

Case Study

Influence of Managerial Skills on Completion of PPP Projects: A Case of Sondu-Miriu Power Project in Kenya

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Abstract

PPP projects are aimed at finding solutions to public problems by taking advantage of resources in the hands of public sector by combining the strengths in public and private sectors to solve problems that members of public face. The purpose of this study was to assess the Influence of Managerial Skills on Completion of PPP Projects: A Case of Sondu-Miriu Power Project in Kenya. The researcher adopted a correlational design where purposive sampling technique was adopted to select 39 management staff who were administered with questionnaires face to face or by mail. Mean and standard deviation were used for descriptive analysis while Pearson correlation was used for inferential purposes. The study found that delegating work to people with time to complete tasks moderately improves on completion of PPP projects. Further, following up on team members whose behaviors might impact projects negatively highly improves completion of PPP projects in terms of quality, time and cost. The study concludes that managerial skills strongly positively influence completion of PPP projects. The study recommends that, during implementation of PPP, selection of managers should be critically done to ensure that candidates with proven records and abilities are selected to implement the project.

Keywords: Managerial Skills, Construction Projects, Public-Private Partnership

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Introduction

Completion of Public-Private Partnership (PPP) projects entails the comprehensive delivery of the project within the boundaries of the planned time, budgeted costs, and without unresolved labour issues. In this study, the PPP delivery is considered to include accomplishing deliverables sufficiently and efficiently to meet the time, cost and labour requirements. Nowadays, PPP concept is becoming a popular model of executing public projects. (UNECE, 2008) further puts it that PPPs have become the model of executing major public projects that require a lot of money. PPP projects are aimed at finding solutions to public problems by taking advantage of resources in the hands of public sector. It thereby combines the strengths in public and private sectors to solve problems that members of public face.

For PPPs to be efficient, there is a need for them to be effective and productive in all means (Mohr & Spekman, 1994). Thus, international organizations, governments, and private developers have appreciated and embraced the cost benefits of such arrangements hence their popularity. The interplay of factors between an organization and the environment it operates it makes it susceptible to risks. (Kartam & Kartam, 2001) also explain that risks are inherent in the projects and for this reason, stakeholders in PPP projects need to manage their complexities liked taxation, market conditions, policies, capital budget, and documentation. As observed by Kartam and Kartam (2001), when project stakeholders fail to manage the complexities of the construction risks, failure is bound to occur, affecting the overall project. A study by (Smith, Merna, & Jobling, 2006) in Ghana during the housing construction project, in which the government partnered with private sector to provide houses for the civil servants, it was found that external factors heavily impacted the project.

Financial risks occur during project development phase; as such, they should be addressed by individual parties. (Carbonara, Costantino, & Gunnigan, 2014) found that alternative promoters were the best risk mitigation strategies. The exogenous risks may occur throughout the life cycles of PPP projects and they might be out of the control of parties involved in projects. Most of these risks depend on institutional and financial contexts. While this study focused on both the pre-completion and post-completion face of the PPP project, the present study evaluated a project already delivered through PPP.

Other studies have shown that critical success factors are necessary if PPPs are to be completed. (Wijekoon, 2006) evaluated the utilization of PPP models in Kenya in transportation and energy projects. The study analysed two case studies, namely; Kenya and Uganda Railways Concession and Kipevu II Power Project to assess the impact of the Critical Success Factors (CSFs) on the successful implementation of the project. The frameworks presented at the time of execution were also taken into account. The study revealed that the CSFs influenced the successful implementation of the project. It also established that the impact of the CSFs is dependent on the framework in place at the time of implementation and the risks associated with the Project and managerial skills practiced. Managerial skill refers to the capacity of those in management positions to apply efficient procedures in identifying and assessing of risks, and developing measures to respond to risks identified, communicating decisions and involvement of staff. It is the ability to plan, schedule and supervises the execution of a construction project. In this

study, managerial are technical skills, coordinating activities, continuity of staff involved, and communication within the parties.

The construction manager implements various components of the project, thus takes centre stage in risk identification and management. As such, there is a need for adequate and relevant managerial skills to perform such functions. Consequently, managerial skills play an effective crucial role in project implementation, including the aspect of risk management (PMBOK, 2013). In projects with major construction components disputes emerge from divergent opinions of stakeholders which in some cases conflict those of the contractor. All contractual clauses carry with them some responsibilities, which may lead to disputes (Ng & Loosemore, 2007). Despite having clauses for addressing disputes in most construction contracts, failing to resolve some disputes impact negatively on delivery. To mitigate this, there is need for managers to access accurate information as when needed so as to make decisions and plan for implementation. With information, it is possible to eliminate unpredictable circumstances and ensure flow in project implementation. It equips the manager with additional tools and aids the simplification of processes (Lucey, 2005). Studies by (Karimi, 2008) and (Musa, 1999) identify instances of inexperience among managers, poor planning, and poor communication to be among the major reasons resulting into time delays in Kenyan projects.

Purpose of the Study

The purpose of this study was to assess the Influence of Managerial Skills on Completion of PPP Projects: A Case of Sondu-Miriu Power Project in Kenya

Literature Review

Projects involving construction works result in disputes arising from the activities, actions and decisions from the various stakeholders implementing the project as they may differ with views of the contractor. All contractual clauses carry with them some responsibilities, which may lead to disputes (Ng & Loosemore, 2007). Despite having dispute resolution framework in most contracts, failing to conclusively address the disputes negatively impact project implementation. It is necessary that managers in charge of construction have accurate information which is relevant and at the right time to ensure prior planning and make sound decisions. Information will ensure predictability of the project activities and phases to ensure efficiency in the construction process (Lucey, 2005).

Management of various risks is applicable in different areas ranging from evaluating the different ways of addressing business plans and allocating budgets to managing delays in project completion. These processes help in justifying decisions and promoting accountability within projects. (Euripides, 2008) conducted a study whose focus was on risk management within construction projects to identify the factors that caused such projects to fail. According to Euripides (2008), risk management is not only beneficial to large-scale projects, but it also applies to all projects, including those concerned about procuring items. (Euripides, 2008) evaluated extensive bibliographies, results and data of companies involved in construction project disasters. Although the study by Euripides

(2008) examined risk management as the shortcomings of large scale construction projects, it did not evaluate how management skills account for project delivery in PPPs.

Internationally, management of risk is a relatively emerging problem among the Chinese construction companies (Jia, 2010). In China, (Jia, 2010) assessed the techniques utilized in the country to manage risks among international construction projects. He went ahead to analyze the characteristics of those projects and even proposed practical measures to counter risks likely to occur during project implementation. The study was based on data on existing projects, thus identified risks arising in different projects. The data was mostly qualitative obtained from project managers and various stakeholders. However, the study did not obtain quantitative data, thus it was not able to rank how the individual risks affect project implementation. Moreover, the influence of managerial skills in relation to PPP projects especially hydroelectric power projects were not investigated leaving a gap.

A deeper understanding of risk management is needed right now to help in improving projects' output. In Sweden, (Osipova, 2008) concentrated on managing risks within construction projects. The study evaluated 9 projects that were completed within the country over a short period. A series of interviews were conducted and questionnaires issued to collect the data from project stakeholders. The study established that there lacked an iterative method of managing risks within the projects that were included in the study. For this reason, the challenge should be addressed if risk management is to improve. (Osipova, 2008) further pointed out that design projects allowed contractors and architects to interact more within early phases, thereby were effective at managing risks. Partnership, in this case, enabled both parties to cooperate and address risks jointly.

Risk identification, classification and prioritization have been identified to be equally as important as managerial skills on completion of hydroelectric power projects. (Sohrabinejad & Rahimi, 2015) conducted a study that sought to determine the way risks were determined, prioritized and classified within a case study project. The study aimed to identify risks that were prioritized within construction projects. It proposed a hierarchical method utilized in the project and proposed a model that could be utilized to address those risks. Expert opinions were utilized to brainstorm ideas and risks were classified by experts into eleven classes of risks. The study established that the model that was proposed was effective at decision making more than traditional method that was utilized in such projects. The model put emphasized on quality of complete works, duration of completion as well as the overall cost.

Experts must work as a team for any project to fulfil its objectives. However, teambuilding and staff continuity is considered the work of the project manager. (Gido & Clements, 2003) emphasized the need for multi-disciplinary approach to include various experts for successful implementation. Effective project teams should clearly understand projects' objectives and have clear expectations for parties involved in completing projects and even their responsibilities within those projects. In addition, they tend to develop high levels of trust, degree of cooperation and result orientation. (Kumaraswamy & Zhang, 2001) stated that failure in projects results from inappropriate arrangements, inadequate legal frameworks and lack of coordination between the public and private sector. Risk is viewed differently by various stakeholders, efficient governance systems

are critical in risk management (Abednego & Ogunlana, 2006). Some of the challenges that are faced by public sector in project management include inefficient allocation of responsibilities among contracting parties and inaccuracies in specifying requirements.

Similarly, (Githenya & Ngugi, 2014) assessed issues related to project planning, control and competencies in project planning within the Kenyan construction projects. The study utilized descriptive statistics and questionnaires to collect the data from project managers. Pilot testing was carried out to evaluate the validity and reliability of the questionnaire utilized to collect the data. The target population was the managers who manage housing projects within Nairobi County. Simple random sampling method was used to select the managers who participated in the study. Also, regression models were utilized to evaluate the influence of planning, motivation, control and competencies in project management for county housing projects. The control measures were found to be highly correlated (76.6%) to the implementation of housing projects in the county. Accordingly, the study recommended that project managers needed to take control measures within their housing projects as they implemented them.

On managerial skills and completion of PPP projects, (Euripides, 2008) conducted a study that focused on projects that were considered troubled because they did not have sufficient risk management strategies. This study examined existing data, results and found that risk management had diverse applications that ranged from alternative activities of business plans and budgets, to extension in completion deadlines delays in project completion and management of overruns in costs. Although the study by Euripides (2008) looked at risk management as the shortcomings of large scale construction projects, the author did not evaluate the influence of managerial skills on completion of PPP projects. Moreover, the method of analysis was not able to quantify the scale of each risk. (Jia, 2010) also assessed risk management techniques for international construction companies. However, the study did not obtain quantitative data, thus was not able to rank the effect of the risks on the projects. Moreover, the influence of managerial skills in relation to PPP projects especially hydroelectric power projects were not investigated leaving a gap in risk.

Methodology

In this study, the researcher adopted a correlational design to establish the correlation between managerial skills and completion of PPP projects. Purposive sampling technique was adopted to select 39 management staff at the completed Sondu-Miriu Hydropower project out of a total population of 85. The selected managers were administered with questionnaires which were delivered to the respondents face to face or by mail in cases where the individual had relocated out of the study area. The questionnaires contained Likert type items to cover the opinion of the participants. The received questionnaires were cleaned, coded and entered for analysis using SPSS. Mean and standard deviation were used for descriptive analysis while Pearson correlation was used for inferential purposes.

Results And Discussions

Descriptive Findings on Managerial Skills Influencing Completion of PPP Projects

In measuring moderation influence of Managerial skills, 11 items were modeled into questions on Likert levels. The items captured management practices and skills expected of managers in projects with construction works. The items were rated on a 5-point scale with bottom value being 1 and peak value being 5. The obtained was aggregated into frequencies and percent for specific items with mean and their deviations also determined. Outcome is shown in Table 1.

Table 1 Managerial Skills Influencing Completion of PPP Projects

| Statement | NA | R | S | O | VO | Mean \pm SD |
|---|-------|-------|-------|-------|-------|-------------------|
| 1.I delegate work to people with time to complete tasks | 5 | 4 | 9 | 16 | 5 | 3.31 \pm 1.22 |
| | 12.8% | 10.3% | 23.1% | 41.0% | 12.8% | |
| 2.I normally follow up team members when I am certain that their behaviors might impact projects negatively | 0 | 0 | 7 | 17 | 15 | 4.21 \pm 0.73 |
| | 0.0% | 0.0% | 17.9% | 43.6% | 38.5% | |
| 3.I make decisions based on careful analyses not gut instinct. | 0 | 0 | 0 | 35 | 4 | 4.10 \pm 0.31 |
| | 0.0% | 0.0% | 0.0% | 89.7% | 10.3% | |
| 4. As I develop teams I put more emphasis on skills that I need most and recruit people with those skills | 0 | 0 | 7 | 25 | 7 | 4.00 \pm 0.61 |
| | 0.0% | 0.0% | 17.9% | 64.1% | 17.9% | |
| 5. I always ensure that team members are informed of things going on around them in the organization | 0 | 0 | 0 | 32 | 7 | 4.18 \pm 0.39 |
| | 0.0% | 0.0% | 0.0% | 82.1% | 17.9% | |
| Composite Mean and Standard Deviation | | | | | | 3.627 \pm 1.146 |

Table 1 shows that in the case of the statement “*I delegate work to people with time to complete tasks*” among the participants, 16(41.0%) they did this often, a cumulative 23.1% indicated that they did not consider this or only rarely considered it. Further, a significant 23.1% also indicated that they apportion work to individuals with time to work on them only sometimes and not all the times. Further, a significant 23.1% also indicated that this is done only sometimes and not all the times. The item line mean (Mean = 3.31, SD = 1.22) was lower than the composite mean (Mean = 3.627, SD = 1.146) showing that this was a very rare practice among the project leadership.

On the statement that *“I normally follow up team members when I am certain that their behaviors might impact projects negatively”* results showed that among the participants, 17(43.6%) of the respondents indicated that they often follow up, 15(38.5%) reported often following up with 7(17.9%) reporting sometimes following up whenever they felt that their behaviors were likely to impact projects negatively. Thus follow up is a practice executed by managers on team members with behavior possibly negating project execution. Following up was always done when behavior was deemed negative to project as indicated by the item line mean (Mean = 4.21, SD = 0.73) being above composite (Mean = 3.627, SD = 1.146).

Similarly, on the statement that *“I make decisions based on careful analyses not gut instinct.”* results showed that respondents either often 35(89.7%) or very often 10.3% made decisions based on careful analyses and not gut instinct. Results showed that participants generally make decisions based on careful analyses rather than relying on gut instinct as indicated by the item line mean (Mean = 4.10, SD = 0.31) above composite mean (Mean = 3.627, SD = 1.146). Thus, the managers made decisions based on critical analysis to achieve delivery.

On the statement *“As I develop teams I put more emphasis on skills that I need most and recruit people with those skills”* results showed that within the participants, 32(82%) cumulatively indicated that they often considered skills as they developed teams and even sought people who best fitted their criteria with the other 17.9% indicating that they only did this sometimes. Another attribute of participant was that as they developed teams they considered skills that were needed most and people with those skills. Participants concur with this attribute as the item line mean (Mean = 4.00, SD = 0.61) is significantly above the composite (Mean = 3.627, SD = 1.146).

Further, regarding statement *“I always ensure that team members are informed of things going on around them in the organization”* results showed that high proportion of participants 32(82.1%) briefing team members often on what’s going on around them while the other 17.9% indicated that they did this very often. Briefing team members on the happenings in the surrounding ensures that they are adequately informed of changes and prepared to take them as they come. This was particularly so as indicated by the item line mean (Mean = 4.18, SD = 0.39) which was above the composite mean (Mean = 3.627, SD = 1.146). This improves efficiency and, thus, productivity to enhance project completion as per the requirements. This is because briefing the team members on a regular basis ensures that they are kept abreast of changes in timelines and expectations as they emerge thus are able to adjust work towards the targets.

Completion of Public Private Partnership Projects

The variable of focus in this investigation was PPP project implementation, which was a case of Sondu-Miriu hydroelectric power project. This captured using 5- items in a 5-point Likert scale. Responses were sorted and the corresponding frequency with their representative percentage determined (see Table 2)

Table 2 Completion of Public Private Partnership Projects

| Statement | SD | D | N | A | SA | Mean \pm SD |
|--|-------|-------|-------|-------|-------|-----------------|
| 1. I am satisfied with the overall outcome of the project | 2 | 1 | 5 | 17 | 14 | 4.03 \pm 1.04 |
| | 5.1% | 2.6% | 12.8% | 43.6% | 35.9% | |
| 2. I am satisfied with the quality of the work | 3 | 2 | 6 | 15 | 13 | 3.85 \pm 1.18 |
| | 7.7% | 5.1% | 15.4% | 38.5% | 33.3% | |
| 3. The project was completed within a reasonable timeframe | 17 | 10 | 3 | 5 | 4 | 2.21 \pm 1.40 |
| | 43.6% | 25.6% | 7.7% | 12.8% | 10.3% | |
| 4. During the work, there were no potential safety hazards that were not addressed | 6 | 8 | 4 | 10 | 11 | 3.31 \pm 1.47 |
| | 15.4% | 20.5% | 10.3% | 25.6% | 28.2% | |
| 5. The construction project was completed in strict adherence to the safety requirements | 12 | 13 | 4 | 6 | 4 | 2.41 \pm 1.35 |
| | 30.8% | 33.3% | 10.3% | 15.4% | 10.3% | |
| Composite Mean and Standard Deviation | | | | | | 3.021 0.810 |

Regarding statement 1 that “*I am satisfied with the overall outcome of the project*” showed that from 39 participants, 17(43.6%) agreed, 14(35.9%) strongly agreeing while 5(12.8%) being neutral to the statement thus neither agreeing nor disagreeing. Notably, 3(7.7%) of the study participants cumulatively disagreed that the project outcome met their expectations showing that to a low extent, the project was not satisfactory. Thus, in terms of completion of construction project, the outcome was satisfactory to a larger extent as indicated by the respondents who were also the key participants in the project. Since the item mean was greater than the composite mean for completion of PPPs (Mean = 3.021, SD = 0.810), the projects participants were adequately satisfied with the overall project outcome with the view being divergent as the item SD = 1.04 was greater than the composite SD = 0.810. These results correspond to those of (Tipili & Ilyasu, 2014) who found that most important performance indicators for evaluating project performance were construction time, cost and quality of projects once completed.

Similarly, on the statement that “*I am satisfied with the quality of the work*” Results showed that among the 39 participants, 15(38.5%) agreed satisfaction with project work quality, 13(33.3%) strongly agreeing while 6 (15.4%) were neutral 2(5.1%) showed absolute disagreement and 3(7.7%) strongly disagreed. Since the item mean of the statement that am satisfied with quality of work (Mean = 3.85, SD = 1.18), was greater than the composite mean for completion of PPPs (Mean = 3.021, SD = 0.810), the projects participants were adequately satisfied with the quality of work with the view being divergent as the item SD = 1.18 was greater than the composite SD = 0.810. This shows high satisfaction with quality of work implemented.

Conversely basing on statement that “*the project was completed within a reasonable timeframe*” out of 39 respondents, 17(43.6%) strongly disagreed that the project was

completed within a reasonable timeframe, 10(25.6%) disagreed, 3(7.7%) were neutral, 5(12.8%) agreed and 4(10.3%) strongly agreed. Thus, overall, 27(69.2%) of the participants were of the opinion that the project did not complete within the expected time frame. This result shows that there were general delays in completion of works which led to failure to complete the works in time as indicated by line item mean (Mean = 2.21, SD = 1.40), which was lower than the composite mean (Mean = 3.021, SD = 0.810). Further the view was divergent as the line item deviation SD=1.40 being higher than the composite SD =0.810.

On the statement that *“during the work there were no potential safety hazards that were not addressed”* showed that of all participants, 11(28.2%) showed absolute strong agreement, 10(25.6%) were in agreement, 4(10.3%) were neutral, 8(20.5%) disagreed with the remaining 6(15.4%) strongly disagreed. Thus majority of respondents 21(53.8%) cumulatively agreed that they did not witness cases of potential safety hazards not mitigated. However, 14(35.9%) of the participants cumulatively disagreed that there were no potential safety hazards not addressed with another 4(10.3%) neither agreeing nor disagreeing. Overall, the view on unaddressed potential hazards was average with line item mean (Mean = 3.31, SD = 1.47) being above composite mean, (Mean = 3.021, SD = 0.810). with the opinion divergent among the participants The results show that there are significant potential safety hazards which emerged during the construction project. To corroborate this, (Kartam & Kartam, 2001) explains persistence of risks in PPP projects thereby, stakeholders need to manage complexities that emanate from taxation, market conditions, policies, technical processes, and capital budget.

The results further show that regarding *“the statement that the construction project was completed in strict adherence to the safety requirements”* among the 39 participants, 12(30.8%) strongly disagreed, 13(33.3%) disagreed while 4(10.3%) were neutral to the statement. Further 6(15.4%) were in agreement and 4(10.3%) showed strong agreement with the statement. This shows that a cumulative 25(64.1%) of the respondents consider that the work was not completed in strict adherence to the safety requirements while a cumulative 10(25.7%) of the participants agreed that the project was completed in strict adherence to safety requirements while significant 4(10.3%) neither agreeing nor disagreeing. This emerged from the difference in the composite mean (Mean = 3.021, SD = 0.810) and the line item mean (Mean = 2.41, SD = 1.35) which was significantly lower, showing that the case project was completed in strict adherence to the safety requirements as the requirements were largely ignored Further the view was divergent as the line item standard deviation SD=1.35 was above composite SD =0.810. On a similar note (Tipili & Ilyasu, 2014) also asserted that assessment of risk of rising costs and project implementation within stipulated budget is also prevalent in Ugandan construction industry.

Influence of Managerial Skills on Completion of PPP Projects

In order to establish the relationship between managerial skills and completion of PPP projects, a correlation analysis was performed between the scores of managerial skills obtained by summing the scores of individual items and the score on completion of PPPs obtained through summing scores of individual items on the scale. Hence, the

minimum score for each variable was 5 while the maximum score was 25. Correlation output is presented in Table 3.

Table 3 Correlation Output

| Variables | | Managerial Skills | Completion of PPP Projects |
|----------------------------|---------------------|-------------------|----------------------------|
| Managerial Skills | Pearson Correlation | 1 | 0.863** |
| | Sig. (2-tailed) | | 0.000 |
| | n | 39 | 39 |
| Completion of PPP Projects | Pearson Correlation | 0.863** | 1 |
| | Sig. (2-tailed) | 0.000 | |
| | n | 39 | 39 |

The findings show that there is a strong positive correlation between managerial skills and completion of PPP projects ($R = 0.863$; $p < 0.001$) which is statistically significant as $p < 0.05$. This shows that positive improvement/incorporation of positive managerial skills results into improvement in the completion in terms of quality, cost and time. Hence managerial skills ultimately influence completion of PPP projects.

Conclusions and Recommendations

Based on the findings, the study concludes that delegating work to people with time to complete tasks moderately improves on completion of PPP projects. However, following up on team members whose behaviors might impact projects negatively highly improves completion of PPP projects in terms of quality, time and cost. Similarly, decisions based on careful analyses not gut instinct and putting more emphasis on skills that are needed while recruiting staff also enhances completion. The practice of always ensuring that team members are informed of things going on around them in the organization also eliminates redundancies and ensure team members work in sync to complete the tasks at hand. Overall managerial skills strongly positively influence completion of PPP projects.

Based on the conclusions, the study recommends that, during implementation of PPP, selection of managers should be critically done to ensure that candidates with proven records and abilities are selected to implement the project. Moreover, the managers should define the required skills and personalities for each PPP to ensure smooth implementation of the project components.

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