

EVALUATION OF ENVIRONMENTAL RISK FACTORS AFFECTING PERFORMANCE OF PROJECTS IN KENYA: A CASE OF KENYA REVENUE AUTHORITY, NAIROBI CUSTOMS REGION

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Abstract: The purpose of this study was to evaluate the environmental risk factors affecting project performance at Kenya Revenue Authority, Nairobi Customs Region (NCR). The study was guided by the following specific objectives: To establish the effect of Information technology risk factor on the performance of projects at Kenya Revenue Authority (NCR), to evaluate the effect of customer demand risk factor on the performance of projects at Kenya Revenue Authority (NCR) and to establish the effect of human resource risk factor on the performance of projects at Kenya Revenue Authority (NCR). The research design to be used for this study was descriptive survey design. This involved explanation of causes and effects of the independent and dependent variables associated with the problem. The population of this study was all employees of Kenya Revenue Authority (NCR) and who had been with the company for a minimum period of one year. This was to ensure that they understand the company and have gone through a one year cycle of performance contract. There are about 425 employees. The sample size for this study was 213 employees who were selected through stratified random sampling. The strata was that of management, supervisory and general employees. Within each stratum, simple random sampling was used to identify individual employee respondents. Data was collected by use of questionnaires. The questionnaire consisted of structured closed ended statements. Data was analyzed mainly by use of descriptive and inferential statistics. Descriptive statistics included mode, mean, median, standard deviation. Inferential statistical techniques like correlation and regression coefficients used to draw a causal relationship between the various strategic responses and performance. Data was presented by use of graphs, pie charts and tables. The study findings indicates that environmental risk factors (information technology, customer demands & human resource) had significant and positive relationship on the project performance. The study recommends that top managers, policy makers and other key players in the organization should formulate best technology policies and systems that will ensure the organization has achieved its targets and objectives in regards to information technology. The study recommends the managerial level to strengthen the systems and structures of ensuring that they get the best qualified employees who are capable of being trained and changing the entire organization in regards to performance. The study also recommends that the managerial level need to initiate robust structures and strategies that will initiate and turnaround the customer demand risk factor into valuable environmental factor thus enabling the organization to achieve its objectives and goals.

Keywords: Information Technology, Customer Demand, Human Resource and Project Performance.

1. INTRODUCTION

Research Objectives of the Study:

General Objective:

The general objective of this study was to evaluate the environmental risk factors affecting project performance of Kenya Revenue Authority, Nairobi Customs Region.

Specific Objectives:

The study was guided by the following specific objectives:

- i. To establish the effect of Information technology risk factor on the project performance of Kenya Revenue Authority.
- ii. To evaluate the effect of customer demand risk factor on the project performance of Kenya Revenue Authority.
- iii. To establish the effect of human resource risk factor on the project performance of Kenya Revenue Authority.

2. LITERATURE REVIEW

Theoretical Framework:

Pinto's Model of Ten Critical Success Factors of the Project Management Profile:

Pinto and others have published a number of articles between 1987-1990 on critical success factors and has established a widely known accepted 10 critical success factors. Pinto used a fifty-item instrument called Project management Profile (P.I.P) to measure a project's score on each of the ten factors in comparison to over 400 projects studied. The 10 critical success factors identified by Pinto (1986) are listed as follows:

Project mission initial clarity of goals and general direction, Top management support – willingness of top management to provide the necessary resources and authority of power for project success, Project schedule/plans – detailed specification of the individual action steps required for project management, Client consultation – communication and consultation with, and active listening to all affected parties, Personnel – recruitment, selection and training of the necessary personnel for the project team, Technical tasks – availability of the required technology and expertise to accomplish the specific technical action steps, Client acceptance – the act of “selling” the final project to its intended users, Monitoring and feedback – timely provision of comprehensive control information at each stage in the implementation process, Communication – provision of an appropriate network and necessary data to all key actors in the project management, Trouble shooting – ability to handle unexpected crises and deviations from plan.

Belassi and Tukel's Critical Success Factors:

Belassi and Tukel (1996) have grouped critical success factors in projects into four areas and further explain the interaction between them. The four groups were factors related to the project, factors related to the project manager and the team members, factors related to the organization and lastly factors related to the external environment. Belassi and Tukel perform 2 surveys; firstly they identify the 5 most common success factors from the literature and asked the respondent to list any other critical factor specific to their projects. From the first survey, they obtained 91 responses in which 21% of the respondents are project managers from manufacturing sector. The project managers in manufacturing ranked the most critical factor for project success as availability of resources, followed by top management support, the third most important factor was preliminary estimates, followed by project manager performance and client consultation.

Review of Literature Variables:

Information Technology Risk Factor and Performance of Project:

Information and Communication Technologies (ICTs) may be viewed in different ways. The World Bank defines ICTs as “the set of activities which facilitate” by electronic means, the processing and transmission of the customer populace as one system. Furthermore, as it curtails customer travel distance to bank branches it offers more time for customers' productive activities. Technological innovation such as the use of computer automation and electronic banking influences speed of bank services delivery, enhanced management decision making and saving time (Alu, 2002).

ICT can provide powerful strategic and tactical tools for organizations, which, if properly applied and used, could bring great advantages in promoting and strengthening their competitiveness (Buhalis, 2004). Hengst and Sol (2001), state that ICT enables organizations to decrease costs and increase capabilities and thus assist to shape inter organizational coordination. The use of ICT can assist to lower coordination cost and increase outsourcing in organizations. ICT is used to exchange information and it provides a medium for learning. Ramsey et al. (2003) note that organizations generally stand to gain from ICT in areas such as reduced transaction costs, information gathering and dissemination, inventory control, and quality control.

Customer Demand Risk Factors and Performance of Projects:

Customer, Relationships, and Management make the acronym CRM. CRM is a new concept in marketing, argued to have replaced the database marketing of the 80's. It is a business strategy that aims to understand, anticipate and manage the needs of an organization's current and potential customers. In their own view, Hair et al. (2006) defined CRM as a combination of strategic, process, organizational, and technological change where by a company seeks to better manage its own enterprise around customer information. According to the authors, acquiring and deploying knowledge about customers and using this information across all areas of the business is the focus of CRM. Kotler and Keller (2006) see CRM as the process of managing detailed information about individual customers and carefully managing all customer touch points to maximize customer loyalty. A customer touch point according to the authors are any occasion on which a customer encounter the brand and product from actual experience to personal or mass communication to casual observation.

Human Resource Risk Factor and Performance of Projects:

Employees are resources in organizations, and as such they need to be trained and developed properly in order to achieve an organization's goals and expectations (Brewster, 2007). The initial development of the HRM concept is based on the effective utilization of people, and to treat them as resources leading to the realization of business strategies and organizational objectives (Zhu, Warner & Rowley). HRM contributes to create high performance work systems by linking various employees in different departments in the same organization (Brewster, 2007). Organizations use the effectual HRM system to increase their competitiveness by investing in employee development (Sutiyono, 2007).

Armstrong (2002) asserts that human resource development is concerned with providing learning and development opportunities, making training intervention and planning, conducting and evaluating training programmes

3. RESEARCH METHODOLOGY

Research Design:

Research design has been defined by various scholars and the definitions seem to move towards the same direction. Beck (2003), Lavrakas (2008) and Kothari (2004) define research design as the overall plan for obtaining answers to the questions being studied and for handling some of the difficulties encountered during the research process. It is therefore the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure

This study adopted a descriptive design. Descriptive design is conducted to describe the present situation, what people currently believe, what people are doing at the moment and so forth (Baumgartner, Strong and Hensley 2002).

Population:

Burns and Grove (2003) and Mugenda and Mugenda (2003) describe population as all the elements that meet the criteria for inclusion in a study. Population is therefore the entire group of individuals, events or objects having a common observable characteristic.

The population of this study was all employees of Kenya Revenue Authority at Nairobi Customs Region and who have been with the company for a minimum period of one year. This is to ensure that they understand the company and have gone through a one year cycle of performance contract. There are about 425 employees at Nairobi Customs Region.

Data Collection Procedures:

Burns and Grove (2003) define data collection as the precise, systematic gathering of information relevant to the research sub-problems, using methods such as interviews, participant observations, focus group discussion, narratives and case

histories. Initially the researcher used self-introductions and also use internal informants. The questionnaires were sent to the respondents under a questionnaire forwarding letter accompanied by an introduction letter from the University. The researcher made a follow ups and the fully completed questionnaires were picked from the respondents later by use of a research assistant.

Data Analysis, Processing and Presentation:

Data Analysis is the processing of data to make meaningful information (Sounders, Lewis and Thornbill, 2009). Burns and Grove (2003) define data analysis as a mechanism for reducing and organizing data to produce findings that require interpretation by the researcher. According to Hyndman (2008) data processing involves translating the answers on a questionnaire into a form that can be manipulated to produce statistics. This involves coding, editing, data entry, and monitoring the whole data processing procedure.

After data has been collected through questionnaires, was prepared in readiness for analysis by editing, handling blank responses, coding, categorizing and keying into Statistical Package for Social Sciences (SPSS) computer software for analysis. SPSS was used to produce frequencies, descriptive and inferential statistics which was used to derived conclusions and generalizations regarding the population.

4. RESEARCH FINDINGS AND DISCUSSIONS

Response Rate:

High response rate denotes that the findings are representative of the target population. Response rate is the extent to which all the sample collected data takes care of all the sample items, a ratio of the actual respondents to anticipated number of persons who responds to the study (Emore, 20017).

Table 4.1: Response Rate

Response	Frequency	Percentage
Responded	171	80%
Non-response	42	20%
Total	213	100%

The study recorded very high response rate which was attributed to the data collection procedures, where the researcher pre-notified the potential management and general employees of the intended study. The study capitalized on the self-administered questionnaires where the respondents completed and immediately after they were picked.

FINDINGS:

Information Technology:

The response on the question requiring respondents view on whether information technology as environmental risk factor affects or improves the performance of projects at Kenya Revenue Authority having mean of 4.26 implicating that most respondents agreeing that when organization invests much in management information system it leads to better performance of the projects especially the project of one stop border post which has currently helped the authority to achieve its objectives and targets. This study therefore concurs with a study conducted by (Dahl, 2012) in which he found out that management information system brings with it the knowledge tactics setting of organization in trapping profitable business opportunities.

Customer Demand Risk Factor:

From the study majority of the respondents strongly agreed that customer demand risk factors would be managed through establishing customer relationship management strategy which is achieved through customer profile analysis model. The model is able to identify and analyze most profitable customer and prospects which gives the authority the chance to know how much amount they are supposed to remit based on the form of taxation method. This is in agreement with Alison (2015) who holds that corporate management and other policy makers have bottom line effect on establishing the best strategy for managing customer demand risk factor thus enhancing project performance for the organization.

Human Resource Risk Factor:

From the study it can depicted that organization that has invested much in human resource in terms of providing efficient training to the staff, staff exchange programs, job rotation, promotion, incentives and rewards for the staff performing

well would always make the organization to achieve its performance thus not being viewed as risk factor to the entire organization. This is in agreement with Duke (2014) that human risk factors plays exorbitant part in the customs in regards to revenue collection. The Kenya Revenue Authority for instance it has established quality structures in terms of recruiting competent personnel and managers who are working professionally to enable the organization achieve its objectives and goals in relation to collection of revenues for the country which are contributor to economic and development of the country.

Correlation Results:

Table 4.2: Correlation Analysis

		Information Technology	Customer Demand Risk	Human Resource Risk	Project Performance
InformationTechnology	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	171			
CustomerDemandRisk	Pearson Correlation	.357**	1		
	Sig. (2-tailed)	.000			
	N	171	171		
HumanResourceRisk	Pearson Correlation	.548**	.347**	1	
	Sig. (2-tailed)	.000	.000		
	N	171	171	171	
ProjectPerformance	Pearson Correlation	.583**	.485**	.649**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	171	171	171	171
**. Correlation is significant at the 0.01 level (2-tailed).					
*. Correlation is significant at the 0.05 level (2-tailed).					

The correlation coefficient was generated at 0.01 significance level (2- tailed). The results indicates a strong positive relationship between independent variables (information technology, customer demand and human resource risk factor) and dependent variable (project performance). Based on the results it shows that information technology, customer demand risk factor and human resource factor are significance to the project performance as dependent variable. The results is in agreement by Slevin (2013) that significance of the variables depicts that the factors have influence on the project performance at Kenya Revenue Authority.

Regression:

Table 4.3: Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.195 ^a	.038	.021	1.65103
a. Predictors: (Constant), Human Resource Risk, Information Technology, Customer Demand Risk				

From the results above it implies that the independent variables namely information technology, customer demand risk factor and human resource risk factor have significant effect on project performance. The regression model summary indicates the coefficient determination R square as 0.038. This means that at 38% of the relationship is explained by the identified three variables namely information technology, customer demand risk factor and human resource risk factor. The rest of 62% is explained by other factors in other organization not studied in this research. From the results it implies that information technology, customer demand and human resource risk factors had explanatory power of change in the project performance at Kenya Revenue Authority Nairobi customs as it accounted for 38% of its variability (R square = 0.038) on the model 1, hence it implicated that the model is a good fit for the data. This results is in agreement by Lockamy (2010). Further from the results it depicts that there is a moderate positive relationship between independent variables (information technology, customer demand risk factor & human resource risk factor and dependent variable (project performance).

Analysis of Variance (ANOVA):

Table 4.4: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.083	3	6.028	2.211	.000 ^b
	Residual	455.227	167	2.726		
	Total	473.310	170			
a. Dependent Variable: Project Performance						
b. Predictors: (Constant), Human Resource Risk, Information Technology, Customer Demand Risk						

The significance of the regression model is as per Table 4.4 below, with p-value of 0.000 which is less than 0.05. This indicates that the regression model is statistically significant in predicting the assessing environmental risk factors affecting performance of projects in Kenya Revenue Authority, Nairobi customs Region. Basing the confidence level at 95% the analysis indicates high reliability of the results obtained. The overall ANOVA results indicates that the model was significant at F=2.211, p-value = 0.000, this shows that the overall model was significant and that information technology, customer demand and human resource risk factors affects projects performance.

Regression Coefficient:

Table 4.5: Regression Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	24.696	1.973		12.515	.000
	Information Technology	.272	.030	.006	.074	.000
	Customer Demand Risk	.233	.048	.055	.671	.000
	Human Resource Risk	.171	.067	.208	2.565	.000
a. Dependent Variable: Project Performance						

IT= Information Technology CDRF= Customer Demand Risk Factor HRRF = Human Resource Risk Factor

The general regression Model arrived at was $Y = 24.696 + 0.272X_1 + 0.233X_2 + 0.171X_3$

The results of the Beta Coefficient in the regression model indicates that all of the tested variables had positive relationships with project performance at Kenya Revenue Authority with all the independent variables tested being statistically significant with p-value less than 0.05. From the findings it is depicted that a unit increase of information technology (0.277) will result in change of project performance at Kenya Revenue Authority, a unit increase of customer demand risk factor (0.233) will lead to change in project performance at Kenya Revenue Authority while a unit increase of human resource risk factor (0.171) will result in change of project performance at the Authority. Furthermore it was concluded that there is statistically significant relationship between independent variables (information technology, customer demand & human resource) and dependent variable (project performance).

5. SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

SUMMARY OF FINDINGS:

Information Technology Risk Factor:

The study sought to assess effect of information technology risk factor on project performance at Kenya Revenue Authority. ICT is clearly considered as a key growth area in this century, specifically, in a dynamic business and highly competition environment which requires utilizing advanced ICT to improve efficiency and cost effectiveness, and to present high quality products and services to their customers. Its correlation results was 0.583 while results for regression was 0.272. The indicators for measurement of information technology were number of computers in the organization, investing in management information system and system compatibility.

Customer Demand Risk Factor:

The study sought to evaluate the influence of customer demand risk factors on project performance at Kenya Revenue Authority. Majority of the respondents strongly agreed that customer demand risk factors would be managed through establishing customer relationship management strategy which is achieved through customer profile analysis model. Descriptive statistical methods were used to arrive at the results. Its correlation results was 0.357 while regression coefficient results was 0.233. Inferential statistics also played vibrant role on providing findings.

Human Resource Risk Factor:

The study sought to assess the influence of human resource risk factor on project performance at Kenya Revenue Authority. Under human resource risk factor there was general consensus that increases project performance. Based on Table 4.9 shows higher averages with means of 4.86, 4.84, 4.78, 4.77, 4.75 and lower 4.67 of the responses respectively. Descriptive statistics methods were used to arrive at results. Its correlation results was 0.548 while its regression coefficient results was 0.171. Based on the measurement of human resource risk factor indicators greatly influenced project performance as a dependent variable.

CONCLUSIONS:

The study results concluded that there was strong positive significant relationship between information technology and project performance. The results were attributed by the organization investing much in management information system where most of the operations are done electronically thus enabling them to reduce cost and safe much revenue for the country

The study concluded that the findings of correlation and regression analysis it replicated a strong significant positive relationship between customer demand risk factor and project performance.

The study concluded that the measurement of human resource risk factor indicators greatly influenced project performance as a dependent variable. The results showed that based on the findings of correlation and regression analysis it replicated a strong significant positive relationship between human resource risk factor and project performance.

RECOMMENDATIONS:

- i. Top managers, policy makers and other key players in the organization should formulate best technology policies and systems that will ensure the organization has achieved its targets and objectives in regards to information technology.
- ii. The managerial level is that they need to initiate robust structures and strategies that will initiate and turnaround the customer demand risk factor into valuable environmental factor thus enabling the organization to achieve its objectives and goals.
- iii. In the development of organizations, training plays a vital role, improving performance as well as increasing productivity, and eventually putting companies in the best position to face competition and stay at the top.
- iv. The managerial level to strengthen the systems and structures of ensuring that they get the best qualified employees who are capable of being trained and changing the entire organization in regards to performance.

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