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Influence of Monitoring and Evaluation Practices on Performance of National Government Funded Construction Projects in Uasin Gishu County-Kenya

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Abstract:
The general objective of the study was to identify the influence of monitoring and evaluation on the performance of National Government funded construction projects in Uasin Gishu County. The specific objectives of the study were to determine influence of monitoring tools on the performance of government funded construction projects in Uasin Gishu County, to establish the influence of quality of field data collection methods on the performance of government funded construction projects in Uasin Gishu County, to examine the influence of on the performance of National Government funded construction projects in Uasin Gishu County, to determine the influence of project team effort on the performance of National Government funded construction projects in Uasin Gishu County, and to find out the influence of project management as an intervening variable on monitoring and evaluation and the performance of National Government funded construction projects in Uasin Gishu County. Theories used are theory of change, information processing theory, knowledge flow, and structural contingency theory. The methodology used was literature review and field study. The field survey employed was self-administered questionnaire instrument as well as random sampling. The study used quantitative research methodology and employed field survey design as well as literature review. The Target population was 215, and the sample size of 134. Questionnaires were distributed to clients, consultants, contractors, ministry of public works supervisors, randomly selected from projects that are sampled responded. The quantitative data and descriptive statistics was analyzed by the use of statistical package for social scientists (SPSS) and results reported in the tables showing percentages and ratios, frequency distributions, pie charts, bar charts, and the information presented by use of factor analysis. The findings revealed that Quality of field data collection method has the most significant influence of the performance of national government construction projects in Uasin Gishu County. The study recommends improvement and management support for project management analysis, and tracking of variance from specific plans; the use of software, including estimation and planning, scheduling, cost control and budget management, resource allocation, collaboration software, communication, quality management and documentation or administration system. The study also recommends management support for the use of quality data collection methods on the projects, identifying where systems are falling short and project delivery capability, and more emphasis on cost of quality. The study further recommends the develop human resources in the construction industry through proper and continuous training programs about construction projects performance. It also recommends a clear mission and vision in place to formulate, implement and evaluate the performance of national funded construction projects, and the introduction of contract management training for relevant stakeholders.

Keywords: *Contract management, degree of analytical skills required, monitoring and evaluation, construction projects, monitoring tools, project team effort, project performance*

1. Introduction

According to the Kenya National Bureau of statistics (KNBS, 2015), the construction industry contributed to 4.1%,4.2%,4.4 and 4.8% towards Gross Domestic Product (GDP) for the years 2011,2012,2013 and 2014 respectively. The failure of any construction project is mainly related to the problems and failure in performance. Performance of the project is considered as a source of concern to both public and private sector clients. Studies demonstrate that monitoring and evaluation are plethora of factors with the potential to influence the different dimensions of project performance. As such, this research study sought to identify how monitoring and evaluation influence the performance of construction projects. This research, therefore critically examined the role of monitoring and evaluation as a factor that influences performance of national government funded construction project in Uasin Gishu County.

2. Research Objectives

2.1. General Objective

To analyze the influence of monitoring and Evaluation on the performance of National Government funded construction projects in Uasin Gishu County, Kenya.

2.2. Research Hypotheses

- H_{01}:There is no significant influence of monitoring tools on the performance of National Government funded construction projects in Uasin Gishu County, Kenya.
- H_{02}:There is no significant influence quality of field data collection methods on the performance of government funded construction projects in Uasin Gishu County, Kenya.
- H_{03}:There is no significant influence of degree of analytical skill required on the performance of national government funded construction projects in Uasin Gishu County, Kenya.
- H_{04}:There is no significant influence of project team effort on the performance of national government funded construction projects in Uasin Gishu County, Kenya.
- H_{05}: There is no significant influence of contract management in the relationship between monitoring and evaluation factors and the performance of national government funded construction projects in Uasin Gishu County, Kenya.

3. Literature Review

The study was guided by four theories: theory of change, information processing theory, knowledge flow theory, and structural contingency theory.

3.1. Research Methodology

The study employed a descriptive survey research design. The Target population was 215, and the sample size of 134.

3.2. Response Rate

Out of 134 questionnaires that were distributed to potential respondents, 97 were duly filled and returned to the researcher. This translates to a response rate of 72.39%

	Frequency	**Percentage**
Response	97	72.39
Non Response	37	27.61
Total	**134**	**100**

Table 1: Response Rate

The response rate was found to be sufficiently adequate for analysis and for discussions of the study findings when compared to other results in the construction industry by Aftab (2010) – 71.11%, Abdullah (2011) – 82.2% and Haseeb (2011) – 60%. The unreturned questionnaire (27.61%) could be attributed to delay on the part of the respondent completing and hence being unable to return by July, 2016. According to Mugenda & Mugenda (2003), any response rate of above 30% is sufficient to facilitate statistical analysis.

3.3. Descriptive Analysis

Descriptive analysis focuses on describing and summarizing the basic feature of the data in a given study (Cooper & Schindler, 2013). In this section, descriptive statistics are used to summarize data regarding monitoring and evaluation influence on national government funded construction projects.

3.3.1. Descriptive Analysis of Whether the Use of Monitoring Tools Improved Project Activities

The study sought to test whether there was influence of monitoring tools in the projects. The respondents were asked to state whether the use monitoring tools improved project activities. The results were tabulated as indicated in Table 2 below.

	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Monitoring project plan, actual plan, actual work, and work complete value to see if the project is on track	97	1	5	4.0625	1.06262
Tracking of variance from specific plans	97	1	5	3.5000	1.03280
Performance review	97	1	5	3.6875	1.25000
Project Management Analysis	97	1	5	3.4375	1.36473
Use of software, including estimation and planning, scheduling, cost control and budget management, resource allocation, collaboration software, communication, quality management and documentation or administration system	97	1	5	4.0000	1.09545
Valid N (listwise)	97				

Table 2: Descriptive Statistics for whether the use of monitoring tools improved project activities

The findings in the Table 2 shows that, Monitoring project plan, actual plan, actual work, and work complete value to see if the project is on track with a mean of 4.0625 and standard deviation of 1.06262, Tracking of variance from specific plans with a mean of 3.5 and standard deviation of 1.03280, performance review with a mean of 3.6875 and standard deviation of 1.25000, Project Management Analysis with a mean of 3.4375 and standard deviation of 1.36473, and use of software, including estimation and planning, scheduling, cost control and budget management, resource allocation, collaboration software, communication, quality management and documentation or administration system with a mean of 4.0000 and standard deviation of 1.09545. The finding indicates that project management analysis had a limited improvement on the project activities. All other monitoring tools have extensive improvement on the project activities.

3.3.2. Descriptive Analysis of What Extent Monitoring Tools Are Used in the Projects

The study sought what extent the organizations carrying out national government construction projects use monitoring tools. The respondents were asked to state to what extent monitoring tools are used in the projects. The results were tabulated as indicated in Table 3 below.

	N	Minimum	Maximum	Mean	Std. Deviation
Monitoring project plan, actual plan, actual work, and work complete value to see if the project is on track	97	1	5	3.6250	1.45488
Tracking of variance from specific plans	97	1	5	3.1250	1.50000
Performance review	97	1	5	3.5625	1.09354
Project Management Analysis	97	1	5	3.5000	1.15470
Use of software, including estimation and planning, scheduling, cost control and budget management, resource allocation, collaboration software, communication, quality management and documentation or administration system	97	1	5	2.8125	1.27639
Valid N (listwise)	97				

Table 3: Descriptive Statistics of extent monitoring tools are used in the projects

The findings in Table 3 shows that Monitoring project plan, actual plan, actual work, and work complete value to see if the project is on track with a mean of 3.6250 which is approximately 4 that extensively used and a standard deviation of 1.45488, Tracking of variance from specific plans with a mean score of 3.1250 which is also approximately 3 that also limited use. Performance review with mean score of 3.5625 and standard deviation of 1.5, Project Management Analysis with a mean score of 3.5 and standard deviation of 1.1547, and Use of software, including estimation and planning, scheduling, cost control and budget management, resource allocation, collaboration software, communication, quality management and documentation or administration system with a mean of 2.8125 and standard deviation of 1.27639. According to this finding Tracking of variance from specific plans was in limited use; Use of software, including estimation and planning, scheduling, cost control and budget management, resource allocation, collaboration software, communication, quality management and documentation or administration system was not used.

3.3.3. Descriptive Analysis of the Level of Management Support for Use of Monitoring Tools on the Projects

The study sought whether the management supports monitoring tools implementation. The respondents were asked to state the level of management support for the use of monitoring tools. The results were tabulated as indicated in Table 4

	N	Minimum	Maximum	Mean	Std. Deviation
Monitoring project plan, actual plan, actual work, and work complete value to see if the project is on track	97	1	5	4.0625	1.12361
Tracking of variance from specific plans	97	1	5	3.1875	1.55858
Performance review	97	1	5	3.8750	1.20416
Project Management Analysis	97	1	5	3.4375	1.26326
Use of software, including estimation and planning, scheduling, cost control and budget management, resource allocation, collaboration software, communication, quality management and documentation or administration system	97	1	5	2.8125	1.55858
Valid N (listwise)	97				

Table 4: Descriptive Statistics for level of management support

The findings in Table 4 shows that Monitoring project plan, actual plan, actual work, and work complete value to see if the project is on track with a mean of 4.0625 which is approximately 4 that extensively used and a standard deviation of 1.12361, Tracking of variance from specific plans with a mean score of 3.1875 and standard deviation of 1.55858. Performance review with mean score of

3.8750 and standard deviation of 1.20416, Project Management Analysis with a mean score of 3.4375 and standard deviation of 1.2632, and Use of software, including estimation and planning, scheduling, cost control and budget management, resource allocation, collaboration software, communication, quality management and documentation or administration system with a mean of 2.8125 and standard deviation of 1.55858. Both Tracking of variance from specific plans, and Use of software, including estimation and planning, scheduling, cost control and budget management, resource allocation, collaboration software, communication, quality management and documentation or administration system had low support from the management.

3.3.4. Descriptive Analysis of Whether the Tools Enhanced Task, Cost Tracking and Ultimately Financial Accountability

The study sought whether the monitoring tools enhanced cost tracking and ultimately financial accountability. The results were tabulated as indicated in Table 5 below.

	N	Minimum	Maximum	Mean	Std. Deviation
Monitoring project plan, actual plan, actual work, and work complete value to see if the project is on track	97	2	5	4.2500	.93095
Tracking of variance from specific plans	97	1	5	4.1250	1.14746
Performance review	97	3	5	4.1250	.88506
Project Management Analysis	97	1	5	3.8125	1.10868
Use of software, including estimation and planning, scheduling, cost control and budget management, resource allocation, collaboration software, communication, quality management and documentation or administration system	97	3	5	4.1875	.65511
Valid N (listwise)	97				

Table 5: Descriptive Statistics for whether the tools would enhance task, cost tracking and ultimately financial accountability

The findings in Table 5 shows that Monitoring project plan, actual plan, actual work, and work complete value to see if the project is on track with a mean of 4.2500 and a standard deviation of 0.93095, Tracking of variance from specific plans with a mean score of 4.1250 and standard deviation of 1.14746. Performance review with mean score of 4.125 and standard deviation of 0.88506, Project Management Analysis with a mean score of 3.8125 and standard deviation of 1.10868, and Use of software, including estimation and planning, scheduling, cost control and budget management, resource allocation, collaboration software, communication, quality management and documentation or administration system with a mean of 4.1875 and standard deviation of 0.65511. The finding shows that all the tools would have resulted to enhanced task, cost tracking and ultimately financial accountability.

3.3.5. Descriptive Analysis of Whether More Extensive (Better Use) Use of the Monitoring Tools Would Enhance Project Delivery Capability on the Project

The study sought whether more extensive use of monitoring tools could enhance project delivery. The results were tabulated as indicated in Table 6 below.

	N	Minimum	Maximum	Mean	Std. Deviation
Monitoring project plan, actual plan, actual work, and work complete value to see if the project is on track	97	2	5	4.0625	1.06262
Tracking of variance from specific plans	97	2	5	4.1250	.88506
Performance review	97	3	5	4.1250	.80623
Project Management Analysis	97	1	5	3.6875	1.49304
Use of software, including estimation and planning, scheduling, cost control and budget management, resource allocation, collaboration software, communication, quality management and documentation or administration system,	97	1	5	3.8750	.88506
communication, quality management and documentation or administration system	97	2	5	3.8125	.75000
Valid N (listwise)	97				

Table 6: Descriptive Statistics of whether more extensive (better use) use of the monitoring tools would have enhanced project delivery capability on the project

The findings in Table 6 shows that Monitoring project plan, actual plan, actual work, and work complete value to see if the project is on track with a mean of 4.0625 and a standard deviation of 1.06262, Tracking of variance from specific plans with a mean score of 4.1250 and standard deviation of 0.80623. Performance review with mean score of 4.1250 and standard deviation of 0.80623, Project Management Analysis with a mean score of 3.6875 and standard deviation of 1.49304, and Use of software, including estimation and

planning, scheduling, cost control and budget management, resource allocation, collaboration software, with a mean of 3.8750 and standard deviation of 0.88506, and communication, quality management and documentation or administration system, with a mean of 3.8125 and standard deviation of 0.7500. The finding shows that all the tools would have resulted enhanced task, cost tracking and ultimately financial accountability. The result shows that more extensive (better use) use of the monitoring tools would have enhanced project delivery capability on the project.

3.3.6. Descriptive Analysis of What Extent Field Data Collection Methods Was Used in This Project

The study sought whether more extensive use of monitoring tools could enhance project delivery. The results were tabulated as indicated in Table 7 below.

		Frequency	Percent
Valid	Very Limited Use	6	6.3
	Limited Use	42	43.6
	Extensively Used	43	43.8
	Very Extensively Used	6	6.3
	Total	**97**	**100.0**

Table 7: Showing Descriptive Statistics of what extent field data collection methods was used in this project

The findings in Table 7 shows that 6.3% of projects used field data collection methods very limitedly, 43.6% limited use, 43.8% extensive use, and 6.3% very extensive use. This gives a mean of 3.5000 and standard deviation of 0.73030. This indicates that field data collection methods were used extensively in the projects.

3.3.7. Descriptive Analysis of Management Support for Use of Quality Data Collection Methods on This Project

The study sought the level of management support for use of quality data collection methods on this project. The results were tabulated as indicated in Table 8 below.

		Frequency	Percent
Valid	1. No Support	18	18.8
	2. Very Limited Support	6	6.3
	3. Limited Support	30	31.3
	4. Extensive Support	37	37.5
	5. Very Extensive Support	6	6.3
	Total	**97**	**100.0**

Table 8: Descriptive Statistics level of management support for use of quality data collection methods on this project

The findings in Table 8 shows that 18.8% of the projects received no management support for quality field data collection methods very, 6.3% very limited support, 31.3% limited support, 37.5% extensive management support, and 6.3% very extensive management support. This gives a mean of 3.0625 and standard deviation of 1.23659, showing that there was a limited management support for the use of quality data collection methods on the projects.

3.3.8. Descriptive Analysis of Whether Quality of Field Data Collection Methods Was Considered as a Critical Factor in Effective Performance of Public Funded Construction Projects

The study sought whether quality of field data collection methods was considered as a critical factor in effective performance of public funded construction projects. The results were tabulated as indicated in Table 9 below.

		Frequency	Percent
Valid	1. Not Considered	67	68.8
	2. Very Limited Consideration	12	12.5
	3. Limited Consideration	12	12.5
	4. Very Extensive Consideration	6	6.3
	Total	**97**	**100.0**

Table 9: Descriptive Statistics of whether quality of field data was considered as a critical factor in effective performance of the projects

The findings in Table 9 shows that 68.8% of the projects considered quality field data collection methods as a critical factor, 12.5% gave very limited consideration, 12.5% gave limited consideration, and 6.3% very extensive consideration. This gives a mean of 1.6250 and standard deviation of 1.14746 which indicates NO consideration (that the quality of field data was not considered as a critical factor in effective performance of the public funded construction projects).

3.3.9. Descriptive Analysis of Management Support for Use of Various Quality Data Collection Methods on This Project

The study sought the level of management support for use of quality data collection methods on this project. The results were tabulated as indicated in Table 10 below.

	N	Minimum	Maximum	Mean	Std. Deviation
Tracking of outcomes	97	3	5	4.1875	.75000
Making corrective adjustments	97	3	5	3.8750	.71880
Identifying where systems are falling short	97	2	5	3.5625	1.03078
Project Delivery Capability (PDC) on this project	97	2	5	3.6250	.95743
Valid N (listwise)	97				

Table 10: Descriptive Statistics level of management support for use of quality data collection methods on this project

The findings in Table 10 shows that tracking of outcomes with a mean of 4.1875 and a standard deviation of 0.75000, making of corrective adjustments with a mean score of 3.8750 and standard deviation of 0.71880. Identifying where systems are falling short has a mean score of 3.5625 and standard deviation of 1.03078, Project Delivery Capability (PDC) on this project with a mean score of 3.6250 and standard deviation of 0.95743. This finding indicates that, even though there was extensive support for data collection methods, identifying where systems are falling short had the least extensive support, followed by project delivery capability.

3.3.10. Descriptive Analysis of Whether the Changes of Quality of Field Data Collection Methods Affected Effectiveness Performance of the Project

The study sought whether the changes of quality of field data collection methods affected effectiveness performance of the project. The results were tabulated as indicated in Table 11 below.

		Frequency	**Percent**
Valid	1. Yes	91	93.8
	2. No	6	6.3
	Total	**97**	**100.0**

Table 1: Descriptive Statistics whether the changes of quality of field data collection methods affected effectiveness performance of the project

The findings as in Table 11 above, shows that the performance of 93.8% of projects were affected by changes in quality of field data collection methods. The mean of 1.06250 and standard deviation of 0.25000 indicates YES (change in quality of field data did not affect effectiveness and performance of the public funded construction projects).

3.3.11. Descriptive Analysis of Whether Changes in Quality of Field Data Collection Methods Affected the Original Project Completion Period

The study sought whether changes in Quality of field data collection methods affected the original project completion period. The results were tabulated as indicated in Table 12 below.

		Frequency	**Percent**
Valid	1. Yes	61	62.5
	2. No	36	37.5
	Total	**97**	**100.0**

Table 12: Descriptive Statistics of whether changes in Quality of field data collection methods affected the original project completion period

The findings in Table 12, shows that 62.5% agreement by respondents that change in quality of field data collection methods affected the original project completion period, 37.55 said No (that changes in quality of field data collection methods affected the original project completion period). The resulting average a mean score of 1.3750 and standard deviation of 0.50000 indicates YES (that the changes in Quality of field data collection methods affected the original project completion period).

3.3.12. Descriptive Analysis of Whether the Changes in Quality of Field Data Collection Methods Result in Variations In Final Project Costs

The study sought whether the changes in Quality of field data collection methods result in variations in final project costs. The results were tabulated as indicated in Table 13 below.

		Frequency	Percent
Valid	1. Yes	61	62.5
	2. No	36	37.5
	Total	**97**	**100.0**

Table 13: Descriptive Statistics of whether the changes in Quality of field data collect ion methods results in variations in final project costs

Table 13 above shows 61% agreement by respondents that change in quality of field data collection methods resulted in variations in final project cost. 36% said No (that changes in quality of field data collection methods resulted in variations in final project cost). The resulting mean of 1.3750 and standard deviation of 0.50000 indicates YES (that the changes in Quality of field data collection methods resulted in variations in final project costs).

3.3.13. Descriptive Analysis of Whether the Degree of Analytical Skills Required Is a Critical Factor in Effective Performance of the Project

The study sought whether the degree of analytical skills required is a critical factor in effective performance of public funded construction projects construction project. The results were tabulated as indicated in Table 14 below.

		Frequency	Percent
Valid	1. Yes	90	92.5
	2. No	7	7.5
	Total	**97**	**100.0**

Table 14: Descriptive Statistics for whether the degree of analytical skills required was a critical factor in effective performance of the project

Table 14 above shows 92.5% agreement by respondents that degree of analytical skills required was considered a critical factor in effective performance of the projects. 7.5% said No (degree of analytical skills required was not considered a critical factor for effective performance of the projects). This finding indicates YES (that 92.5% of projects considered degree of analytical skills required as a critical factor to ensure effective performance).

3.3.14. Descriptive Analysis of How the Degree of Analytical Skills Required Influenced Performance of the Project

The study sought how the degree of analytical skills required influenced performance of the project. The results were tabulated as indicated in Table 15 below.

	N	Minimum	Maximum	Mean	Std. Deviation
The original project completion period	97	1	5	3.9375	1.18145
variations in final project costs	97	2	5	3.6875	.94648
Project Delivery Capability (PDC) on this project	97	2	5	4.1875	.91059
Cost of financing the project	97	2	5	3.6875	1.01448
Cost of quality	97	1	5	3.6250	1.20416
Valid N (listwise)	97				

Table 15: Descriptive Statistics for how the degree of analytical skills required influenced performance of the project

The findings in Table 15 shows that the original project completion period with a mean of 3.9375 and a standard deviation of 1.18145, variations in final project costs with a mean score of 3.6875 and standard deviation of 0.94648. Project Delivery Capability (PDC) on this project' with mean score of 4.1875 and standard deviation of 0.91059; cost of financing the project, with a mean score of 3.6875 and standard deviation of 1.01448; and cost of quality, with a mean score of 3.6250 and standard deviation of 1.20416. According to the study, degree of analytical skills required had the great influence on Project Delivery Capability (PDC) on this project.

3.3.15. Descriptive Analysis of The Level of Management Support for the Use of Team Effort on the Project

The study sought the level of management support for the use of team effort on the project. The results were tabulated as indicated in Table 16 below.

		Frequency	Percent
Valid	1. Limited Support	12	12.5
	2. Extensive Support	73	75.0
	3. Very Extensive Support	12	12.5
	Total	**97**	**100.0**

Table 16: Descriptive Statistics of the level of management support for the use of team effort on the project

Table 16 above shows 12.5% agreement by respondents that team effort received limited management support, 75% extensive support, 12.5% very extensive support. This presents a mean of 4.00 and a standard deviation of 0.51640. This finding indicates that project team effort got extensive support from project management.

3.3.16. Descriptive Analysis of Whether the Degree of Project Team Effort Was a Critical Factor in Effective Performance of the Project

The study sought the whether the degree of Project Team Effort was a critical factor in effective performance of the project. The results were tabulated as indicated in Table 17 below.

		Frequency	Percent
Valid	1. Yes	91	93.8
	2. No	6	6.3
	Total	**97**	**100.0**

Table 17: Descriptive Statistics of whether the degree of Project Team Effort was a critical factor in effective performance of the project

The findings in Table 17, shows 91% of projects considered project team effort as a critical factor. 6% did not consider project team effort as a critical factor. The mean of 1.1875 and a standard deviation of 0.75000, indicates YES (that the degree of Project Team Effort was considered a critical factor in effective performance of the projects)

3.3.17. Descriptive Analysis of Whether the Changes in Project Team Effort Affected Effectiveness Performance of the Government Funded Construction Project Implementation

The study sought the whether the changes in Project Team Effort affected effectiveness performance of the Government funded construction project implementation. The results were tabulated as indicated in Table 18 below.

		Frequency	Percent
Valid	1. Yes	91	93.8
	2. No	6	6.3
	Total	**97**	**100.0**

Table 18: Descriptive Statistics of whether the changes in Project Team Effort affected effectiveness performance of the project implementation

The findings in Table 18, shows that 93.8% of respondent agree that change in project team effort affected effectiveness of their projects. 6.3% did not accept. This presents a mean of 1.0625 and a standard deviation of 0.25000, indicating a YES (changes in Project Team Effort affected effective performance of the Government funded construction project implementation)

3.3.18. Descriptive Analysis of Whether the Changes in Project Team Effort Affects the Original Project Completion Period

The study sought whether the changes in Project Team Effort affect the original project completion period. The results were tabulated as indicated in Table 19 below.

		Frequency	Percent
Valid	1. Yes	85	87.5
	2. No	12	12.5
	Total	**97**	**100.0**

Table 19: Descriptive Statistics of whether the changes in Project Team Effort affected the original project completion period

The findings in Table 19 shows that 87.5% of respondents accepted said that change in project team effort affected the project completion period. The resulting mean of 1.1250 and a standard deviation of 0.34157confirms a YES (change in project team effort affected the original project completion period).

3.3.19. Descriptive Analysis of Whether the Changes in Project Team Effort Result in Variations in Final Project Costs

The study sought whether the changes in Project Team Effort result in variations in final project costs. The results were tabulated as indicated in Table 20 below.

		Frequency	Percent
Valid	1. Yes	85	87.5
	2. No	12	12.5
	Total	**97**	**100.0**

Table 20: Descriptive Statistics of whether the changes in Project Team Effort result in variations in final project costs

The findings in Table 20, shows that 87.5% of respondents agree that change in project team effort resulted in variations in final project cost. This outcomes with a mean of 1.1250 and a standard deviation of 0.34157 indicates a YES (the changes in Project Team Effort resulted in variations in final project costs)

3.3.20. Level of Influence of Project Team Factors on Project Performance

The study sought the level of influence of project team factors on project performance. The results were tabulated as indicated in Table 21 below.

	N	Minimum	Maximum	Mean	Std. Deviation
Project team members satisfied with the way the project is being managed	97	1	5	3.7500	1.06458
Project team members feel challenged and excited about their work	97	3	5	3.7500	.77460
Project team members feel comfortable in voicing concerns or issues to project manager	97	3	5	4.2500	.68313
Project manager, sponsor and customer share consistent vies of project status and issues	97	3	5	4.0625	.68007
Customer decision makers satisfied with the deliverables provided by the project	97	2	5	3.9375	.77190
Project is free from serious customer issues or concerns	97	3	5	3.8750	.80623
Customer decision makers are satisfied with the skills and capabilities of project team	97	2	5	3.6875	.94648
Customer Decision makers satisfied with flexibility of the project team	97	1	5	3.5625	1.03078
Valid N (listwise)	97				

Table 21: Descriptive Statistics for level of influence of project team factors on project performance

The findings in Table 21 shows that Project team members satisfied with the way the project is being managed with a mean of 3.7500 and a standard deviation of 01.06458, Project team members feel challenged and excited about their work with a mean score of 3.7500 and standard deviation of 0.77460. Project team members feel comfortable in voicing concerns or issues to project manager with mean score of 4.2500 and standard deviation of 0.68313, Project manager; sponsor and customer share consistent vies of project status and issues with a mean score of 4.0625 and standard deviation of 0.68007. Customer decision makers satisfied with the deliverables provided by the project with mean score of 3.9375 and standard deviation of 0.77190; Project is free from serious customer issues or concerns with mean score of 3.8750 and standard deviation of 0.80623; Customer decision makers are satisfied with the skills and capabilities of project team with mean score of 3.6875 and standard deviation of 0.94648; Customer decision makers are satisfied with the skills and capabilities of project team with mean score of 3.5625 and standard deviation of 1.03078.

3.3.21. Descriptive Statistics of Whether They Experience Challenges With Contract Management in the Projects

The study sought whether they experience challenges with contract management in the projects. The results were tabulated as indicated in Table 22 below.

		Frequency	Percent
Valid	1. Yes	73	75.0
	2. No	24	25.0
	Total	**16**	**100.0**

Table 22: Descriptive Statistics whether they experience challenges with contract management in the projects

The findings in Table 22, shows that 75% of respondents agree that they experienced challenges with contract management in their projects. Only 25% did not agree. The resulting average mean of 1.25 and a standard deviation of 0.44721. This indicates a YES (they experience challenges with contract management in their projects)

3.3.22. Descriptive Statistics of Whether More Extensive (Or Better Use) of Proper Contract Management Activities Enhance Project Delivery Capability (PDC) on the Project

The study sought whether more extensive (or better use) of proper contract management activities enhance project delivery capability (PDC) on the project. The results were tabulated as indicated in Table 23 below.

	N	Minimum	Maximum	Mean	Std. Deviation
Planning for the contract	97	2	5	4.1250	.88506
Administering the contract	97	3	5	4.1250	.61914
Contract management plan	97	3	5	4.0625	.57373
Contract Management Analysis	97	3	5	3.8750	.61914
Procurement management plan	97	2	5	3.9375	.85391
Contract documentation and contract closure procedure	97	2	5	3.8750	.95743
Procurement audits and record management system	97	3	5	3.9375	.68007
Direct and manage project execution to authorize the contractor's work at the appropriate time	97	3	5	4.0625	.68007
Performance reporting to monitor contract cost, schedule, and technical performance	97	3	5	3.8750	.80623
Integrate change control to ensure that changes are properly approved, and that all those with a need to know are aware of such change	97	2	5	400	.96609
Risk monitoring and control to ensure that risk are mitigated	97	3	5	4.0625	.57373
Monitoring of payment to suppliers	97	3	5	3.8125	.75000
Valid N (listwise)	97				

Table 23: Descriptive Statistics for whether more extensive (or better use) of proper contract management activities enhance project delivery capability (PDC) on the project

The findings in Table 23 shows that Planning for the contract with a mean of 4.1250 and a standard deviation of .88506, administering the contract with a mean score of 4.1250 and standard deviation of 0.61914; contract management plan with mean score of 4.0625 and standard deviation of 0.57373; contract management analysis with mean score of 3.8750 and standard deviation of 0.61914; procurement management plan with mean score of 3.9375 and standard deviation of 0.85391; contract documentation and contract closure procedure with mean score of 3.8750 and standard deviation of 0.95743 ; procurement audits and record management system with mean score of 3.9375 and standard deviation of 0.68007; direct and manage project execution to authorize the contractor's work at the appropriate time with mean score of 4.0625 and standard deviation of 0.68007; performance reporting to monitor contract costs, schedule, and technical performance with mean score of 3.875 and standard deviation of 0.80623; Integrate change control to ensure that changes are properly approved, and that all those with a need to know are aware of such change with mean score of 400 and standard deviation of 0.96609 Risk monitoring and control to ensure that risk are mitigated with mean score of 4.0625 and standard deviation of 0.57373 Monitoring of payment to suppliers with a mean score of 3.8125 and standard deviation of 0.7500.
This finding indicates that the organizations need to extensively enhance planning for the contract, administering the contract, contract management plan, contract management analysis, procurement management plan, contract documentation and contract closure procedure, procurement audits and record management system, direct and manage project execution to authorize the contractor's work at the appropriate time, performance reporting to monitor contract costs, schedule, and technical performance, integrate change control to ensure that changes are properly approved, and that all those with a need to know are aware of such change, risk monitoring and control to ensure that risk are mitigated, monitoring of payment to suppliers

3.3.23. Descriptive Statistics of How Contract Management Influence Degree of Analytical Skills Required, Project Team Effort, Project Performance, Quality of Field Data Collection Methods, and Monitoring Tools

The study sought how contract management influence degree of analytical skills required, project team effort, project performance, quality of field data collection methods, and monitoring tools. The results were tabulated as indicated in Table 24 below.

	N	Minimum	Maximum	Mean	Std. Deviation
Degree of analytical skills required	97	2	5	4.0625	.92871
Project Team Effort	97	3	5	4.1250	.80623
Project Performance	97	3	5	4.3125	.60208
Quality of field data collection methods	97	2	5	4.0625	.92871
Monitoring Tools	97	2	5	4.1250	.95743
Valid N (listwise)	97				

Table 24: Descriptive Statistics of how contract management influence degree of analytical skills required, project team effort, project performance, quality of field data collection methods, and monitoring tools

The findings in Table 24 shows that Degree of analytical skills required with a mean of 4.0625 and a standard deviation of 0.92871, Project Team Effort with a mean score of 4.1250 and standard deviation of 0.80623. Project Performance with mean score of 4.3125 and standard deviation of 0.60208, Quality of field data collection methods with a mean score of 4.1250 and standard deviation of 0.92871; Monitoring Tools project with a mean score of 3.6250 and standard deviation of 0.95743. This result indicate that contract

management has great effect on degree of analytical skills required, project team effort, project performance, quality of field data collection methods, and monitoring tools.

3.3.24. Descriptive Statistics of Whether They Would the Use of Project Monitoring Tools, Quality of Field Data Collection Method, Project Team Performance, Degree of Analytical Skills Required, and Contract Management Collectively Enhancing Performance of Project in the Organization.

The study sought whether they would the use of Project monitoring tools, Quality of field data collection method, project team performance, degree of analytical skills required, and contract management collectively enhancing performance of project in the organization. The results were tabulated as indicated in Table 25 below.

		Frequency	**Percent**
Valid	4. Extensively Enhance	67	68.8
	5.Very Extensively Enhance	30	31.3
	Total	**16**	**100.0**

Table 25: Descriptive Statistics of whether the use of Project monitoring tools, Quality of field data collection method, project team performance, degree of analytical skills required, and contract management collectively could enhance performance of project in the organization

The findings in Table 25 shows that 68.8% of respondents agree that the use of Project monitoring tools, Quality of field data collection method, project team performance, degree of analytical skills required, and contract management collectively enhanced performance of project. Mean of 4.3125 and a standard deviation of 0.47871, indicates extensive enhancement.

3.4. Inferential Analysis

This focuses on evaluating the strengths and direction of relationship between variables inferring findings from the sample to the population (Bryman & Bell, 2015). In this study, the inferential analysis focuses on evaluating the relationship between the various monitoring and evaluation practices and performance of national government funded construction projects in Uasin Gishu County, Kenya. The multiple linear regression technique was used with the following model being tested:

$$\mathbf{Y= \beta_0+ \beta\ _1X_1+ \beta_2X_2+ \beta_3X_3+\beta_4X_4+ \beta_5X_{Y5}+ \varepsilon,}$$

Where Y=Performance of national government funded construction projects; X_1=Monitoring tools; X_2=Degree of analytical skills required; X_3= project team effort; X_4= Quality of field data collection methods; X_5= Contract management; ε = error term. Table 27 presents a summary of the model.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.974(a)	.713	.569	.39531

Table 26: Inferential Analysis

a. Predictors: (Constant), contract management, Quality of field data collection methods, Degree of analytical skills required, Project Team Effort, Monitoring Tools

As the Table 26 shows r-square is 0.713, which indicates that the model explains the 71.3% of changes in performance of the national government funded construction projects. According to Toole (2013), a model that yields an R Square of above 0.25 is considered to be fit in social science.

Table 27 below presents the Analysis of Variances (ANOVA) of the model. The ANOVA test examines the significance of the relationship between the independent variable and the dependent variable by comparing the predicting power of the model with that of the intercept only model (Faraway, 2002).

Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	3.875	32	.775	4.959	.015(a)
	Residual	1.563	65	.156		
	Total	5.437	97			

Table 27: ANOVA for the Model

a. Predictors: (Constant), contract management, Quality of field data collection methods, Degree of analytical skills required, Project Team Effort, Monitoring Tools

b. Dependent Variable: Project Performance

As the Table 27 shows, the ANOVA test yielded a P-value of 0.015, which suggests the existence of statistically significant relationship between project performance and contract management, quality of field collection methods, degree of analytical skills required, project team effort, and monitoring tools.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.672	1.078		1.551	.152
	Degree of analytical skills required	.302	.179	.466	1.693	.121
	Project Team Effort	.027	.226	.036	.119	.908
	Quality of field data collection methods	.539	.201	.831	2.676	.023
	Monitoring Tools	-.298	.193	-.474	-1.545	.153
	contract management	.080	.204	.077	.394	.702

Table 28: Regression Coefficients

a. Dependent Variable: Performance of national government funded construction projects in Uaisn Gishu County

3.4.1. Influence of Monitoring Tools on Performance of National Government Funded Construction Projects in Uasin Gishu County, Kenya

The first objective of the study was to examine the influence of monitoring tools on the performance of national government funded construction projects. As shown in Table 28 shows the t-statistics for monitoring tools yielded a p-value of 0.153. Since this p-value is greater than 0.05, we fail to reject the null hypothesis and affirms that there is no statistically significant relationship between the monitoring tools and the performance of national government funded construction projects in Uasin Gishu County, Kenya, at 0.05 level of significance. The finding is in consistent with Waithera & Wanyoike (2015) findings that there was no significant relationship between stakeholder's participation in M & E activities, and the project's monitoring and evaluation performance. According to Ika & Thuillier (2009) findings, the tool may fall short in delivering success if they run counter to cultural and work values, considering the fact that many of them are rationality and efficiency driven. Similarly, the tools are based on western Greco-Roman philosophical premise that a man is rational being (Rwelamila, 1999), which is not always the case in Africa (Muriithi, 2003).

3.4.2. Influence of Quality of Field Data Collection Methods on Performance of National Government Funded Construction Projects in Uasin Gishu County, Kenya

The second objective of the study was to examine the influence of quality of field data collection methods on the performance of national government funded construction projects. As shown in Table 28 above the t-statistics for monitoring tools yielded a p-value of 0.023. Since this p-value is less than 0.05, we reject the null hypothesis and affirm that there is statistically significant relationship between the quality of field data collection methods and the performance of national government funded construction projects in Uasin Gishu County, Kenya at 0.05 level of significance. The finding is consistent with the findings of Jha & Iyer (2006) that compliance with quality specifications is an important measure of any construction project. Collecting, analyzing, interpreting, and acting on data for project performance measures allows professionals to identify where systems are failing short, to make corrective adjustments, and to track outcomes. According to Irefi & Adeyemi (2013) findings, project quality management has significant relationship with business success and technical success.

3.4.3. Influence of Degree of Analytical Skills Required on Performance of National Government Funded Construction Projects in Uasin Gishu County, Kenya

The fourth objective of the study was to examine the influence of Degree of analytical skills required on the performance of national government funded construction projects. As shown in Table 28 above the t-statistics for Degree of analytical skills required yielded a p-value of 0.121. Since this p-value is greater than 0.05, we fail to reject the null hypothesis and affirm that there is no statistically significant relationship between the Degree of analytical skills required and the performance of national government funded construction projects in Uasin Gishu County, Kenya, at 0.05 level of significance. The finding is consistent with Kalinova (2007) finding that the requirement for successful performance of managerial positions is fulfilled by development of potential; and that project cost performance is influenced by four skill components, namely, emotional intelligence, interpersonal skills, apparent sincerity, and budgeting (Sunindijo, 2015). Zackaria, Mohamed, Ahzahar & Hashini (2015), also found that project manager leading characteristics influence the success of the project positively.

3.4.4. Influence of Project Team Effort on Performance of National Government Funded Construction Projects in Uasin Gishu County, Kenya

The fourth objective of the study was to examine the influence of project team effort on the performance of national government funded construction projects. As shown in Table 28 above the t-statistics for project team effort yielded a p-value of 0.908. Since this p-value is greater than 0.05, we fail to reject the null hypothesis and affirm that there is no statistically significant relationship between the project team effort and the performance of national government funded construction projects in Uasin Gishu County, Kenya, at 0.05 level of significance. The finding is consistent with Kalinova (2007) finding that the requirement for successful performance of managerial positions is fulfilled by development of potential; Sunindijo, (2015) finding that project cost performance is influenced by four skill components, namely, emotional intelligence, interpersonal skills, apparent sincerity, and budgeting; and Chan (2015) finding that team work is increasingly applied in many organizations in an effort to improve performance, yet empirical evidence demonstrate that linkage between team effectiveness and project success is scarce.

3.4.5. Moderating Influence of Contract Management on the Relationship Between Monitoring and Evaluation, and Performance of National Government Funded Construction Projects in Uasin Gishu County, Kenya

To establish the moderating influence of contract management in the relationship between project monitoring tools, Quality of field data collection method, project team effort, degree of analytical skills required, and performance of national government funded construction projects, we run a regression less the contract management as a factor and do the comparison with what we had in Table 26,27,28

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3.850	25	.963	6.672	.006(a)
	Residual	1.587	72	.144		
	Total	**5.437**	**97**			

Table 29: ANOVA Table for the model before introducing the moderating variable (Contract Management)
a. Predictors: (Constant), Monitoring Tools, Degree of analytical skills required, Project Team Effort, Quality of field data collection methods
b. Dependent Variable: Project Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.972(a)	.708	.602	.37997

Table 30: Inferential Analysis before introducing the moderating variable (contract management)
a Predictors: (Constant), Monitoring Tools, Degree of analytical skills required, Project Team Effort, Quality of field data collection methods

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.033	.550		3.696	.004
	Degree of analytical skills required	.268	.150	.414	1.785	.102
	Project Team Effort	.064	.198	.085	.323	.753
	Quality of field data collection methods	.545	.193	.970	2.824	.017
	Monitoring Tools	-.312	.182	-.496	-1.710	.115

Table 31: Coefficients(a) before introducing the moderating variable (contract management)
a Dependent Variable: Performance of National Government funded construction projects in Uasin Gishu County, Kenya

The fifth objective of the study was to examine the moderating influence of contract management on monitoring and evaluation practices and performance of national government funded construction projects. The changes observed with reference to Table 26, 27,28,29,30,31 indicate changes in values of R squared, constants, p-values, among other indicators. This is a clear indication that contract management has a moderating influence on the relationship between the degree of analytical skills required, project team effort, quality of field data collection methods, monitoring tools, and performance of national government funded construction projects in Uasin Gishu County, Kenya. The finding is consistent with Mutua, Waiganjo & Oteyo (2014) finding that, contract management and other factors accounted for 66% variation in project performance.

3.4.6. Estimated Regression Equation

Based on Table 28, the estimated regression equation was: Performance of national government funded construction projects in Uasin Gishu County, Kenya (Y)= $\mathbf{1.672-0.298X_1+0.539X_2+ 0.302X_3+ 0.027X_4+ 0.080X_5+ \varepsilon}$

The equation shows that quality of field data collection method has the most significant influence on performance of national government funded construction projects. The beta coefficient of 0.539 implies that, holding other factors constant, increasing quality of data collection methods by 1 unit would increase performance of national government funded construction projects by 0.539 units. Monitoring tools have a negative relation with performance of national government funded construction projects in Uasin Gishu County, Kenya as beta coefficient (-0.298) suggests that improving monitoring tools by 1 unit would decrease level of performance of national government funded construction projects in Uasin Gishu County, Kenya by 0.298 units.

5. Conclusion

The research findings led to the conclusion that monitoring tools have no statistically significant relationship with the performance of national government funded construction projects. This is due to the fact that: project management analysis contributes limited improvement on the project activities. Tracking of variance from specific plans is in limited use; there is no use of software in estimation and planning, scheduling, cost control and budget management, resource allocation, collaboration, communication, quality management and documentation or administration system; unfavorable support from management for both tracking of variance from specific plans, and use of software, including estimation and planning, scheduling, cost control and budget management, resource allocation, collaboration software, communication, quality management and documentation or administration system. The improved use of monitoring tools results in enhanced task, cost tracking and ultimately financial accountability, more extensive (better use), and

enhanced project delivery capability. The findings has led to the conclusion that quality of field data collection methods has statistically significant and positive relationship with the performance of national government funded construction projects. Therefore, it has the most significant influence on the performance of national government construction projects in Uasin Gishu County-Kenya. The findings has also led to the conclusion that degree of analytical skills required has a significant weak influence (β_3=0.302) on the performance of national government funded construction projects in Uasin Gishu County. The research findings have led to the conclusion that project team effort was found to have the weakest positive relationship (β_4=0.027) with the performance of national government funded construction projects. Finally, contract management has moderating influence on the relationship between monitoring and evaluation practices and performance of national government funded construction projects in Uasin Gishu County.

6. Recommendations

The study recommends improvement and management support for project management analysis, and tracking of variance from specific plans. The project managers should embrace the use of software, including estimation and planning, scheduling, cost control and budget management, resource allocation, collaboration software, communication, quality management and documentation or administration system. The study also recommends management support for the use of quality data collection methods on the projects, identifying where systems are falling short and project delivery capability. Similarly, quality of field data should be considered as a critical factor in effective performance of the public funded construction projects.

The study recommends that though the degree of analytical skills required is considered a critical factor, and has the great influence on Project Delivery Capability (PDC) on this project; more emphasis should be placed on cost of quality. The study also recommends that project team effort should be accorded very extensive support from project management. This is because changes in Project Team Effort affects effective performance of the national government funded construction project implementation. Such change affects the original project completion period and tracking of outcomes, and results in variations in final project costs.

The study recommends critical look into contract management to ensure improved, implementation, effectiveness and quality of work done, sorting out the discrepancies related to the binding contract documents thus minimizing time loss during the project period, and ensuring that costs and timelines are checked and managed for betterment of the project. The study further recommends the develop human resources in the construction industry through proper and continuous training programs about construction projects performance. It also recommends a clear mission and vision in place to formulate, implement and evaluate the performance of national funded construction projects. The study further recommends the introduction of contract management training for relevant stakeholders.

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