

RISK TRANSFER STRATEGY AND PERFORMANCE OF CONSTRUCTION PROJECTS IN PUBLIC SECONDARY SCHOOLS IN MURANG'A COUNTY, KENYA

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Abstract: Performance of construction projects in Kenya is a matter of great concern to stakeholders, as most of the construction projects have experienced delays and cost overruns which have adversely affect their performance. Construction projects are very prone to risk which have the significant impact on their performance in terms of time, cost and quality. As the size and complexity of construction projects increases, ability to manage risk throughout the construction process has become a key element of preventing the negative impact of risk. The purpose of this study was to investigate the effects of risk transfer strategy on the performance of construction projects in public Secondary schools in Murang'a County, Kenya. The study employed descriptive research design while judgmental or purposive sampling technique was used to select public secondary schools in Murang'a County to participate in the study. The study used primary data which was gathered by administering questionnaires. Then the data was summarized and analyzed using descriptive and inferential statistics. Descriptive statistical involved the use of frequencies tables' standard deviation, mean and mode while inferential statistics included the use of regression analysis to analyze quantitative data. The risk transfer strategy was found to have weak influence on performance of construction projects since it had highest beta coefficient value (0.265). The analysis of research findings led to conclusion that risk transfer strategy has a significant influence on performance of construction project in secondary schools. Furthermore, correlation analysis of risk transfer strategy and performance shows positive correlation. This study strongly recommends more studies in public secondary school, colleges and universities in other Counties in order to ascertain the in influence of risk management and performance of construction projects in education sectors

Keywords: Risk Transfer Strategy, Construction Projects, Performance

1. INTRODUCTION

Construction projects are highly prone to risk which makes people working in these projects bear with failures like delays in completion, cost overruns and not bidding to quality which has resulted in poor performance of these projects. A Performance of the project can be determined by a number of indicators which include; cost, health, the satisfaction of the client, time, customers changes and business performance safety (Cheung *et al.* 2004). The Concept of construction projects delays and cost overruns has now become a global phenomenon. The report issued by the chairman of Standish group in USA (CHAOS report 2009) showed that only 32% of construction projects were delivered successfully on time, 44% were challenged because they were not delivered on time and the budget was over and 24% of projected failed and canceled. Moreover, the study by Kitavi and Van Der Westhuizen (1997) in some of the developed countries like UK, Australia, and the USA revealed many challenges faced by school heads in the management of construction projects.

In Africa, failure of construction projects in education sector generates a cycle of rising expectations and unfulfilled promises. Most of the construction projects in Nigerian construction sector are faced with the problem of project delay. In their study, Ogunsemi and Jagboro (2006) found that construction projects in Nigeria are facing a serious challenge of cost overrun. In their study, Aibinu and Odenyinka (2006) assessed causes delay in construction projects in Nigeria. They evaluated nine factors which include; contractor, service engineer, architect, client, supplier, quantity surveyor, external factors, sub-contractor and structural engineer. The findings of their study identified ten overall delay factors which include; contractors financial difficulty, incomplete drawing by the architect, slow mobilization by the contractor, inadequate fund by a client, late delivery of materials by suppliers, problems of planning, scheduling by the contractor, breakdown of the machines and late delivery by suppliers. The authors concluded that poor risk management strategies lead to project delay which results in a poor performance of construction projects.

In their study, Farida and El-sayegh (2006) found that poor supervision, lack of adequate skills, change of projects scope, poor site management, shortage of equipment and unsuitable leadership contribute to projects delays in the United Arab Emirates resulting to poor project performance. Arditi, *et al*, (1985), found that project delays and cost overruns happen in all sectors but not only in the construction sector. They also stated that to increase in cost overrun and delay of the construction project has a negative impact which affects the rate of national growth. According to Mbachu and Nkado (2004), most of the construction projects have experienced cost overruns during project delivery. This problem of not meeting cost has resulted in loss of clients' confidence and many investors terminating construction projects investments

In Kenya, Mbatha (1986) carried a study in Kenya public construction projects. The findings of the study showed that out of 100 projects 73 % do not meet projects duration, while 38% experienced cost overruns which result in poor performance. Moreover, another study by Talukhaba (1989), carried out for both private and public construction projects got the same findings. The failure to meet cost and time will result in wastage of resources and consequently poor performance. A preliminary informal review by the researcher showed that most of the construction projects in Murang'a County have major challenges. In fact, the majority of the projects have not been completed on time and budget, others have stalled and others are abandoned resulting in poor performance.

The risk is the uncertainty that exists as to the occurrence of the event which causes economic value or loss (Green, 1968). Gorrods (2004) defined risk management as an ongoing process that continues throughout the project life. Risk management is a process in which an organization identifies hazards affecting it and chooses the most suitable strategy for dealing with such exposures (Redja, 2008). An organization that actively identifies and manages risk is always in a better position to grab opportunities.

According to Dorfman (2007), there are several types of the risk strategies which can be used depending on the level of risk; transfer, retention, reduction, and avoidance of risk. Avoiding risk entails not involving yourself with activities that could carry risk. This can be seen as the solution to all risk but on the other hand, it can also translate to losing an opportunity that accepting the risk may have allowed. Risk avoidance is the most effective according to Dorfman (2007). Risk reduction involves reducing the likelihood of a loss occurring. Risk transferring involves transferring involves transferring the responsibility to another party by contracting, insurance, legislation or other means. Risk retention can be defined as accepting the benefit of gain or loss when the risk occurs. This strategy can be used when the cost of insuring risk is greater over time than total losses incurred.

Risk management process suggested by Kiochos (1997) can heavily be applied in construction projects. Kiochos (1997) identifies a process of risk management that involves four steps namely; risk identification of likely loss, assessment of likely losses, and selection of potential methods for dealing with losses and finally implementation and for the administration of risk management program. Risk management is the ability of a human to recognize risk, assess risk and develop the methods to mitigate and manage it using managerial resources. In short risk management process enables an organization to prepare for survival and reduce its exposure to the risk.

2. STATEMENT OF THE PROBLEM

Projects are susceptible to risks and uncertainties of which failure to manage them appropriately can result in serious problems (Farrell & Gallagher, 2015). In their study, Carvalho and Junior (2013) surveyed risk management strategies in various industrial sectors in Brazil. The finding of the study showed that embracing best risk management strategies had a positive result on the success of a project. Serpella, Ferrada, Howard and Rubio (2013) surveyed construction projects in Chile and the findings revealed that failure to use risk management practices in construction projects resulted in negative

results. In Kenya, Mburu, Ngugi and Ogollah (2015) contended that effective risk management treatment resulted in the success of the projects as it lowers chances of occurrence of undesirable risk and reduces the risk impact when it occurs. Wachuru (2013) surveyed twenty-four constituency development fund (CDF) Kiambu county. The findings of the study project success were limited due to a dismal application of risk management practices.

The above citations suggest that strategies of risk management have proved to enhance the performance of a project. But, the applicability of these strategies has not been tested and empirically studied in case of construction projects school set up. For instance, it is not even clear whether using certain risk management strategies has quantifiable effects on performance of construction projects in public secondary schools. Numerous studies on effects of risk management strategies on the performance of projects have been conducted in other sectors but, little has been done in case of construction projects in the education sector in Kenya. It is in this perspective this research examines influences of risk management strategies and performance in construction project in public secondary schools in Murang'a County, Kenya.

3. LITERATURE REVIEW

Risk transfer according to Mhetre, Konnur and Landage (2016) study on risk management in construction industry entails sourcing another party who is prepared and willing to take its management control and financial responsibility when the risk occurs. They also argued that transferring risk does not eliminate it, as the risk will still exist but it is managed and possessed by another individual. In fact, according to them, risk reduction is the best strategy to deal with risk exposure. Mhetre, Konnur and Landage also concurred that the main of transferring risk is to make sure that is owned and handled by the best party.

According to Beard (1982) allocating risk to the party best that will be able to control and anticipate risks is the best thing to do. These parties should be willing to accept the risks and also have the financial stability to sustain the consequences (Abednego & Ogunlana, 2006). Rahman and Kumaraswamy (2002) concurred that some risks for effective management they require a collaboration of contracting parties so that they can be managed effectively. In fact, they categorized joint risk management under relational contracting principles. These principles are important under various undertakings, which include the alliance of project and joint venturing.

Pott (2008) contended that that risk can be transferred to parties who can manage it properly. According to him, risk can be transferred to various actors which include; the client, subcontractor, contractor, designer and insurer depending on characteristics of risks. He also said that this could result in additional work and higher cost usually referred to as the premium. According to Darnall and Preston, (2010) shifting risks is the only alternative when risk cannot be controlled by project management team. Sometimes the situation consist unpredictable calamities which are rare in certain conditions. Unpredictable calamities should be transferred through insurance policies since they are beyond environmental control (Winch 2002).

In his study Koolwijk (2015), about risks shared and allocated by construction clients and contractors in Dutch Project Alliances observed that most risks items are difficult to anticipate during planning and design stage of construction. He also observed that some risks need to be a collaborative effort for many contracting parties for good management. They also found a list 16 risks items suitable for joint risk management. Koolwijk (2015) also investigated risk items shared between a client and a contractor in two different project alliances. The findings from the investigation showed a close similarity of the risk items to the one identified by Kumaraswamy and Rahman.

Ahamed and Azhar (2004) in their study assess recent practices of risk scrutiny and management embraced by contractors in Florida construction industry. The study findings also revealed that risk transfer strategy was adopted by more than 55% of respondents in Florida as their strategy of managing risk. Findings also reveal that contractors of Florida use both risk transfer through financial means such as insurance or to specialty subcontractor, however, favors transferring the risks to specialty sub-contractor when the loss expected is higher. Finally, the study also reveals that risk transfer sometimes can lead to poor quality, low productivity and project delays.

In their study, Renault and Agumba (2016) related the concept of risk and risk management in construction industry. In their study, they disclosed management of risk involves identifying, evaluating, prioritizing risks by monitoring and using capital in order to reduce the effect of risk so as to achieve project objectives. Moreover, risk management may result in many advantages which include increased confidence in attaining objectives of the project, improving the likelihood of success and identification of good alternative course of action. The findings of the study further revealed that risk must be

identified before it is mitigated or controlled. The study also revealed that risk avoidance, risk reduction, risk retention and transfer as techniques commonly used in responding to risks.

In their paper Bryan and Shapiro (2006), review the use of construction contracts and design as the best method of transferring risk in the construction industry which can have the effect of reducing costly and acrimonious disputes. According to them the party that is stronger tends to allocate unwanted risks that it does not want to incur into a weaker party and this does not always give efficient risk management process. Furthermore, improperly allocated risk can affect both stronger and weaker party. Bryan and Shapiro also advocate that transferring risk to the best party who are able to manage it inexpensively, effectively and easily will result to more profitable, successful project and consequently improve the performance of construction project.

4. RESEARCH METHODOLOGY

This study employed descriptive research design. The Target population was 291 schools in Murang’a County. This study employed judgmental or purposive sampling technique to sample the schools to be required in this study. Purposive sampling was used to select a total of 40 public schools. The sample contained 136 respondents which constituted of 40 principals, 40 BOM chairpersons and 40 accountants, 1 SCEO and 1 SCQASOs. Structured questionnaires were used to collect data for this study. The collected data was analyzed and interpreted both quantitatively and qualitatively. Descriptive statistics involved use of frequencies tables standard deviation, mean and mode. Inferential statistics included the use of regression analysis to analyze quantitative data. Qualitative data was analyzed and described and summarized using qualitative statistical techniques.

5. FINDINGS

The study sought to examine the influence of risk transfer strategy on performance on of construction projects in public secondary schools in Murang’a County. Table 1 summarizes the findings of the explored risk transfer strategies

Table 1: Risk Transfer Strategy and Project Performance

Risk Transfer Strategies	Mean	Standard Deviation	5(SA)	4(A)	3(N)	2(D)	1(SD)
The school purchases insurance premium on some of the construction items to ensure no circumstance will cause the delay of construction projects.	1.42	0.850	2 1.8%	4 3.6%	2 1.8%	22 20.0%	80 72.7%
The school signs legal agreements mostly to any event that may resulting delaying the construction project.	2.86	1.523	20 18.1%	28 25.5%	11 10.0%	19 17.3%	32 29.1%
The school outsources those construction functions that may cause delay when performed by the project team.	3.48	1.081	16 14.5%	47 42.7%	29 26.4%	10 9.1%	8 7.3%
Aggregate Mean	2.587	1.151					

Source: Field Data (2017)

The research findings presented in Table 4.7 shows that out of 110 respondents 2(1.8%) strong agreed that the school purchases insurance premium on some of the construction items, 4(3.6%) agreed, 2(1.8%) were neutral, 22(20.0%) disagreed and ironically 80(72.7%) strongly disagreed. In respect to whether school signs legal agreements mostly to any event that may result in delaying the construction project 20(18.1%) strongly agreed, 28(25.5%) agreed, 11(10.0%) were neutral, 19(17.3%) disagreed and 32(29.1%) strongly disagreed. In regard to whether the school outsources those construction functions that may cause delay when performed by the project team 16(14.5%) strongly agreed, 47(42.7%) agreed, 29(26.4%) were neutral, 10(9.1%) disagreed and 8(7.3%) strongly disagreed.

The reason for obtaining this data is to determine how a risk transfer strategy affects the performance of construction projects. Majority of the respondents (57.2%) proposes that the school outsources those functions that may cause delay when performed by projects team. These findings are in consistent with Mhetre, Konnur and Landage (2016) who argued that transferring risk entails outsourcing another party who is prepared and willing to take its management control and financial responsibility when the risk occurs. However, 72.7% and 20% of the respondents chose 5 and 4 respectively in

likert scale, meaning they opposes school purchasing insurance premium on some items as risk transfer strategy. These findings of the study in regard to school purchasing insurance premium on some items disagrees with the findings of Ahamed and Azhar (2004), who found that majority of respondents in Florida construction industry transfers risk by use of insurance premium.

6. CONCLUSIONS AND RECOMMENDATIONS

The general objective of the study was to determine the influence of risk transfer strategy and performance of the construction projects in public secondary schools in Murang'a County. Analysis of the results also confirmed that risk transfer had a significance influence on performance of construction projects in public secondary schools. Moreover, the results suggest that improving risk transfer strategies will improve performance of construction projects.

Every project manager would desire to perform and finish project within time, satisfy customers requirements, quality and set budget. However, sometimes this is not realized due to predicaments caused by risks and uncertainties that interfere with set objectives. Therefore there is the need for managing this risks effectively in order to increase chance of completing construction projects within the require time and budget. That why it is worthwhile to incorporate strategies to manage risk in construction projects. From the data analysis the influence of risk management strategies in performance of construction projects cannot be ignored.

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