

# THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

## Influence of Project Manager's Risk Management Competence on Performance of Mombasa County Government Project, Kenya

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### **Abstract:**

*The general objective of this study was to investigate the Influence of project manager's risk management competence on performance of Mombasa County Government projects. The study findings showed that all the respondents were in agreement that training (mean of 3.6845) and experience (mean of 3.9061) can enhance project performance. It can be seen that both were reliable with coefficients of 0.719 and 0.768 respectively which exceed the proposed threshold of 0.70. Correlation results showed that there were average significant positive relationships between measures of Project Managers risk management Competence and performance. Training had correlation coefficients of 0.392 and 0.369 with Functionality and Budget respectively. Budget on the other hand had correlation coefficients of between 0.492 and 0.433 with functionality and Budget respectively. The study recommended that Mombasa County Government should train their project team members to enable them adopt risk management practices for their particular project environment. This is because inadequate training of project managers in these established practices is a big impediment to the performances of Mombasa county projects. Appropriate project risk management training and courses should cover the essential skills which can help project managers to handle risks in their organizations and enhance project performance. The project managers can be taken for short courses offered by different colleges in Mombasa on project risk management, seminars, workshops or in house training on risk management and engage qualified personnel to handle the training. The study also recommends that in case of recruitment, Mombasa County need to employ qualified project team who are well trained and have the necessary soft skills and knowledge in project risk management and with vast experience in project risk management. Project managers with higher levels of experience also demonstrate lower levels of risk awareness, so they are likely to spend less effort to identify risks, conduct quantitative and qualitative analysis and design appropriate risk responses. An experienced project manager will be most familiar with risk management tools and techniques and general project risk management process that may be needed in a new project such risk planning, risk identification risk analysis risk, communication, risk monitoring and risk control.*

**Keywords:** Project risk management, project manager's risk competence, project performance

## 1. Introduction

### 1.1. Background of the Study

Project risk management is one of the ten knowledge areas of project management in which a project manager's competency and expertise is needed to ensure project performance (PMBOK guide, 2017). Project Risk Management is aimed at reducing damages and loss by identifying, assessing, planning, monitoring and controlling the effect of the risks on projects (Hopkinson, 2017). In order to overcome the issue of risk and a void conflict in future, it is always important to engage in risk best practices that lead to project performance such as risk communication and identification, risk planning, risk assessment, risk response development and risk response control from the onset of the project specifications (Lundqvist, 2014.) Project risk management practices exist but despite their existence and availability risk still persist in many development projects thus failing to meet their objectives (Zwikael and Smyrk, 2015).

Kerzner, (2015) in his contribution towards the theory of project risk management, identified six process groupings which includes: risk management planning, risk identification, performing qualitative risk analysis, performing quantitative risk analysis, planning risk responses and monitoring and controlling risks. In fact, his contribution to the theory of project risk management explains that effective project risk managers treat risk management

as a dynamic part of every project performance. He ended by identifying four important parts that forms the basis for risk management planning. These include: risk identification, risk assessment, risk mitigation and risk monitoring (Kerzner, 2015). Hillson (2014) in his contribution to theory of project risk management points out that competent project risk managers view risk management as a dynamic part of every project. He ended identifying four important parts which forms the basis of risk management plans. These parts include; risk identification, risk assessment, risk planning and risk mitigation. .

Despite a lack of fundamental definitions, risk management is not a new concept within the U.S. federal sector. It has been used in both private and public sectors for decades. It is a well-established practice dating back to the late 18<sup>th</sup> century, when the government began to develop policies and legislations to deal with risks thought to hinder trade and investment (Neve et al, 2014). Government has always been involved in managing risks, even as risks management has not been generally recognized as being a fundamental function of government. Government agencies face increased scrutiny regarding accountability, fraud management of resources, performance and outcomes, more managers are engaging in risk management practices (Gao, 2015).

The concept of risk management is not new in Kenya However the development of ERM and addressing risks beyond financial aspects the traditional financial aspects is still considered weak (Yegon, 2014). The financial sector in Kenya is perhaps the leader in development and introduction of ERM in organizations profiles. This is understandable given the high risk posed by government debts, consumer spending, employment levels, fluctuating commodity prices, security threats and reduced investments resulting from global credit crisis influencing project performance resulting in failed and installed projects.

Experienced project managers understand that a complete risk assessment must include an evaluation and funding supply for the project. This is very important for publicly funded development projects (Puscasu, 2015). Just as government projects are subject to changes in strategy and political agenda, the same applies to projects which frequently undergo changes in priorities and top management. Project resources may become so tight that the only one way to fund new projects is to cancel other projects (PMI, 2014).

Like majority of countries in Africa with ailed projects, Kenya has failed and stalled projects good example is Kenya meat commission. Mombasa County has also got failed and stalled projects (Auditor general, 2016). The cause of the failure may be lack of competent project manager.

### *1.2. Project Performance*

Performance of the project is considered as a source of concern to both public and private sector. Junior & Carvalho (2015) defined performance measurement as monitoring and controlling projects to achieve the intended objectives. Pascasu (2015) stated that project performance measurement means an improvement of cost, schedule and quality for design and implementation stages. Ogolla and Mburu (2015) stated that a project performance measurement is related to many indicators such as project time, project quality, project specifications and project stakeholders' satisfaction.

### *1.3. Statement of the Project*

The concept of project risk management is one of the ten knowledge areas of project management in which project manager's competency and experience is needed to ensure project performance. Project risk management practices exist but despite their existence and availability risk still persist in many development projects. According to Choi et al (2011), roughly 80% of development projects fail before completion and more than 50% of projects fail to make returns on the investment in terms of time and money. Statistics from Mombasa County Government shows that among the 111 projects that were to be implemented, only 60 projects were completed within time and budget representing 54%. Auditor General (2016). Some projects were stalled and some projects were not started at all while some were behind schedule. Among the 10 departments which undertook the projects only 3 departments completed their projects within time and the stipulated budget. One of the reasons being lack of competent project manager.

Ogollah and Mburu (2015) conducted a research on effect of risk management strategies on project performance of small and medium information communication technology enterprises in Nairobi. The main objective of the study was to establish the effects of risk management strategies on the project performance of small and medium information communication technology (ICT) enterprises in Nairobi, Kenya. A descriptive research design was adopted. Target population was 48 ICT SMEs in Nairobi, Kenya From the relevant empirical review conducted, it is evident that research in the area of Project Risk Management has been carried out in the banking, construction, insurance firms and ICT. Odoyo (2014) carried out a study on an analysis of the role of internal audit in implementing risk management in state corporations in Kenya. The study analyzed the role of internal audit in Enterprise Risk Management (ERM) by providing empirical evidence on the Kenyan public sector firms. The study examined the impact of involvement in ERM by auditors and internal auditors' willingness to report a breakdown in risk procedures and whether a strong relationship with the audit committee affects willingness to report. These studies focused mainly on how to manage risk in organizations. Little has been done on the influence of project manager's risk management competence on performance of Mombasa County Government Projects. Thus, this study investigated the influence of Project manager's risk Management competence on performance of Mombasa County Government projects.

### *1.4. Study Objective*

To establish the influence of Project Manager's risk management Competence on performance of Mombasa County Government Projects

#### 1.4.1. Research Hypothesis.

- H<sub>01</sub>: Project Manager's risk management Competence has no significant influence on performance of Mombasa County Government Projects.

## 2. Literature Review

### 2.1. Theoretical Review

#### 2.1.1. Skills Theory

The skills theory grew from the obvious flaw in the trait approach. Skills theorists sought to discover the skills and abilities that made leaders effective. Similar to trait theory, skills theories are leader-centric, and focused on what characteristics about leaders make them effective. The two primary theories to develop from a skills approach were Katz's three-skill approach and Mumford's skills model of leadership. According to the three-skill approach a leader needs to possess conceptual, technical and human skills in order to manage projects effectively. Technical skill refers to abilities and knowledge needed to perform a specific activity the skills require training and experience Human skills deals with communication and managing project team and conceptual skills allows a manager to visualize the entire project organization and work with ideas and relationships between diverse concepts and ideas.

The approach asserts that, while all skills are important for leaders, their level of importance varies depending on the organizational level of leaders or managers. As leaders move through the levels of the organization (from lower to upper), skill importance moves from technical to human to conceptual. The skills model of leadership outlined five components of an effective leader. A leader needs to be competent, have personal attributes, result oriented, career experience and innovator. Effective leadership is dependent on how leader competencies are affected by the leader's attributes, experiences, and the environment. Skills theory places effective leadership performance on learned (and learnable) skills rather than on traits. In project management project manager has always been responsible for the delivery of successful project. Project performance is measured in terms of completing the project within the constraints of scope, time, cost quality resources and risk as agreed upon between the project managers and senior management (PMI, 2013).

The project manager's competency in risk management has become more crucial. Just being knowledgeable in risk management process and application of risk management tools which are recognized as good practice, are not sufficient for effective project management. To be effective, the project manager must have area-specific skills such as skills in project risk management and general management proficiencies along with the ability to apply project management knowledge (perform) using behavioral skills (personal) while performing related project activities. Area-specific skills include technical or industry expertise and general management proficiencies include business principles, specifically strategic planning, and execution (PMI, 2013). This theory supports the study's objective on project managers risk management competence where risk training, risk experience and use of modern risk techniques are very crucial in project performance.

### 2.2. Conceptual Frame Work

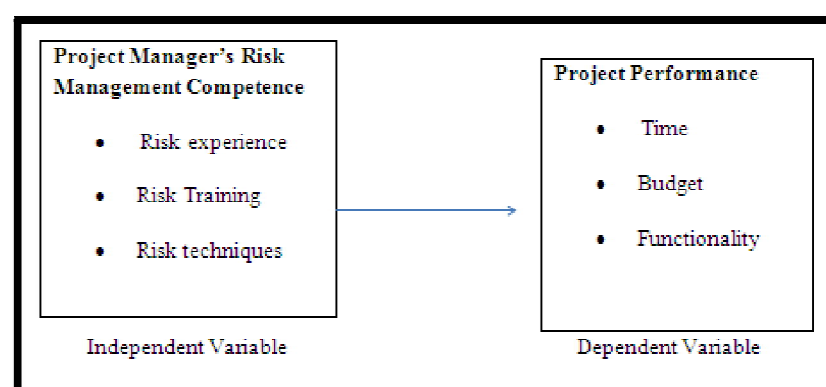


Figure 1: Conceptual Frame Work

## 3. Research Methodology

The study used a combination of cross-sectional and descriptive survey designs. The Target population 10 departments in Mombasa County Government that had 111 running projects (Auditor General, 2016). The studies focused on these departments because their projects failed, were stalled, or were not completed, some were behind schedule and some were not started at all and a few were successful. The target population included the County Executive committee members, Chief Officers, Project managers, project coordinators, project officers and project team members. The data was analyzed using factor analysis, regression analysis. Correlation analysis and ANOVA test was carried out to test the significance of the model.

## 4. Results Findings

### 4.1. Factor Analysis

#### 4.1.1. Factor Analysis for Project Manager's Risk Management Competence

To check on the sample adequacy of the data of project manager's risk competence, KMO was used. Ali et al (2016) showed that KMO value is between 0 and 1 with a value of more than 0.5 considered ideal. The Bartlett's test should have a p value of less than 0.05 for it to be considered significant. Results given by Table 1 shows that KMO was 0.6 and Bartlett's test of Sphericity had a p value of 0.000 which is less than 0.05. Therefore the data is considered ideal for factor analysis

<b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</b>		<b>.600</b>
Bartlett's Test of Sphericity	Approx. Chi-Square	57.926
	Df	21
	Sig.	.000

Table 1: KMO and Bartlett's Test for Project Manager's Risk Management Competence

The main objective of factor analysis is to regroup data into non overlapping clusters so that relationships and patterns can be easily interpreted and understood (Yong & Pearce, 2013). Principal component analysis was used to reduce components of project manager's risk competence. All the measures of project manager's risk competence were subjected to factor analysis and results given in Table 2

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.050	29.285	29.285	2.050	29.285	29.285
2	1.493	21.330	50.615	1.493	21.330	50.615
3	.937	13.388	64.002			
4	.823	11.764	75.766			
5	.710	10.136	85.903			
6	.545	7.785	93.688			
7	.442	6.312	100.000			

Table 2: Total Variance Explained for Project Manager's Risk Management Competence

From Table 2 it can be seen that two factors accounted for 50.615% of all the variation in project manager's risk competence. Factor one accounted for 29.285% of all the variations while factor two accounts for 21.33% of all the variation. These are the only factors which are being retained for further analysis. These factors had Eigen values of more than one and had the greatest influence on project manager's risk competence.

#### 4.1.2 Rotated Component Matrix for Project Manager's Risk Management Competence

Table 3 presents the rotated component factor loadings for determinants of project manager's risk competence. Two factors were retained. Factor one can be identified to be training while factor two can be seen to be experience.

	Component	
	Training	Experience
Managers are adequately trained in the use of project risk management tools and practices	.669	
Prior experience in risk management helps in managing project risks in organizations		.786
The most and competent team members are always selected to work on county projects to manage project risks	.502	
Project manager and team should be knowledgeable in project risk identification tools, response tools and monitoring tools		.785
Academic and technical project managers skills, the project manager and teams soft skills play an important role in the use of project risk management tools and practices		.573
Adequate use of project management technique	.695	
The team have the ability to handle an expected problems and conflicts	.802	

Table 3: Rotated Component Matrix for Project Manager's Risk Management Competence

Extraction Method: Principal Component Analysis  
Rotation Method: Varimax with Kaiser Normalization  
a. Rotation Converged In 3 Iterations

Only factors with loading of more than 0.4 are retained, Rusuli et al., (2013). These factors are interrelated.

## 4.2. Descriptive Analysis

### 4.2.1. Descriptive Results of Project Manager's Risk Management Competence

Project manager's risk competence was assessed by two measures namely, training and experience. The descriptive results of these two measures are given by Table 4 on a scale of 1 to 5 (where 5 = Strongly Agree and 1 = Strongly Disagree).

Variable	Mean	Std. Deviation	Cronbach's Alpha
Training	3.6845	.6331	.719
experience	3.9061	.6083	.768

Table 4: Descriptive Results of Project Manager's Risk Management Competence

From Table 4 it can be seen that the respondents were in agreement that training (mean of 3.6845) and experience (mean of 3.9061) can enhance project performance. Cronbach's alpha was used to check on the reliability of the retained constructs (Ali et al., 2016). It can be seen that both were reliable with coefficients of 0.719 and 0.768 respectively which exceed the proposed threshold of 0.70

### 4.2.2. Correlation Results between Project Managers Risk Management Competence and Project Performance

Correlation analysis was used to measure the strength of the relationship between the measures of manager's risk management competency and performance. Table 5 presents the correlation results

		Functionality (project performance sub variable)	Budget(project performance sub variable)	Training(project manager's risk management competence variable)	Experience(project manager's risk management sub variable)
Functionality(project performance sub variable)	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	71			
budget(project performance sub variable)	Pearson Correlation	.460**	1		
	Sig. (2-tailed)	.000			
	N	71	71		
Training(project manager's risk management competence sub variable)	Pearson Correlation	.392**	.369**	1	
	Sig. (2-tailed)	.001	.002		
	N	70	70	70	
Experience (project manager's risk management competence sub variable)	Pearson Correlation	.492**	.433**	.086	1
	Sig. (2-tailed)	.000	.000	.478	
	N	71	71	70	71

Table 5: Correlation Results between and Project Manager's Risk Management Competence and Project Performance

\*\* Correlation Is Significant at the 0.01 Level (2-Tailed)

There were average significant positive relationships between measures of Project Managers risk management competence and project performance. Training had correlation coefficients of 0.392 and 0.369 with Functionality and Budget respectively. Experience on the other hand had correlation coefficients of between 0.492 and 0.433 with functionality and Budget respectively.

### 4.2.3. Regression Model between Project Manager's Risk Management Competence and Project Performance

The objective of this research was to determine the influence of project manager's risk management competence on performance of Mombasa County Government Projects. To achieve this, multiple regression models was fitted between the sub variables of project manager risk management competence and project performance. The results are given by Tables 4.6, 4.7 and 4.8

Models	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.592 <sup>a</sup>	.351	.332	.27732
2	.532 <sup>a</sup>	.284	.262	.28716

*Table 6: Regression Model Summary between Project Manager's Risks Management Competence and Project Performance  
Mode1 Predictors Training and Experience; Dependent Variable: Functionality  
Mode 2 Predictors Training and Experience; Dependent Variable Budget*

Table 6 presents the model summary which gives the predictive power of the model. It can be seen that in model 1, training and experience contribute 35.1% of all the variations in functionality other factors not in the model explains 64.9% of all the variations in functionality

Meanwhile in model 2, training and experience contribute 26.2% of all the variations in budget other factors not in the model explains 74.4% of all the variations in budget.

		Sum of Squares	df	Mean Square	F	Sig.
Model 1	Regression	2.785	2	1.393	18.109	.000 <sup>b</sup>
	Residual	5.153	67	.077		
	Total	7.938	69			
Model 2	Regression	2.186	2	1.093	13.255	.000 <sup>b</sup>
	Residual	5.525	67	.082		
	Total	7.711	69			

*Table 7: ANOVA between Project Manager's Risk Management Competence and Project Performance  
Dependent Variable: Functionality, Budget  
Predictors: (Constant), Training and Experience*

Table 7 presents the ANOVA results which show that there is at least one significant variable in both models (since the P value is less than 0.05). The actual significant variables are identified in Table 8

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.405	.213		11.278	.000
	Training(project organizational risk management policy sub variable)	.150	.042	.354	3.584	.001
	Experience (project organizational risk management policy sub variable)	.183	.041	.445	4.508	.000
2	(Constant)	2.511	.221		11.373	.000
	Training(project organizational risk management policy sub variable)	.140	.043	.336	3.235	.002
	Experience(project organizational risk management policy sub variable)	.156	.042	.385	3.712	.000

*Table 8: Regression Coefficients between Project Manager's Risk Management Competence and Project Performance  
Dependent Variable: Functionality, Budget  
Predictors: (Constant), Training and Experience*

From Table 8 it can be seen that, training and experience have significant positive influences on performance functionality and budget

## 5. Summary of Findings, Conclusion and Recommendation

### 5.1. Project Manager's Risk Management Competence

The study's main objective was to investigate the influence of project manager's risk management competence on performance of Mombasa county government projects. The finding of the study indicated that the study findings show that all the respondents were in agreement that training (mean of 3.6845) and experience (mean of 3.9061) can influence project performance. It can be seen that both were reliable with coefficients of 0.719 and 0.768 respectively which exceed the proposed threshold of 0.70. Correlation analysis was used to measure the strength of the relationship between the measures of project manager's risk management competence and performance. There were average significant positive relationships between measures of Project Managers risk management Competence and performance. Training had correlation coefficients of 0.392 and 0.369 with Functionality and Budget respectively (project performance). Budget on the other hand had correlation coefficients of between 0.492 and 0.433 with functionality and Budget respectively. The findings of this study are in line with a study by Hillson, (2017) which established that appropriate project management training and courses should cover the essential skills which can help project managers to handle risks in their organizations and enhance project performance. From the findings, the respondents agreed that project manager's risk competence contributes to project performance with training (mean 3.901) and experience (mean 3.901) having the highest influence in project performance.

### 5.2. Recommendations

The study recommended that Mombasa County Government should train their project team members to enable them adopt risk management practices for their particular project environment. This is because inadequate training of project managers in these established practices is a big impediment to the performances of Mombasa county projects. Appropriate project risk management training and courses should cover the essential skills which can help project managers to handle risks in their organizations and enhance project performance. The project managers can be taken for short courses offered by different colleges in Mombasa on project risk management, seminars, workshops or in house training on risk management and engage qualified personnel to handle the training. The study also recommends that in case of recruitment, Mombasa County need to employ qualified project team who are well trained and have the necessary soft skills and knowledge in project risk management and with vast experience in project risk management. Project managers with higher levels of experience also demonstrate lower levels of risk awareness, so they are likely to spend less effort to identify risks, conduct quantitative and qualitative analysis and design appropriate risk responses. An experienced project manager will be most familiar with risk management tools and techniques and general project risk management process that may be needed in a new project such risk planning, risk identification risk analysis risk, communication, risk monitoring and risk control.

### 5.3. Suggested Areas for Further Study

Further studies can be done on the influence of risk management tools and techniques because technique as a sub variable of project managers risk management competence was not even retained in factor analysis and it accounted for 13.388%. The project team needs to be trained in the proper use of different project risk management tools and techniques.

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