

The Contribution of Risk Management System on the Project Effectiveness: A Case Study of Affordable Housing Development Project in Rwanda

Egide Ruhumuriza¹, Dr. Patrick Mulyungi²

^{1,2}Jomo Kenyatta University of Agriculture and Technology

Abstract: *The purpose of this research is to assess the contribution of risks management system on the project effectiveness. The research will be carried out in affordable development project as the case study with the following objectives; to identify the contribution of risk identification practices on effectiveness of affordable housing development project, to examine the effect of risk analysis on effectiveness of affordable housing development project and to assess the influence of planning for risk mitigation on effectiveness of affordable housing development project. The researcher reviewed literature related to risk management and project effectiveness and found out that risk management facilitates project effectiveness. The research design to be used is descriptive whole the population of the study will be 110 employees of affordable development project and the sample size will be 52 respondents selected using purposive and simple random sampling techniques. Data collection tools will be questionnaires and interviews while validity and reliability of research instruments will be done through pretesting. The collected data will be presented using SPSS program.*

Keywords: Risk Management system, Project Effectiveness

1. Introduction

In order to increase the chances of a proposed project succeeding, it is necessary for the organisation to have an understanding of potential risks, to systematically and quantitatively assess these risks, anticipating possible causes and effects, and then choose appropriate methods of dealing with them. To ensure that any potential risks are managed effectively, the risk process needs to be explicitly built into the decision-making process (Ahsan &Guawan, 2010).Applying principles of risk management supports the quality improvement and improves cost estimation by identifying and mitigating potential risks before a project begins. Risk management puts processes in place to ensure management receives organized risk information early enough to apply corrective actions that will allow realistic schedule and cost estimates and assure successful completion of the project. Risk management principles increase team involvement by providing a mechanism for the reporting of potential problems and increasing the team's stake in the overall success of the project. The embedding of risk is a long-term exercise to ensure that risk consideration is at the heart of the decision-making process (Alzahraniand Emsley, 2013).

2. Statement of the Problem

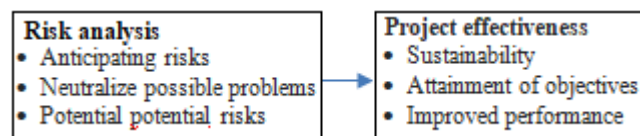
Project effectiveness is important for the attainment of project objectives, all projects therefore devise means and ways of ensuring that they improve their operations and activities so as to improve and increase the chances of success and effectiveness, project risk management is one of the strategies for project success. Projects with improves risk management strategies in place have been able to become effective and attain the objectives through improved performance positions. However, in some projects risk

management systems in place are either weak or poorly implement or this is reducing chances of success in such projects. Some of the reason for this situation in project is limited understanding on lack of enough knowledge on how project management contributes to project effectiveness. This necessitates the research on how best project management systems contribute to project effectiveness. It is against this problem that the researcher intends to carry out this research on the contribution of project risk management system on the project effectiveness with affordable housing development project as the case study.

3. Objectives of the Study

The general objective of this study was to assess the contribution of risks management system on the projects effectiveness. Its second specific objective was to examine the effect of risk analysis on effectiveness of affordable housing development project.

4. Conceptual Framework



5. Research Methodology

- **Research Design:** The researcher used descriptive research design
- **Target Population:** The population of this research was 110 employees of affordable housing development project

- **Sample size:**The sample size of the study equaled 52 respondents from the project
- **Data Collection tools:** Data were collected using questionnaires and structured interview

6. Summary of Research Findings

6.1 The influence of project risk analysis on project effectiveness

The researcher under this section made a presentation, analysis and interpretation of the views given by respondents concerning the influence of project risk analysis on project effectiveness performance so that relevant study conclusions can be made

Table 1: The extent to which respondents consider project risk analysis to contribute to project effectiveness

According to table 1, respondents contacted strongly agreed that project risk analysis to contribute to project effectiveness (61%) while 23% of respondents agreed and 9% of respondents neither agreed nor disagreed. Only 7% of respondents disagreed. When asked to give reasons for their answers, respondents said project risk analysis contributes to project effectiveness because it facilitates having analyzing the risk, it's possible causes and how best the project can control such risks hence increasing effectiveness. This led the researcher to the understanding that project risk analysis contributes to effectiveness in project activities and their implementation hence leading to improved project effectiveness.

Extent	Frequency	Percent
Strongly agree	32	61
Agree	12	23
Neither agree nor disagree	5	9
Disagree	3	7
Strongly disagree	0	0
Total	52	100.0

Source: Primary data, 2019

Table 2: The extent to which respondents consider anticipation of risks important in project effectiveness

According to table 2, respondents contacted strongly agreed that anticipation of risks is important in project effectiveness (47%) while 37% of respondents agreed and 14% of respondents neither agreed nor disagreed. Only 2% of respondents disagreed. When asked to give reasons for their answers, respondents said anticipation of risks facilitates the project to have a picture of what risks are most likely to take place and then design how best to go about them. This led the researcher to the understanding that anticipation of risks makes a project more effective since they have an idea of what risks are likely to occur and how best they can be handled.

Extent	Frequency	Percent
Strongly agree	24	47
Agree	19	37
Neither agree nor disagree	7	14
Disagree	1	2
Strongly disagree	0	0
Total	52	100.0

Source: Primary data, 2019

Table 3: The extent to which respondents consider risk management to contribute to effectiveness

According to table 16, respondents contacted strongly agreed that risk management contributes to project performance (50%) while 30% of respondents agreed and 16% of respondents neither agreed nor disagreed. Only 4% of respondents disagreed. When asked to give reasons for their answers, respondents said risk management in the project facilitates performance which in the end leads to improvements in performance; risk management facilitates reduction in losses, reduced delays and effective used of resources. This led the researcher to the understanding that better risk management in scope management facilitates reduction in losses and hence leads to improved performance

Extent	Frequency	Percent
Strongly agree	26	50
Agree	16	30
Neither agree nor disagree	8	16
Disagree	2	4
Strongly disagree	0	0
Total	52	100.0

Source: Primary data, 2019

Table 4: The extent to which respondents consider neutralising possible risks to contribute to project effectiveness

According to table 4, respondents contacted strongly agreed that consider neutralising possible risks to contribute to project effectiveness (55%) while 38% of respondents agreed and 6% of respondents neither agreed nor disagreed. Only 1% of respondents disagreed. When asked to give reasons for their answers, respondents said consider neutralising possible risks to contribute to project effectiveness in the project facilitates knowing the needed resources and how best to mobilize them so as to complete the project in the stipulated time and better management of the scope; cost estimation facilitates reduction in project delays due to having a better plan of meeting the planned estimated costs.

Extent	Frequency	Percent
Strongly agree	28	55
Agree	20	38
Neither agree nor disagree	3	6
Disagree	1	1
Strongly disagree	0	0
Total	52	100.0

Source: Primary data, 2019

Table 5: The extent to which respondents consider managing potential risks to contribute to project effectiveness

According to table 5, respondents contacted strongly agreed that managing potential risks contribute to project effectiveness (38%) while 35% of respondents agreed and 23% of respondents neither agreed nor disagreed. Only 4% of respondents disagreed. When asked to give reasons for their answers, respondents said managing potential risks in the project facilitates valuing the project principles, objectives, achievements and aspirations in order to ensure that the project remain focused on the goals. This led the

researcher to the understanding that managing potential risks facilitates project effectiveness through making stakeholders since its stakeholders are putting emphasis on risk management

Extent	Frequency	Percent
Strongly agree	20	38
Agree	18	35
Neither agree nor disagree	12	23
Disagree	2	4
Strongly disagree	0	0
Total	52	100.0

Source: Primary data, 2019

Table 6: The extent to which respondents consider controlling risks to be important in making projects effective

According to table 6, respondents contacted strongly agreed that controlling risks contribute to project effectiveness (35%) while 35% of respondents agreed and 28% of respondents neither agreed nor disagreed. Only 2% of respondents disagreed. When asked to give reasons for their answers, respondents said controlling risks makes the project more sustainable and hence more effective in operational performance. This led the researcher to the understanding that risk control facilitates project effectiveness in affordable housing project

Extent	Frequency	Percent
Strongly agree	18	35
Agree	18	35
Neither agree nor disagree	14	28
Disagree	2	2
Strongly disagree	0	0
Total	52	100.0

Source: Primary data, 2019

Table 7: The relationship between risk management system and project effectiveness

According to Table7, there is positive relationship between two variables where by $r=.892$ which implies that risk management systems have got positive effect on project effectiveness in affordable housing project ,the effectiveness of projects depend on risk management systems. Whereby risk management systems are independent variables and project effectiveness is dependent variables.

Correlations

		Risk management systems	Project effectiveness
Risk management	Pearson Correlation	1	.892
	Sig. (2-tailed)		.543
	N	52	52
Project effectiveness	Pearson Correlation	.892	1
	Sig. (2-tailed)	.543	
	N	52	52

Source: Primary data, 2018

7. Conclusions and Recommendations

7.1 Conclusions

- The researcher concluded that the factors that contribute to project effectiveness in affordable housing project are identifying causes of risks, documenting risks, breaking down risks and that being risk prepared. Contents of risk identification in affordable housing g project are executive summary, policy and procedures, resources and budgeting and cost management.
- The researcher concluded that the attributes of risk analysis that contribute to project effectiveness are anticipating risks, risk Management, neutralizing possible risks and managing potential risks. Controlling risks makes the project more sustainable and hence more effective in operational performance.
- The researcher concluded that the attributes of risk planning and mitigation that contribute to effectiveness of projects are assuming/ Accepting risk, attainment of objectives, improved performance, controlling risks and avoid risks. Improved performance to be an effect of risk management on project success and that improved performance to be an effect of risk management on project success facilitates project effectiveness leading to better performance.

7.2 Recommendations

- The researcher made the following recommendations that should be put into consideration in relation to the effect of risk management on the effectiveness of projects;
- The researcher recommended that the risk identification practices on should further be enhanced in the project so as to promote effectiveness of affordable housing development project
- It was further recommended that risk analysis on should always be done in projects in order to ensure effectiveness of affordable housing development project
- The researcher recommended that planning for risk mitigation should be made a priority in projects so as to promote effectiveness

References

[1] Agresti, A. and Franklin, C. (2009). *Statistics the Art and Science of Learning from Data*. Upper Saddle River: Pearson Education, Inc

[2] Ahsan, K. &Guawan, I. (2010). Analysis of cost and schedule performance of international development projects. *International journal of project management*, 28(1), 68 - 78.

[3] Alzahrani, J. and Emsley, M. (2013), “The impact of contractors' attributes on construction project success: A post construction evaluation”, *International Journal of Project Management*, Vol. 31, pp: 313-322.

[4] Aronson, Z. and Patanakul, P. (2013), “Managing the Intangible Aspects of a Project: The Affect of Vision, Artifacts, and Leader Values on Project Spirit and Success in Technology-Driven Projects”, *Project Management Journal*, Vol. 44, No. 1, pp: 35-58.

- [5] Bryman, A. (2015). *Social research methods*. 5th edition. Oxford University Press.
- [6] Caron, F. (2013). *Managing the Continuum: Certainty, Uncertainty, Unpredictability in Large Engineering Projects*. Milan: Springer.
- [7] Cserháti, G. and Szabó, L., (2014), "The relationship between success criteria and success factors in organisational event projects", *International Journal of Project Management*, Vol. 32, pp: 613-624
- [8] De Bakker, K., Boonstra, A. and Wortmann, H., (2012), "Risk managements' communicative effects influencing IT project success", *International Journal of Project Management*, Vol. 30, pp: 444-457.
- [9] Frigg, R. and Hartmann, S. (2012) Models in science. In: Zalta EN (ed) *The Stanford encyclopedia of philosophy* (Fall 2012 Edition).
- [10] Hagen, M. and Park, S., (2013), "Ambiguity Acceptance as a Function of Project Management: A New Critical Success Factor", *Project Management Journal*, Vol. 44, No. 2, pp: 52-66.
- [11] Hwang, B. & Chen, M. (2015). Sustainable risk management in the construction industry: *lessons learned from the IT industry. Technological and Economic Development of Economy* 21(2), 216–231.
- [12] Hwang, B. & Ng, W.(2013). Project management knowledge and skills for green construction: Overcoming challenges. *International Journal of Project Management*, 31(2), 272–284.
- [13] Iqbal, S. & Tamošaitienė, J. (2015). *Risk management in construction projects*. Technological and Economic Development of Economy, 21(1), 65-78.
- [14] Kibert, C.J. (2013). *Sustainable construction: green building design and delivery*. Hoboken, N.J.: Wiley.
- [15] Kloppenborg, T. and Manolis, C. (2014), "Project Success and Executive Sponsor Behaviors: Empirical Life Cycle Stage Investigations", *Project Management Journal*, Vol. 45, No. 1, pp: 9-20.
- [16] Lankoski, L. (2016). Alternative conceptions of sustainability in a business context. *Journal of Cleaner Production*, 139, 847–857.
- [17] Maduka, N. & Udeaja, C. (2016). Implementing Sustainable Construction Principles and Practices by Key Stakeholders. *Modular and Offsite Construction Summit*. 1-8.
- [18] Mankiw, N. Gregory (2012). *Macroeconomics (8th ed.)*. Worth. pp. 81–107. ISBN 978 1429240024.
- [19] Mankiw, N. Gregory (2014). *Principles of Economics (7 ed.)*. Cengage Learning. ISBN 978-1285165875