EFFECT OF PARTICIPANT'S TECHNICAL EXPERTISE ON PERFORMANCE OF COUNTY GOVERNMENT-FUNDED INFRASTRUCTURAL DEVELOPMENT PROJECTS IN BOMET COUNTY, KENYA

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Abstract: Participatory Monitoring and Evaluation idea started through the recognition of the traditional M&E shortcomings and the urge to give strength and depth to contributing to Primary stakeholders as participants who are active in intervening and taking leadership. Infrastructure development has been of great concern in Kenya with reports of low-quality bridges, buildings and road projects among others causing loss of people's lives. There have been undesirable cases of infrastructural development such as infrastructural projects being done without meeting the required standards. The public is not involved during the drafting of projects and implementation as required by law that public participation is a requirement in all government projects. There is need for a well constituted M&E membership that enabled extensive evaluation of infrastructural projects. The main goal was to find out the effect of participant's technical expertise on the performance influence in County government funded infrastructural projects' in Bomet County, Kenya. The study deployed descriptive and explanatory survey research design. The infrastructural projects in the county of Bomet was used by this study. This research targeted stakeholders in the County Government, County Assembly, Contractors, and the public in Bomet. Census was deployed based on the small number of respondents. Data was collected using questionnaires. Questionnaires were designed, and this formed a major source of data for the research. Questionnaires are highly reliable and Valid because uniform set of questions can be asked. The data was scrutinized/analyzed by way of descriptive statistics, its visualization was by way of tables. Inferential statistics utilized multiple linear regression model and correlation analysis. The results revealed that participants' technical expertise had monumental beneficial impact on the infrastructural quality of the project. The participant in M&E had construction skills and technical skills that assisted in ascertaining the quality of project. The study concluded that there was consensus among respondents regarding the pivotal role of participants' M&E technical expertise in influencing project quality. The study recommends that it is imperative to invest in continuous training for M&E personnel through workshops, seminars, and certifications, ensuring they remain updated with industry standards and best practices.

Keywords: Participants technical expertise, Project Performance.

1. INTRODUCTION

Project monitoring and evaluation is essential for project design and not just an add-on (PMBOK, 2016). Resources are limited and they require proper and effective use. Monitoring and evaluation has become a key component of the life cycle of the project and best practices of management in the whole world for the last several years (Olive, 2018). Olive notes that monitoring and evaluation is crucial for achieving the ambitions, objectives and success of the project. PME is a exercise

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that enables stakeholders to actively engage in the M&E process of a project or program. Its aim is to make sure the project or program responds to stakeholders requirements and is being implemented effectively and efficiently. PME has been increasingly recognized as an important approach for ensuring the effectiveness and accountability of development interventions, particularly in the context of infrastructural projects (McGranahan, 1997). The concept of PME has its roots in the participatory development approach, which emerged in the 1970s as a response to the top-down, technocratic approach to development that had dominated the post-World War II period (Chambers, 1997). The participatory approach emphasizes the importance of engaging the stakeholders in the planning and development projects implementation, as it is believed that they have valuable knowledge and experience that may bring contribution to the victory of the project (Bryceson, 2000).PME recognition is on the rise as essential for enhancing project performance in local communities.

In Africa, project management effectiveness (PME) is increasingly recognized as a critical factor influencing project performance (Asiedu, 2019; Ejoh, 2018; Egbuta et al., 2018). Several researches have investigated the linkages between PME and project performance in Africa, with findings consistently demonstrating a positive correlation (Dartey-Baah & Agyemang, 2017; Ejoh, 2018; Gad, 2011). These studies have identified key PME factors that contribute to successful project outcomes, including Effective plann ing and scheduling: African projects often face challenges due to limited resources and time constraints. Effective planning and scheduling can help to mitigate these challenges by ensuring that projects are well-defined, realistic, and achievable (Egbuta et al., 2018). And Clear communication and stakeholder management: effective communication is essential for ensuring that all project stakeholders are on the same page and that risks are identified and addressed promptly. African projects often involve multiple stakeholders with diverse interests, so effective stakeholder management is critical for building consensus and resolving conflicts (Dartey-Baah & Agyemang, 2017; Ejoh, 2018).

In Kenya, project management effectiveness (PME) is increasingly recognized as a critical factor influencing project performance. Several researches have investigated the affiliation between PME and project performance in Kenya, with findings consistently demonstrating a positive correlation (Kihoro, 2017; Mwangi & Wachira, 2015; Njoroge & Ngugi, 2014). These studies have identified key PME factors that contribute to successful project outcomes, including: Effective planning and scheduling which is Kenyan projects often face challenges due to limited resources and time constraints. Effective planning and scheduling can help to mitigate these challenges by ensuring that projects are well-defined, realistic, and achievable (Kihoro, 2017), Clear communication and stakeholder management which is Effective communication is essential for ensuring that all project stakeholders are on the same page and that risks are identified and addressed promptly. Kenyan projects often involve multiple stakeholders with diverse interests, so effective stakeholder management is critical for building consensus and resolving conflicts (Mwangi & Wachira, 2015

Overall, the use of PME in infrastructural projects has the potential to enlighten the effectiveness and continuity of these projects and to make sure that they are responsive to the needs and priorities of the communities they serve. Participatory mornitoring and evaluation is applied in majority of the County Government as result of reforms in public particitation under devolution in Constitution of Kenya.(Constitution of Kenya 2010).

The idea of participatory M&E originates from the acknowledgement of the conventional M&E limitations (Gujit & Gaventa,1998) and the urge to give strength and depth to contributing to Primary stakeholders as participants who are active in intervening and taking leadership In keeping track and analysis of the progress towards jointly agreed results. Participatory Evaluation enables for active engagement with stakeholders both within the organization and those outside the organization in a project or program being carried out. These stakeholders include service providers, partners, sponsors, beneficiaries and any other interested party according to Edward T. Jackson, Yusuf Kassam (1998)

The participants within the organizations are encouraged to plan what is going to be evaluated, provide how evaluation is going to be done, carry out evaluation and analyze information and present the results from the evaluation process. In effective participatory monitoring & evaluation the stakeholders are worried in process, percent control, insurance machine and effects on the equal time as task M&E.

Participants' technical expertise refers to trained and experience team in M&E. Bailey, Farmer, Jessop & Jones (2018) in their study found out that it is required for M&E teams to undergo training so that they can acquire knowledge in project execution, management and evaluation techniques. Training and mentoring is very crucial in the process of implementation among the M&E team (Baron, 2017). Therefore, participants should include expertise in the project area who can address the project problems as well as they should have knowledge in M&E.

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Performance is the achievement through measuring based on known standards of speed, output, cost, completeness and accuracy. Gareis, Huemann, & Martinuzzi (2011) argued that performance is important in infrasturtural development among other projects which was supported by Silvius & Schipper (2011). According to Chinyavu (2016) time, cost, quality and scope were used to measure success or performance of projects. This was also in line with Wamitha & Ogollah (2017) considered project scope, completion time, project cost and cost as the indicators of projects performance. Performance was determined considering cost, scope, time and grade of the project.

2. STATEMENT OF THE PROBLEM

The main issues in participatory M&E (PME) of infrastructural projects is ensuring that all stakeholders, including members of the community and project beneficiaries, are fully onboard in all the steps taken (Uddin et al., 2016). This can be particularly difficult when projects are implemented in remote or marginalized communities, where access to information and resources may be limited (Grijalva & Pascual, 2017). Moreover, the lack of adequate communication and transparency in PME can lead to mistrust and skepticism among stakeholders, hindering the success of the project (Hagen-Zanker, 2014).

The introduction of county governments was to provide infrastructural solutions to the people among many other mandates given to them by the constitution of Kenya 2010. However, infrastructural development is still facing major problems of low-quality projects being delivered, delay in delivery of the projects among others therefore denying the people to opportunity to enjoy the benefits of the devolution. County governments have in most instances not involved the citizens in the budget decisions. The County governments are mandated to issue simplified, 'popular' versions of their suggested budgets so as to cheer up the citizen to participate (Natasha, Wakimani, Chartham House 2017). County Government has been in Kenya for not more than a decade. Infrastructure development has faced a lot challenges from corruption and poor development (Natasha Wakimani, Chartham House 2017). In the year 2018 the media reported cases of two bridges that were to be demolished in Bomet for failing to meet the required standards. These were Chepkositonik Bridge which was built at a cost of ksh. 8.4M and Kirwa footbridge at Chemagel in Sotik, built at a cost of 6.4M shillings.

Considering the new structure of governance in Kenya, respective managers have assumed greater responsibility for secondary functions, for example human resource development and equity. A main vital objection lies in improving public service efficiency, facilitating the government to accomplish its useful policy outcomes and strategic tenets. The study investigated the impacy of participatory monitoring and evaluation influence on performance of County government infrastructural projects' in Bomet County, Kenya. The purpose of this study was informed on the importance of participants technical expertise in infrastructural projects in Bomet County. It looked into the contributions of all stakeholders in ensuring the achievement of the execution of infrastructural projects

3. LITERATURE REVIEW

Theoretical Literature Review

Agency Theory

Agency theory was first pioneered by Stephen Ross and Barry Mitnick in 1972. The concept of agency theory is corporate governance problem that always is associated with decision making process. According to Mitnick (1975) the agency problem arise as a problem between the principle and agency which create conflict of interest in that affect decision making. The conflict of interest arises when the agency agenda or objective conflict the principal objective in a project. In government project the beneficiary are the citizen who are the principle since they need value for their money paid through taxation while the agency is contractors who are developing the infrastructure. The contractors would want to gain much from the project without doing much work while the citizen needs infrastructural development with high performance. The concept of agency theory explains the conflict of interest found in decision making process and financial funding on the project. The county government pays the supervisory roles in ensuring the right monitoring is done. The problem of agency is solutioned in many ways and an example in this scenario is getting a mediator in place like board of to help in making decision and monitoring. In project there is a need to create a well balance M&E team to oversee the entire project development (Mitnick, 1975).

Bett (2018) argued that the agency dilemma happens when the agent tries to act contrary to the principle hence affecting the decision and problem solving in the organization. Though it's not possible to exploit more than one dimension without adequate decision model in conflict of interest choices (Jensen, 2002). Therefore, participants' technical expertise, team work, motivation and management skills in M&E is explained.

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Empirical Literature Review

Participant with technical skills and capacity participation assist in providing technical evaluation and communicate to the other participant in M&E (Shihemi, 2016). Technical expertise is crucial in most M&E system which are done through training and development. Technical expertise in M&E is developed through experience, construction skills and education. It can also be profession knowledge acquire in both experience and academic assist in providing technical orient M&E process. The two concepts which is cognitive capability and skills in technical aspect of M&E process.

Lesinko (2015) came up with a study on elements af affecting performance of M&E on government projects in Narok Sub-County, kenya. The research focused on establishing how fund allocation, time allocation, the effect of cost and effect of training on how M&E projects performs. The research embraced a descriptive research design. Its chosen population was 138 respondents out of which a sample 122 was randomly selected. The findings revealed that the level of training of M&E was crucial on the performance of the projects. Training and performance of M&E in the project had high correlation. However, the government has not effectively adopted M&E in most of its projects. Conceptual gap was identified since the research gave emphasis on influence affecting performance of M&E of government projects. However, this research gave emphasis to participatory M&E in county government funded programs.

Waithera & Wanyoike (2015) researched on the effects of project monitoring and evaluation on youth funded agribusiness project's performance in Bahati Sub-County, Nakuru, Kenya. The purpose for the research was to assess the effects of political interferance, participation of stakeholders, personnel and training of staff on M&E performance of projects. The research employed structured questionnaires to census of 50 agribusiness youth funded agribusiness projects. There existed contextual gap which focused on agribusiness youth funded project rather than county government projects.

Abdi & Kimutai (2018) researched on M&E and performance of constituency projects in Garissa County. The study sought to find out the effect of feedback, approach/design, stakeholders participation and technical expertise on performance of projects funded by Constituency development funds. The study utilized a descriptive survey research design where questionnaires were administered to a aim at a 71 respondents from which a census was done. The data received were coded and examined with the help of statistical Package for Social Scientist (SPSS). Respondents acknowledge that stakeholders got information about best practices of M&E. It was discovered that more M&E professionals should be engaged in paid opportunities so that they can to do a credible M&E exercise of the project.

Wanjala (2018) did a study on effect of monitoring practices on the performance of Kenya state corporations' projects. It aimed at investigating whether monitoring techniques, planning, tools and practice adaption had an effect on performance of the project. The research used simple random sampling to select 65 state corporations from a target population of 187 state corporations. Questionnaires were administered during the research and Trial testing was done to checkout questions meaningfulness. Results showed that monitoring techniques were embraced had important effect on performance of the projects. Similarly, monitoring techniques, tools and planning used in the project had significant effect on project performance. It concluded that overseeing exquisite exercises had fantastic influence on project performance in Kenyan corporations. The study put forward recommendations that the tools for monitoring and planning must be improvised to reduce project risks.

4. RESEARCH METHODOLOGY

The study deployed descriptive and explanatory survey research design. The infrastructural projects in the county of Bomet was used by this study. This research targeted stakeholders in the County Government, County Assembly, Contractors, and the public in Bomet. Census was deployed based on the small number of respondents. Data was collected using questionnaires. Questionnaires were designed, and this formed a major source of data for the research. Questionnaires are highly reliable and Valid because uniform set of questions can be asked. The data was scrutinized/analyzed by way of descriptive statistics, its visualization was by way of tables. Inferential statistics utilized multiple linear regression model and correlation analysis.

5. FINDINGS

Monitoring and evaluation in the County Government was also examined in terms of participants' technical expertise and the results frequency distribution, mean and standard deviation. The mean and standard results were used for discussion with content analysis. The findings were summarized in Table 1.

Table 1: Participants' Technical Expertise in M&E

	1	2	3	4	5	Mean	STD
Education level of the participants M&E		7	27	41	9	3.6190	.79007
influence the quality of the project.	0.0%	8.3%	32.1%	48.8%	10.7%		
In infrastructural development the participant	0	18	27	36	3	3.2857	.84414
in M&E has construction skills which assist them in evaluating the quality of work done.	0.0%	21.4%	32.1%	42.9%	3.6%		
The team of M&E are well trained and	0	18	31	31	4	3.2500	.84846
experienced in infrastructural development.	0.0%	21.4%	36.9%	36.9%	4.8%		
Participants' training in M&E is crucial to	0	5	36	32	11	3.5833	.79469
ensure quality projects.	0.0%	6.0%	42.9%	38.1%	13.1%		
Participants' technical expertise in M&E is a	0	9	39	23	13	3.4762	.88462
crucial aspect that determines the performance of contraction projects.	0.0%	10.7%	46.4%	27.4%	15.5%		

Source: Research Data (2023)

According to the results, there was 41(48.8%) of the respondent who agreed that level of the participants M&E influenced the quality of the project. The mean of 3.6190 and standard deviation of 0.79007 further confirms that across the project the participants' level of education played an important role in the quality of the project. Slightly more respondent agreed as shown by mean of 3.2857 that the construction skills of the participant in M&E was assisted in evaluation of quality of work done. It variation was low with standard deviation of 0.84414 across the project on the utilization of construction skills in evaluation process.

Further showed a mean of 3.2500 which implied that there were slightly more respondents who agreed that the team of M&E were well trained and experienced in infrastructural development. A standard deviation of 0.84846 revealed that the variation of training and experiences across the project was low. Training in M&E among the participants' had more impact in ensuring the quality of the project as indicated by mean of 3.5833.

The variation of training of M&E in relation to impact on quality was low (Standard of 0.79469). Further, the mean results of 3.4762 showed that there most participants' technical expertise in M&E had a crucial aspect that determined the performance of construction projects. It variation was also low with standard deviation of 0.88462 which showed homogeneity of the use of technical expertise among the participants in M&E. Therefore, training, experience and technical expertise in M&E has crucial role in improving construction projects performance in Bomet County Government.

According to the response to, "In your opinion explain how participants' technical expertise in M&E infrastructural development in ensuring high quality projects?" the results showed that technical expertise of member of M&E played a crucial role in quality of the projects. The responses showed that having expertise personnel assisted in evaluating and assessing the quality of the construction project in term of structural, size, durability and ability withstand high pressure especially in bridge, building and road constructions. Similar, Shihemi (2016) study emphasizes the importance of technical expertise in M&E, highlighting that participants with such skills are essential for providing technical evaluations and facilitating communication within the M&E process.

Results of Inferential Analysis

Table 2: Correlation Analysis

		PTE	PIP	
PTE	Pearson Correlation	1	.801**	
	Sig. (2-tailed)		.000	
	N	84	84	

According to the results in table 4.11, revealed that participants' technical expertise in M&E has a very strong positive tangible influence on the performance of infrastructural projects (R= 0.865 and R=0.801). According to Ondieki et al. (2016), participants' management skills and technical expertise are crucial for the success of M&E in Kenya's health sector. They argued that management skills and technical expertise enabled the participants to design, execute, and evaluate M&E systems that were responding to the expectations and needs of all stakeholders.

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Regression Analysis Results

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.888a	.789	.778	.25204

According to Table 3 results there existed significant strong relationship between participants technical expertise in M&E and performance of project (R=0.888). A variation of 77.8% in performance of infrastructural project was associated with participants technical expertise, however, 22.2% was due to other factors (R Square =0.779).

Table 4: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.770	1	18.770	310.419	$.000^{b}$
	Residual	5.019	82	.0605		
	Total	23.788	83			

The ANOVA results revealed that participants' motivation technical expertise had significant influence on the performance of infrastructural projects in Bomet County (P=0.00<0.05). Therefore, participants' capabilities in technical expertise influence the project performance in terms of scope, time, cost and quality.

Table 5: Regression Coefficients

		Unstandardized CoefficientsStandardized Coefficients			nts		Collinearity Statistics	
Model		В	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.703	.198		3.54	13 .001		
	PTE	.238	.083	.258	2.86	55 .005	.330	3.032
a. Dep	endent Variab	le: PIP						

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	635.424	1	158.856	102.326	.000 ^b
1 Residual	147.483	95	1.552		
Total	782.907	96			

Table 5 reveals the coefficient of regression summary model given in the equation below.

 $Y = 0.703 + 0.238X_1$

Where; Y = Performance of Infrastructural Projects, X_1 is participants' in M&E technical expertise,

The null hypothesis was reject since, the study found that participants' in M&E technical expertise had positive significant influence on performance of infrastructural projects (B=0.238, P<0.05). Similar results were obtained from Lesinko's (2015) research focused on factors influencing M&E performance, and it revealed a high correlation between the level of training of M&E professionals and project performance. Likewise, a study by Mwenda and Muindi (2017) examined the influence of participants' management skills and technical expertise on the performance of M&E in Kenya's public sector. They found that both management skills and technical expertise had a positive and significant impact on the effectiveness and efficiency of M&E, as they enhanced the planning, implementation, and reporting of M&E.

6. CONCLUSIONS

the research determined that participants' technical expertise in M&E has an important and positive responsibility in magnifying the performance of infrastructural projects within Bomet County Government. There was consensus among respondents regarding the pivotal role of participants' M&E technical expertise in influencing project quality. The recognition of the value of construction skills within the M&E team and the confidence expressed in their training and experience further accentuate the importance of these factors in ensuring project quality. Moreover, the emphasis placed on the significance of technical expertise within M&E, particularly in the evaluation of structural integrity, size, durability, and the capacity to withstand pressure in various construction projects, underscores its critical impact on overall project performance.

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7. RECOMMENDATIONS

In order to maximize the positive impact of participants' technical expertise in M&E on infrastructural project performance in Bomet County Government, several recommendations should be considered. First, it is imperative to invest in continuous training for M&E personnel through workshops, seminars, and certifications, ensuring they remain updated with industry standards and best practices. Second, during the recruitment process, prioritize candidates with robust technical expertise when filling M&E positions, as their contributions significantly enhance project quality. Third, encourage collaboration between the M&E team and other project stakeholders, fostering effective utilization of technical expertise and continuous project quality monitoring and improvement. Fourth, establish routine quality assessments that focus on technical aspects such as structural integrity, durability, and compliance with technical specifications, making these assessments a standard part of project management. Additionally, promote a culture of knowledge sharing within the M&E department, allowing team members to share their technical insights and experiences to benefit the entire organization. Lastly, implement a system for the continuous monitoring and evaluation of the impact of technical expertise on project performance, using performance metrics and feedback mechanisms to maintain this positive influence consistently. These measures will help ensure the ongoing enhancement of infrastructural projects in Bomet County Government.

REFERENCES

- [1] Abdi, A., & Kimutai, G. (2018). M&E and Performance of Contituency Development Fund Projects in Garissa County, Kenya. *International Academic Journal of Information Sciences and Project Management*, 3(2), 418-445.
- [2] Ayman, N. (2011). Challenges and Advantages of Community Participation as an Approach for Sustainable Urban Development in Egypt. *Journal of Sustainable Development*, 4(1), 79-91
- [3] Duggal, J. (2011). Rethinking the Triple Constraint. Let's think critically about. In M. Eid, *Integrating Sustainable Deveolopment into Project Management* (pp. 230-234). New York: NY Printers.
- [4] Ebikapade, A., Syed, A., & Ayodeji, Y. (2015). Sustainable Development in the Context of Major Infrastructure Projects in United Kingdom. *Journal of Geoscience and Environment Protection*, *3*, 44-55.
- [5] Hagen-Zanker, J. (2014). The role of trust in participatory M&E. Evaluation, 20(4), 427-442.
- [6] Luetkenhorst, W. (2004). Corporate Social Responsibility ad n Development Agenda: The case for actively involving small and medium enterprises. *Intereconomics*, pp 1-34.
- [7] Maina, M. (2011). The relationship between product diversification and financial performance of commercial banks in Kenya. *Unpublished journal*, PP. 1-50
- [8] Mogaji, E. M., Abimbola, O., & Ojo, O. A. (2015). Participatory M&E of development projects: A review of the literature. *Journal of Agricultural Extension*, 19(1), 1-10.
- [9] Mulwa, F., & Nguluu, S. (2013). *Participatory M&E: A Strategy for Organization Strengthening*. Nairobi: Zapf Chancery and Premise-Olivex Publishers.
- [10] Mushori, J. (2015). Determinants of Effective M&E of County Government Funded InfrastructuralDevelopment Projects, Nakuru East Constituency, Nakuru County, Kenya. Nairobi: Unpublished report of the University of Nairobi.
- [11] Nasambu, J. (2016). Factors Influencing the Performance of M&E Systems in Non-Governmental Organization in Lira District, Northern Uganda. Kampala: Uganda Technology and Management University (UTAMU).
- [12] Ndili, S. (2013). Influence of stakeholders' participation on completion of infrastructural projects: A case of public secondary schools in Mwingi-East district. Nairobi: University of Nairobi Unpublished Report
- [13] Phiri, B. (2015). Influence of M&E on Project Performance . Nairobi: University of Nairobi.
- [14] Shihemi, R. (2016). *Influence of M&E tools on projects performance of building and construction projects in Kenyan public university: A case of the University of Nairobi*. Nairobi: University of Nairobi Unpublished Report
- [15] Wamitha, J., & Ogollah, K. (2017). Role of Stakeholders Participation on the Performance of Constituency Development Fund Projects in Mathira East Constituency in Kenya. *International Academic Journal of Information Sciences and Project Management*, 2(1), 104-125.
- [16] Wanjala, V. (2016). *Monitorning and Evaluation Factors Influencing Success of Development Projects*. Nairobi: University of Nairobi.