performance. Therefore, it is from the result of the research, researcher conclude that the project risk management process affect the performance of Mpazi Channel construction project as indicated by the results of research.

5.2 Recommendations

Though the research indicated that the project risk management in Mpazi Channel construction project is carried out in effective way, during the data analysis a number of respondents disagreed and other remained neutral to the statement relate to the project risk management process; it is from that point of view the recommends to project managers, to strengthen project risk management process for better performance of project. The study recommends an official and planned project risk management process throughout project planning and with participation of construction key staff, support staff and labors. According to the findings, all students pursuing construction-related degrees should have the project risk management process as an assessment subject in their curriculum

5.3 Acknowledgement

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