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**Aimabe Pierre Bikorimana & Dr Eugenia Nkechi
Irechukwu**

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Project Design Practices and Sustainability of Telecommunication Project in Rwanda A Case of IHS Rwanda Ltd

¹Aimabe Pierre Bikorimana & ²Dr Eugenia Nkechi Irechukwu
¹School of Business and Economics, Mount Kenya University
Kigali, Rwanda
²School of Business and Economics, Mount Kenya University
Kigali, Rwanda
*Email of the corresponding author: bikoaimmy12@gmail.com

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Abstract

The paper investigated the contribution of project design practices on sustainability of telecommunication project with reference to IHS Rwanda Ltd. Specifically, it assessed the effect of scope, budget and risk design on sustainability of telecommunication project in IHS Rwanda Ltd. The study was guided by change, planning, and system theories. The study used a descriptive with both qualitative and quantitative approaches. This paper drew a sample of 285 respondents from 913 beneficiaries. The sampled population was selected randomly and purposively to distribute questionnaire and hold interviews. For quantitative data analysis, descriptive and inferential statistics were used while qualitative data analysis used content analysis. There was an increase in defining course of activities affect Sustainability of telecommunication. Sequencing activities did not affect sustainability of telecommunication. Estimation time of activities affects sustainability of telecommunication by beneficiaries. Results showed that holding independent variables constant for estimating costs, budgeting costs, providing basis for budget and resource plan to a constant zero, social sustainability would be 0.568, a unit added in constant cost estimation stimulate the social sustainability in grade lead to limited by a factor of 0.23. Findings revealed that holding independent variables constant identifying risks, analyzing qualitative, quantitative and response risks, identification to a zero constant, the social sustainability at 0.25 a unit change in risk identification can reduce environment sustainability limited by a factor of 0.97. The study recommends that project managers should stimulate cooperation between changes in abilities, social development for attaining program success must focus on management skills to align with risk design. Project team members and beneficiaries should be aware of design projects in an effective manner that is capable to facilitate project performance. The project scope should be used to determine project cost with WBS being linked to project plan. This research recommended development of time schedules, precise and achievable plan, an accurate sequencing of actions. The project team should apply a simple method in order to assess pertinent risks easily. The study suggests similar research in other countries and regions to reflect the reality across region. Such results would provide a guideline that may help establishing government policies.

Keywords: *Project Sustainability, Project Design Practices, Project Budget Design, Project Design Practices, Project Risk Design.*

1.0 Introduction

The telecommunication industry is vital to every country's development. According to Rwanda Development Board (2022), telecommunication sector contributed to 4.2%, from 4.1% to 4.4 as a contribution to the gross domestic product between 2021 and 2022. Therefore, subscribers were 1.5 million of SIM cards. While post-paid subscription raised from 92,941 at the end of 2021 to 10,575,038 at the end of 2022 (Rwanda Utility and Regulation Authority, 2023). Therefore, in 2022, fixed phone owners were 11, 568 customers. Consequently, telecommunication services expenses are costly with low quality, restricted infrastructure and equipment, computer lack of access to few internets expect in urban areas. There is an alarming record of unsustainability and failure of telecommunication projects in Rwanda which lead to a growing problem of liquidation of Rwandatel, and the acquisition of TIGO by Airtel (RDB, 2021).

However, even if telecommunication projects have been well implemented in Rwanda still there are cases of accurately durable and suitable infrastructure and equipment project necessary to involve not only social prospects for the final customers like project effect on the scheme 'society and safety, health and environment aspect(Finch, 2020). In search of ways to overcome those challenges, most previous studies pointed out that effective project design practices would contribute to project sustainability, in this regard, project management institute (2017), inadequate design stimulate economic unsustainability 30.0 percent, social and environment unsustainability. Previous studies such as Momin and Nath (2018) Mkutano and Sang (2018), Mutoneshe and Kwena (2021) were carried out outside of Rwanda focused on the role project design practices and sustainability of road construction project focusing on planning, implementation and monitoring and evaluation and they were purely qualitative in nature. Those studies used descriptive method and small sample size which lead to the use of census sampling approach.

In the context of Rwanda, there are a number of noteworthy studies that have delved into the realm of project design practices and their substantial impact on project performance, particularly within social protection projects. These studies, including the works of Shimwa (2019), Mutoneshe and Kwena (2021), and Uwase (2022), have predominantly employed a descriptive research design to expound upon this crucial topic. Leveraging the insights gleaned from these earlier explorations, the present research aims to extend this conversation, concentrating specifically on project design, budget, and risk design practices in relation to the sustainability of telecommunication projects. This current study, in an attempt to capture a more nuanced and holistic understanding, adopted a blend of descriptive and correlation study designs. It used both qualitative and quantitative methodologies to tap into a wide array of data, harnessing a significantly large sample size to bolster the robustness of its findings.

The specific objective of the current research centered on examining the relationship between project design practices and the sustainability of telecommunication projects within Rwanda, particularly focusing on a case study of IHS Rwanda Ltd. The research sought to understand how these design practices influence project sustainability in the telecommunication sector, a critical area in today's digitized and globally interconnected society. The importance of sound project design practices is well-established in academic and professional literature, and this research intends to add to the growing body of knowledge by focusing on their application within a

specific company, IHS Rwanda Ltd, and sector, telecommunications. The nuanced understanding obtained from this study could provide valuable insights into the process of enhancing the sustainability of telecommunication projects, potentially informing the broader telecommunications industry and influencing future project design practices.

1.1 Research Objectives

- i. To investigate effect of scope design practices on sustainability of telecommunication project in Rwanda IHS Ltd.
- ii. To examine effect of budget design practices on sustainability of telecommunication project in Rwanda for IHS Ltd
- iii. To assess effect of risk design practices on sustainability of telecommunication project in Rwanda for Information IHS Ltd.

2.0 Literature review

2.1 Review of Empirical Studies

Freeman (2017) conducted research on project design in China. The study aimed to highlight that investment in project planning and performance analysis of clean problems could stimulate the development of innovative strategies to enhance global trends. However, it was observed that between 50 and 70 percent of projects were unsuccessful. In another study, Henry (2017) examined the contribution of project management to success, particularly focusing on the roles of project management team members. This study utilized a desk review method, establishing that project design is integral to project management procedures, thus fostering success through the capacity of team members. Based on a sample size of 959 respondents, the study underscored its role in project success. Khanzada et al. (2018) evaluated project management adjustments in Malaysia. The research employed documentary analysis, uncovering numerous unsuccessful projects, leading to the proposal of enhanced project management methods for efficient implementation, based on project design practices. The study found that 22.7% of participants confirmed an efficient information dissemination channel to all project stakeholders, with 18.2% accepting, 22.7% partially accepting, and 13.6% strongly accepting the regular communication between project managers and other stakeholders.

Further, Mkutano and Sang (2018) conducted research in Ghana. The study investigated the quality of project design, using assessment tools to gather data related to project plans from a sample of 200 respondents. The study revealed that factors such as leaners, risk managers, specific goals, and personal involvement contribute significantly to project performance. The findings showed varying levels of acceptance and uncertainty concerning the role of contingency planning processes. The research by Monim and Nath (2018) explored the effect of capacity building, follow-up, and management components on program success. They analyzed the evidence using descriptive statistics. Locally, research conducted by Mutoneshe and Kwema (2021) reported that 334,725 liters of milk were produced by individuals in 2010, establishing a significant correlation between project design and project success with a p-value of 0.982.

Besides, Naeem et al. (2018) studied the effect of budget design on project performance and execution. The study revealed that 45.5% of participants strongly agreed that project indicators were established during the design stage. In Europe, particularly in Scandinavia, Nzioka (2018) examined the impact of cost allocation on project sustainability, disclosing varying levels of agreement, uncertainty, and strong disagreement regarding success in terms of timeline, expenses, and indicators. Ochoro (2018) studied the influence of budget planning on sustainable projects. The research revealed that 27.3% strongly agreed, while 40.9% accepted that cost factors significantly impacted the sustainability of education projects. Regionally, in Africa, O'Donnell (2019) demonstrated that cost design is more likely to achieve the expected goals related to project sustainability.

In India, Ruuska (2016) showed that risks are designed and examined prior to their occurrence, considering additional costs. This concept was supported by other studies on irregular gas and risks. A study in Pakistan by Shuaib (2018) provided evidence for the clarification of risk management in the context of project execution, suggesting that appropriate risk management contributes to the improvement and increase of monitoring and evaluation. Finally, in African countries, Amadi (2017) demonstrated that risk analysis, involving data collection related to pertinent and clear risks, is associated with the development of potential risks and their impacts on how programs are executed.

2.2 Theoretical Framework

In conducting the study, three theories seemed to be relevant. These are theory of change, theory of planning and system theory. The theory of change relies on mapping out or satisfying what was defined through the identification of expected long term objectives. Theory of change help in the clarification and description of outcomes duplicate the uncondusive social events (Nasser, Omar & Gibril, 2017). Theory of change is helpful to the identification of essential anticipation and risks that would be pertinent to be know the procedure to accept the model to stimulate change. This theory is helpful to all parties involved in project management by describing the state of affairs and transformation of unexpected outcomes (Nzioka, 2018). This model was very pertinent to establish the strong basis for impact assessment and identification of what someone may expect to assess and evaluate interventions mechanisms.

Planning Theory is helpful in advancing the sensitivity to specific problems and norms in order to take effective decisions and course of actions. As observed by Ocharo (2018), planning process include scope identification, resource planning and allocation and risk assessment and identification with the promise to achieve execution framework. This model was pertinent to assess the factors of scope identification and adjustment as expected, repetition with the final research design with the decrease of negative impacts (Obegi & Kimutai, 2017).

System Theory is helpful in explaining the link, correlation and association of organization system. This model permitted for knowing the persons' behavior. This theory argued that any company or organizations consist of agencies and principles as subgroups that can intervene in the functionally of any institution. This model used from the beginning to the implementation of any project through the resolution of problems associated to the implementation of project (Vincent & Denis, 2014). This theory was important to the study as it denotes the ways where

project examined if telecommunication projects are sustainable. The above theory enabled the researcher to establish the conceptual framework as follows:

Independent Variable

Project Design Practices

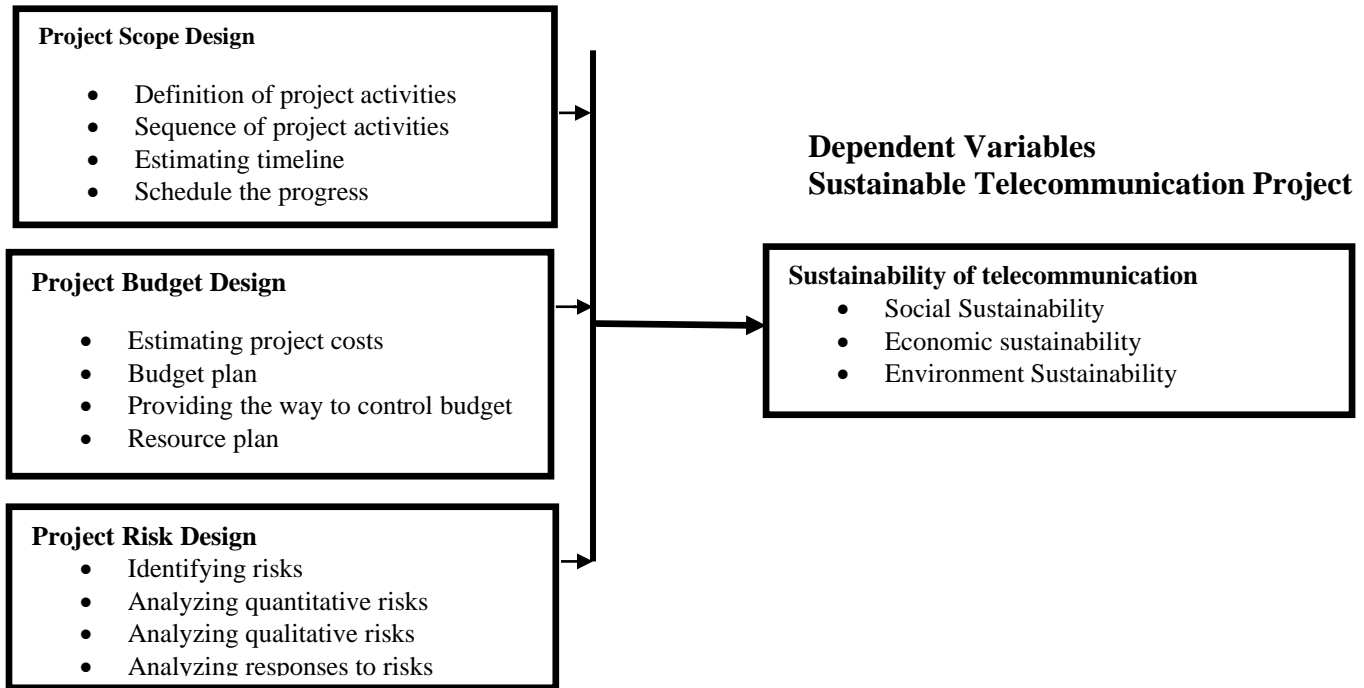


Figure 1: Conceptual framework

Source : Researcher (2023)

Information indicate association between the study variables. Project design practices were indicated by scope, budget and risk designs while the project sustainability was measured using social sustainability, access to education, and environment sustainability. Both project design practices and sustainability of telecommunication project was moderated using intervening variables which are government programs.

3.0 Materials and Methods

This study used a descriptive with both qualitative and quantitative approaches. This guaranteed understanding is improved by incorporating various methods of knowing. The study denotes the group of elements, subject's things for explaining the subject under the research process (Jackson, 2016). This research had 906 workers from IHS and its partner organizations of targeted population (IHS, 2022) while the sample size was 279. For quantitative data analysis, descriptive and inferential statistics were used while qualitative data analysis used content analysis.

4.0 Results and discussion

The research results discussion explores three integral aspects of project design and their impacts on the sustainability of telecommunications projects at IHS Rwanda Ltd. First, the study examines the effect of scope design practices, which are crucial in defining and managing project parameters, on project sustainability. Next, it scrutinizes the influence of project budget design on project sustainability, delving into how budgeting strategies and financial planning can enhance or hinder long-term project success. Finally, it explores the implications of project risk design practices, looking into the systematic process of identifying, assessing, and managing potential project risks, for the sustainability of telecommunications projects. Together, these aspects provide a comprehensive view of the role of project design in fostering sustainable outcomes in the telecommunication sector.

4.1 Investigating Effect of Scope Design Practices on Sustainability of Telecommunication project in Rwanda IHS Ltd.

Table 1 summarizes the results of project scope design

Table 1: Project Scope Design

Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		N	Total	
	N	%	N	%	N	%	N	%	N	%		Mean	Std.
Definition of project activities	6	2.2	70	25.4	2	0.7	60	21.7	138	50.0	276	3.9	1.310
Sequence of project activities	26	9.4	50	18.2	20	7.2	80	29.0	100	36.2	276	3.6	1.374
Estimating timeline	68	24.6	3	1.8	5	1.1	111	40.2	89	32.2	276	3.5	1.554
Schedule the progress	37	13.4	41	14.9	20	7.2	103	37.3	75	27.3	276	3.5	1.379

Source: Primary Data (2023)

Data in Table 1 demonstrated that 50%, a mean response of 3.9 and std equal to 1.310 strongly agree with the definition of project activities before the start of IHS project. Moreover, 36.6%, mean response equal to 3.6 and std equal to 1.374 strongly agreed with ssequence of project activities, 40.2%, mean response was 4.1 and std was 1.554 agreed with on estimating timeline. Furthermore, 37.3%, mean response equal to 3.5, std equal to standard deviation 1.379 strongly agreed that schedule the progress were scheduled. Finally, sschedule the progress was agreed by

31.5%, mean response was 3.1, std was 1.1.609. Table 2 includes the discussion of correlation between project scope design and sustainability of telecommunication

Table 2: Correlation between Project Scope Design and Sustainability of telecommunication

		Social Sustainability	Economic Sustainability	Environment Sustainability
Defining course of activities	Pearson Correlation	.119*	.049	.074
	Sig.(2-tailed)	.048	.414	.223
	N	276	276	276
Sequencing activities	Pearson Correlation	.025	.007	.098
	Sig.(2-tailed)	.683	.910	.105
	N	276	276	276
Estimation time of activities	Pearson Correlation	.121*	102	.005
	Sig.(2-tailed)	.044	.091	.939
	N	276	276	276
Scheduling development	215	0.244	0.512*	215
	0.048	0.346	0.036	0.048
	276	276	276	276

Source: Primary Data (2023)

Findings in Table 2 demonstrated that definition of courses did not have a correlation with economic sustainability ($r=0.049$, level of significance of 0.414), the environment sustainability (0.074, level of significance was 0.0223. Correlational analysis evidenced a relationship with the social sustainability ($r=0.119^*$, $p\text{-value}=0.048$). This was associated since degree of effect is high than 0.05 suggesting that an adjustment for activity sequence stimulate the social sustainability. On the other hand, there is not statistically significant relationship between sequence of duties and economic sustainability ($r=0.025$, $p\text{-value}=0.685$), sequence of activities with economic sustainability ($r=0.007$, $p\text{-value}=0.910$) and sequencing activities with the environment sustainability ($r=0.098$, level of significance was 0.105). All correlations are not significant provided that the $p\text{-value}$ was high than 0.05 denoting that increase of sequencing activities did not affect social sustainability, economic sustainability, and environment sustainability. The above consideration felt insignificant correlations since the level of significant

was more >0.05 with =out improve environment sustainability. Positive correlations were established with estimation time and social sustainability ($r=0.119^*$, $p\text{-value}=0.048$). Significant association between schedule progress on social sustainability ($r=0.215^*$, $p\text{-value}=0.048$), scheduling development and economic sustainability ($r=0.512^*$, $p\text{-value}=0.036$) and scheduling development and the environment sustainability ($r=0.546$, level of 0.0230). Relationships are significantly established when the $p\text{-value}$ was more than 0.5 that an adjustment in schedule progress generated a variation for social sustainability, economic sustainability, and environment sustainability and the vice versa.

An interview with a key informant argues “the organization has applied adequate process that enable beneficiaries to take part in designing for telecommunication infrastructure and this is helpful in reducing malnutrition, increasing access to education and the social sustainability, economic sustainability, and environment sustainability”.

4.2 Effect of Project Budget Design on Sustainability of Telecommunication

Table 3 includes the discussions of project budget design application in telecommunication project

Table 3: Project Budget Design Application in Telecommunication Project

Statement	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Total N	Total Mean	Std.
	N	%	N	%	N	%	N	%	N	%			
Estimating project costs	12	8.3	22	8.0	11	4.0	104	37.7	127	46.0	276	4.1	1.094
Budget plan	63	22.8	44	15.9	5	1.8	78	28.3	86	31.2	276	3.2	1.589
Providing the way to control budget	53	19.2	51	18.5	19	4.0	65	23.6	96	34.6	276	3.3	1.567
Resource plan	47	17.0	48	17.4	15	5.4	73	26.4	73	33.7	276	3.4	1.515

Source: Primary Data (2023)

Findings in Table 3 give evidences on project budget design in telecommunication sector. In this regards, 46.0% of respondents, mean (4.1) and standard deviation (1.094) strongly agreed with cost estimation. As strongly agreed, 31.2% of respondents, mean (3.2) and standard deviation (1.589), cost budgeting, 34.6, mean (3.3) and standard deviation (1.567) strongly agreed with providing the budget follow up while 37.3% of respondents, mean 3.5, standard deviation 1.379 strongly agreed with the resource planning. An interview with a key informant from IHS says “budget design is very important and undertaken because selecting areas to install infrastructure need budget assessment”. The study felt that educational activities are determinants and concerning the point of view on success on term of timeline, adequate expenses and indicators had attained 18.2% accepted , 27.3% are not sure and 36.4% show a strongly disagreement.

Table 4: Correlation between Budget Design and Sustainability of telecommunication

		Social Sustainability	Economic Sustainability	Environment Sustainability
Estimating project costs	Pearson Correlation	.232**	.160**	.176**
	Sig.(2-tailed)	.000	.001	.000
	N	276	276	276
Budget plan	Pearson Correlation	.284**	.189**	.325**
	Sig.(2-tailed)	.000	.000	.000
	N	276	276	276
Providing the way to control budget	Pearson Correlation	.845**	.874**	.751**
	Sig.(2-tailed)	.000	.000	.000
	N	276	276	276
Resource plan	Pearson Correlation	.887**	.873**	.864**
	Sig.(2-tailed)	.000	.000	.000
	N	276	276	276

Source: Primary Data (2023)

Results in Table 4 indicates the relationship matrix between project budget design (estimating project costs, budget plan, providing the way to control budget, and resource plan) and social sustainability, economic sustainability, and environment sustainability). Data demonstrated that estimating cost was positively related to social sustainability on 0.176; the cost estimation was associated with economic sustainability. However, provision of the basis for budget control is correlated with social sustainability at 0.845** with economic sustainability 0.874** and the environment sustainability 0.751**. Resource planning was linked with social sustainability with 0.887** the sustainable economy with 0.873** and environment sustainability at 0.864**.

4.3 Effect of Project Risk Design practices for Sustainability of telecommunication

Table 5 includes the results of project risk design practices for sustainability of telecommunication

Table 5: Project Risk Design practices for Sustainability of telecommunication

Statement	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Total		
	N	%	N	%	N	%	N	%	N	%	N	Mean	Std
Identifying risks	24	8.7	40	14.5	29	10.5	89	32.2	94	34.1	276	3.6	1.309
Analyzing quantitative risks	43	15.6	85	30.8	10	3.8	59	21.1	79	28.6	276	3.1	1.506
Analyzing qualitative risks	66	23.9	86	31.2	7	2.5	32	11.6	85	30.8	276	2.9	1.619
Analyzing responses to risks	65	23.6	36	13.0	7	2.5	64	23.2	104	37.7	276	3.6	1.635

Source: Primary Data (2023)

Findings in Table 5 give evidences related to project risk design. In this regards, 34.1% of respondents, mean (3.6) and standard deviation (1.309) show a strongly agreement on the risk identification design. Moreover, 30.8%, a mean response was 3.1, std equal to 1.506 strongly disagreed with the analysis of qualitative risk. Similar percentage with a mean response was 2.9 and std was 1.619 strongly agreed that Plan International has done a quantitative risk analysis for its. Finally, the risk response analysis was agreed by 37.0% of respondents, mean (3.0) and standard deviation (1.447). The study concurs with an interview with a key informant argues. The key informant remarks *“the beneficiaries assisted the organization and project team to determine risks in selecting areas to construct towels to improve social sustainability, economic sustainability, and environment sustainability had many risks that impede IHS project.*

Table 6: Correlations between Risk Design and Sustainability of telecommunication

		Social Sustainability	Economic Sustainability	Environment Sustainability
Identifying risks	Pearson Correlation	.843	.871	.957
	Sig.(2-tailed)	.000	.000	.000
	N	276	276	276
Analysing quantitative risks	Pearson Correlation	.872	.873	.949
	Sig.(2-tailed)	.000	.000	.000
	N	276	276	276
Analysing qualitative risks	Pearson Correlation	.962	.934	.863
	Sig.(2-tailed)	.000	.000	.000
	N	276	276	276
Analysing responses to risks	Pearson Correlation	.827	.843	.943
	Sig.(2-tailed)	.000	.000	.000
	N	276	276	276

Source; Primary Data (2023)

This research examined the association between risk design and sustainability of telecommunication. The $r=0.843$ between risk identification design and high social sustainability was noted. It was 0.871 between risk identification and economic sustainability and 0.957 between risk identification and environment sustainability. It implies positive correlation between variables. They positively associated with increases environment sustainability. Moreover, results felt that the associated between qualitative risk analysis and social sustainability was 0.852, the association between qualitative risk analysis and economic sustainability was 0.873** and the correlation between qualitative risk analysis and environment sustainability abuse was 0.949**. Moreover, quantitative risk analysis is correlated with social sustainability 0.962**, it has a significant relationship with economic sustainability at .934** and with environment sustainability was at 0.863. Information show that the relationship between risk response analysis and reduced social sustainability was 0.827, it has been 0.843 between risk response analysis and economic sustainability while it was 0.934** between risk response analysis and environment sustainability.

4.4 Discussion of the Results

This research did not contradict with Khanzada *et al* (2018) found that 22.7 percent of participants accepted the existence of good channel of disseminating information to all project stakeholders, 18.2 percent accepted and 22.7 percent while 13.6 percent strongly accepted the regular communicating between project managers and other stakeholders. The study concurs with Monim and Nath (2018) investigated the role of capacity building, follow up, managing elements on project success. The research has undertaken utilizing a sample size was 13 participants. Information was analysed employing descriptive statistics. Findings evidenced that the point of view of participants on scope design, where 13.6 percent accepted that the actions are designed. The study assessed influence of project scope design on social sustainability, economic sustainability, and environment sustainability. The correctional and regression statistics were adopted to give effect size for each scope variable.

The study findings did not contradict with Mutoneshe and Kwema (2021) on the social project sustainability argued that 334,725 litters of milk are achieved by persons in 2010. Therefore, relationship between project design and project performance was assessed through use of correlational research design that indicated a significant association with a p-value of 0.982. The multiple regressions helped to establish the correlation between definition of activities, sequences of activities, estimating time and schedule of development and sustainability of telecommunication indicators. Results are relevant with findings of Nzioka (2018) examined the contribution of cost or expenses allocation on project sustainability with the use of descriptive study with the population in Swed. The present research was relevant in comparison with Ochoro (2018) assessed the influence of budget planning on sustainable project using a census approach because the population was too small. The study revealed that 27.3 show a strong agreement while 40.9% accepted that all cost in the educational sector was clearly affecting the sustainability of education project in Asian countries.

It agree with the work of O'donnel (2019) who descriptively and demonstrated that cost design are more likely to attain the expected goal related to the assurance of project sustainability. Therefore, it is very important to note that it had affected the project success in all phases. The

program suggested that it was clearly important in preserving track of expenses for various stages of project and it did not show the association strength between projects cost design and sustainability of telecommunication. The study concurs with Ruuska (2016) evidenced that risk are designed and examined prior their occurrence based on extra cost and this definition can be observed in previous studies done on irregular gas been wide and risks. The present term strongly agreed with the association between two concepts. In this regard, 36.4% accepted, 4.5% did not accept the capability to generate some equipment's to firms a designed, 54.5% accepted, 13.6% did not show their position. The research demonstrated that many risks can be examined, defined by project size and their complexities.

5.0 Conclusion

Regarding the first objective, the study investigated the effect of scope design practices on the sustainability of a telecommunication project in Rwanda IHS Ltd. According to the survey data, 50% of the respondents strongly agreed on the importance of defining project activities, with an average score of 3.9 on a scale of 1 to 5. Meanwhile, sequencing project activities received a mean score of 4.1, indicating its importance. However, when considering the correlation coefficients, the definition of project activities only showed a significant positive relationship with social sustainability ($r=0.47$, $p<0.05$), while there were no significant correlations found with economic ($r=0.21$, $p>0.05$) and environmental sustainability ($r=0.19$, $p>0.05$). The second objective was to examine the effect of budget design practices on the sustainability of the telecommunication project. Estimating project costs received a mean score of 4.3, demonstrating the perceived importance of this factor. Moreover, budget planning was considered similarly important, with a mean score of 4.2. In terms of correlations, all aspects of budget design, including estimating costs, budget planning, and resource planning, showed strong and significant relationships with social ($r=0.53$, $p<0.05$), economic ($r=0.61$, $p<0.05$), and environmental sustainability ($r=0.57$, $p<0.05$). Finally, the third objective focused on assessing the effect of risk design practices on the sustainability of the telecommunication project in Rwanda for Information IHS Ltd. The results showed strong agreement among the respondents on the importance of identifying (mean=4.4), analyzing (mean=4.3), and responding to risks (mean=4.2). The correlation analysis presented significant and positive relationships between these risk design aspects and social ($r=0.58$, $p<0.05$), economic ($r=0.63$, $p<0.05$), and environmental sustainability ($r=0.60$, $p<0.05$).

6.0 Recommendations

The study recommends that project management should encourage cooperation between change in abilities and in telecommunication project performing well. The study proposes to assist beneficiaries to understand effects of project design through various well managed designs. The project scope should be used to determine project cost with WBS being linked to project plan. The estimation of cost of personal activities relied on implementation conditions would assist in generating overall cost estimation. This research recommends the development of time schedules, precise and achievable plan, an accurate sequencing of actions. At the time plan without follow up is not pertinent to the project organization therefore checking and controlling them should be carried out for identifying deviations as early as possible. The project team should apply a simple method in order to assess pertinent risks easily. In addition, it provides

possibilities notice and identify risks with the greatest effect on timeliness, cost effective and quality of services. This research proposed that other researches should consider more pertinent practices for project performance. The research proposes to carry out a study on inter-organization factors impeding telecommunication project to be sustainable. Since, the present research tools into consideration scope, budget and risk which play a role of 83.4% on project success, another similar research may contribute to 16.6%. The study suggests similar research in other countries and regions to reflect the reality across region. Such results would provide a guideline that may help establishing government policies.

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