

The Relevance of Monitoring, Supervision And Evaluation of Stakeholder Participation In Electronic Governance Projects Implemented In Public Sector Institutions: A Review of Literature.

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Abstract: There are several areas of consideration in the implementation of an electronic governance projects however the area mostly neglected by most leaders in developing countries is the culture of maintenance and a plan for sustainability of these projects. Since several electronic governance projects implemented requires stakeholder participation and involvement to guarantee their success, the approach for ensuring continuous participation and sustainability is the adoption of monitoring, supervision and system evaluation. The present study conducts a review of empirical studies to determine the relevance of monitoring, supervision and evaluation of stakeholder involvement in electronic governance projects, in order to contribute to the outcome of guaranteeing sustainability of electronic governance projects implemented, which requires stakeholder participation and involvement. Based on the finding of a related study, the study concluded monitoring, supervision and evaluation of entire e-governance project is relevant in contributing to project success especially in developing countries.

Keywords: E-governance, monitoring, supervision, evaluation, developing countries, stakeholder participation, public sector.

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I. INTRODUCTION

An innovation is a concept, behavior, procedure, product, or service considered new by individuals(1). Incorporating Information Communication and Technology (ICT) into public organization's systems at multiple levels provide adequate tools that support standardization of bureaucratic processes(2). The supervision of public services enabled through electronic governance channels is important in coordination of electronic governance initiatives. The role of monitoring was identified to be significant in implementing changes and modernization within public sector administrations, which facilitate that the users or the stakeholders within the government are able to function and perform their duties in the new environment enabled by the implementation of the electronic governance initiative(3). Other studies have provided the basic role of implementing ICT in the public sector as; enforcing the e-city achievement where electronic city (e-city) is based on the ultimate of goal of enhancing the life of citizens through an active and mutual sharing of information, which further improves the decision making process that transforms relations among citizens, businesses and citizens. This also promotes public policy and digital technologies and offers the potential model for open government, advanced democracy and more efficient work of government towards less corruption, and more transparency and public trust (4; 3).

The World Bank (2001) identified monitoring, supervising and evaluating as providing government officials, developmental partners and civil society with better means for learning from past experience, improving service delivery, planning and allocating resources and demonstrating results as part of accountability to key stakeholders. The importance of monitoring is that it enables the identification of the extent to which the implemented projects achieved the objectives established or the magnitude of which it affects the livelihood of the stakeholders or the people's welfare. The projects for all government institutions are intended to ultimately improve the lives of citizens and members of the developing countries and their local governments. The approach to determine such effects is by monitoring, supervising and evaluating the implemented projects to determine the extent to which these objectives are achieved(5).

These studies identified that countries within the African region and other developing countries are missing on the E-governance radar and the processes for identifying E-governance adoption and

implementation, which is reduced to the extent to which public services and processes are conducted online(6). Whereas the actual levels of usage or the actual impact of electronic services are rarely measured. Developing countries such as Ghana was mentioned as one of the countries with E-government strategy yet to be fully implemented according to the UN's Worldwide E-Government Readiness Report(6). The present study identifies the relevant literatures on the relevance of adopting monitoring, supervision and evaluation to improve stakeholder participation in electronic governance projects, and the contribution of monitoring, supervision and evaluation in sustaining implemented electronic governance projects by reference to studies conducted in these areas.

II. LITERATURE REVIEW

i. Framework For Monitoring Supervision And Evaluation

In implementing a framework for monitoring and supervision, activities must be carried out in accordance with the monitoring plan, dates, time and milestones reached. The monitoring plan suggests scheduling a plan or a schedule for measuring other indicators by applying the assessment instruments and implementing the process evaluation(7). The studies of Wagner, et al (2005) identified this indicator as the most critical part of implementing the monitoring and supervision framework. The approach chosen for Monitoring and Supervision and Evaluation of electronic governance projects above is similar to the Context Input Process Products (CIPP) model which combines several categories input, process, output and impact instruments in monitoring and measuring project success(8). Other literatures emphasize on the use of judgment and experiences obtained in previous implementation of electronic governance project as a guide for implementers especially in complex electronic governance projects or public sector ICT projects(9).

The literature of Ostasius & Laukaitis (2015) suggested some relevant models for e-governance monitoring, supervision and evaluation. The adoption of e-governance or e-government model must offer real benefits to stakeholders, citizens, business or organizations through its integrated services and not a narrow focus of electronic governance. This challenge therefore motivated the several attempts by researchers and experts putting together several models into a comprehensive model (10). They identified that several researchers have created model covering several different aspects of electronic governance without the existence of a unified comprehensive model for electronic governance implementation. The models identified in these previous studies depended on different aspects of electronic governance models based on purpose and objectives intended for undertaking electronic government assessment, monitoring and evaluation, the types of monitoring and evaluation adopted with their respective dimension, criteria adopted for monitoring, assessment and evaluation and other considerations. The electronic governance assessment models suggested by Ostasius & Laukaitis, (2015) determines, monitors and measures electronic governance at all levels including project specific electronic governance implementation. The study of Ostasius & Laukaitis, (2015) attempted to identify together various assessment models into one comprehensive model.

ii. Key Elements Of E-Governance Monitoring Plan

The development of a monitoring and supervision plan for an electronic governance project follows the conceptual framework suggested by Ostasius & Laukaitis (2015). The e-governance monitoring and supervision plan designed for implementation of an educational project was suggested to include some key elements of the plan that is universally applicable in executing electronic governance projects(7).. These process also covers formative evaluation and summative evaluation where formative evaluation is performed from the beginning of the monitoring and evaluation process to the extent where adequate information is gathered to facilitate comparing the operations against the performance goals (11). The studies of Ostasius & Laukaitis (2015) suggested that in designing a monitoring and implementation plan, there first consideration is to determine and understand what you intend to achieve and the approaches to achieve them. This includes defining the overall objectives and goals within the context of the institution where the project is being implemented, in addition to identifying the key stakeholders who are instrumental in the successful implementation of the project so as to enable the final objective of determining the approaches to carrying out the monitoring and evaluation process.

Setting Monitoring And Evaluation Goals And Objectives

The first element for designing monitoring and evaluation plan is to set the objectives intended for monitoring, supervision and evaluation. The act of setting goals and objectives are important in monitoring, supervision and evaluation of projects. Goals are statements considered high level which provides overall context within which the monitoring and evaluation of the project will be carried out. The objectives identified concrete statements that describe the exact level the monitoring and supervision function is trying to achieve(12). The project management literatures attempts to distinguish goals as often long term and less tangible while objectives are often short term and more precise (13). The goal of the electronic governance

project is to achieve electronic integration at all levels within the public sector which the objective of the project is to implement public registration at the one district assembly at a specific period of time(14).

Context Setting For Monitoring And Evaluation

Every project is undertaken within several context of the general society and environments which involves political, social, economic, technological, cultural among other several legal laws and regulation ((15). That is to say no project takes place in isolation hence there is the need for the project implementers and institution undergoing the project to understand the influence the existing policies and strategies. These influences also cover the administrative structures of the country that might influence the implementation of the policies(5). The context setting is done prior to project initiating by collecting data on previous studies on similar projects undertaken, baseline data, similar proposals and project plans to facilitate the comprehension of the kind of project objective is set to be achieved (11). The importance of this process is to consider any risks or challenges that may be associated with the successful implementation of the monitoring, supervision and evaluation project (2).

Identification Of Key Players Of Monitoring And Evaluation

The Monitoring, supervision and evaluation project key implementers were suggested in Ostasius & Laukaitis (2015) to be different than the overall electronic governance project stakeholders. The team of key players for monitoring and evaluation plan must be able to identify the role of other players in order to facilitate the successful implementation of the monitoring and evaluate plan. The players suggested by Wagner, et al (20015) are; stakeholders for Monitoring and evaluation; implementers of monitoring and evaluation plan; beneficiaries for monitoring and evaluation.

Stakeholders For Monitoring And Evaluation

The stakeholder identified for Monitoring and supervising are those individuals who expect the project to be successful as it will improve their individual or community objectives; policy makers, national and local authorities, community associations and other stakeholders who are incidentally included in the project. These categories of stakeholders are specifically and actively involved in the monitoring and evaluation project and are particularly interested in keeping informed about the project status. It is therefore important to understand their specific interest that relates with the monitoring, supervision and evaluation activity (2).

Implementers of Monitoring And Evaluation Plan

This category of key players involves the project managers and employees of the IT internal department or unit where the project is being implemented. These categories of players are involved in the monitoring and supervision plan from the beginning of the project till the successful implementation of the project. The implementer identified in the stage are the same as those suggested in the earlier subsections of this section which includes the team of IT experts who are in charge of the project and training of other internal staffs who are the first point of contact with the citizens or the general public who are also important key stakeholder for the project participation. The most important note identified is to facilitate that the implementers have the relevant skills needed to achieve the monitoring and supervision plan to boost the credibility of the project (11).

Beneficiaries for Monitoring And Evaluation.

The beneficiaries are identified in the project as those players who are supposed to benefit from the project such as the community members, and the citizens within the local government unit where the electronic governance project is being implemented. Wagner, et al (2005) identified the beneficiaries to include long term beneficiaries such as the district assembly leadership who oversees the project.

Training and Coaching

This section assesses the training requirements of the public employees within the institution where the electronic project is undertaken. This requirement guides the training and coaching of public employees by providing them with the framework and model to be followed to assess the adoption of the requirements need to facilitate their training needs. The approach for teaching involves on-site and remote technical support for the government institution staffs which involves observing the staffs while they are operating to assess their performance. This model also suggests establishing an onsite remote and technical support to facilitate monitoring. This function is applicable where the internal IT department within the local district where the electronic governance project is implemented focuses monitoring and supervision based on the indicators suggested in the framework for monitoring and supervision.

Remote Supervision

This focuses specifically on the on-site technical unit that is charged with monitoring the internal operation of the staffs who are trained and coached to facilitate the electronic governance implementation. The requirement is to ensure that the team has access to all the tools needed to facilitate monitoring, the assessment of operation while ensuring that the trained staff has the independence to operate without the fear being watched. The objective is not to intimidate the staff and restrict their actions but to motivate them to see the importance of having a support team on call, to facilitate solving any problems that might occur without further delay.

Autonomous Implementation Of Monitoring Plan

The authors suggested leaving some room for the remote technical staff and the staff within the institution where the electronic governance project is being carried out to implement some actions as it occurs. The emphasis of this section is that the framework may not cover every single scenario within the institution where the project is being implemented, however leaving room for the skilled technical support and electronic governance staffs to handle some issues within their capacity, so as to facilitate an autonomous implementation of some actions which support achieving the overall objectives intended for the electronic governance project.

iii. Implementation Of Monitoring Supervision And Evaluation Plan

The process of implementing the monitoring and evaluation build from previous subsections and adopts the generic approach for implementing a project; collecting of data, analyzing the data collected and interpreting the data to develop solutions(16; 17)

Collecting Of Data

The data for monitoring and evaluation can be collected from various approaches identified based on the choice of approach which is also dependent on the availability of a budget, the appropriateness and feasibility of the objective identified through the monitoring and supervision approaches identified and the availability of the skills need to implement the monitoring and evaluation plan. The type of data collected is also dependent on the context and environment in which the project is being implemented.

Analyzing Of Data

The data analysis of the monitoring and evaluation is built into the systems designed to integrate the operations to facilitate successful implementation. The quantitative analysis adopts rigorous and unbiased approach that is credible and leads into credible conclusions. This adopts computer based system analysis and application of statistical analysis techniques. Wagner, et al (2005) suggested some types of data and their appropriate use.

Interpreting Of Data

The data interpretation is easy where the data is collected through qualitative approaches. The system based interpretation of monitoring and evaluation of data leads to unbiased results that are void of personal bias.

III. DISSEMINATION OF RESULTS OF MONITORING AND EVALUATION

This process considers the management of interactions between people who are involved in the process of monitoring and evaluation. This interaction occurs between the various types of stakeholders and key player of the project identified throughout the study; decision makers, policy makers, government officials, district chief executives, local assembly members and the general citizens or members of the district assemblies (2; 18). These stakeholders will require or request some form of interaction with the monitoring and evaluation team at some point during the implementation hence there is the need to be proactive in designing and making room for such incidents.

These interactions may be personal or occur in the form of formal committee meetings, user group meetings(11; 14). The considerations identified for these types of interactions include; identifying the type of key stakeholders or stakeholder groups during these interactions, the formality of the participation, and the level of transparency that must be exhibited during these interactions to improve stakeholder participation, the nature in which the results of the monitoring and evaluation are communicated or disseminated to the relevant stakeholders(19; 20).

IV. OUTCOME OF MONITORING SUPERVISION AND EVALUATION IMPLEMENTATION

The literatures supporting these concepts on monitoring, supervision and evaluation of electronic governance projects suggests that after enforcing the key elements or components of the electronic governance monitoring, there are three expected outcomes from the implementation process which are; the effective adoption by the staff facilitated through the ICT training and coaching lessons, the stakeholder or citizen participation in the electronic governance project through compliance with the roles, norms and objectives, the achievement of electronic governance integration that improves the services and promises sustainability (7). The outcome of this observation processes are also recommended to be expressed in terms of adoption indicators. The study also recommends recording and validation of the outcomes of the implementation to measure the impact on the stakeholders. The plan helps the project implementers handle one area or unit at a time or concurrently by different units which further facilitates comparison. The monitoring of project activities requires the same level of systematic approach need in the development of the project, especially on the effectiveness of developing indicators which measures elements identified. The proponents of these concepts further suggested the probability of redundancies in the processes identified between the interventions and the adoption indicators and the difficulty of measuring the observations quantitatively(19).

V. CHOOSING A METHOD FOR MONITORING AND SUPERVISION

After establishing a clear picture and understanding of the context of the monitoring and evaluation, the key implementers must select the approach for monitoring and evaluating the project. As identified earlier this approaches include both quantitative and qualitative approaches which involves observations or system based monitoring. Wagner, et al (2005) emphasized the use of statistical method to ensure that the observations are measured in quantitative terms to facilitate measurement and comparison with the project objectives. These approaches also involve the use of surveys, and case studies, the studies also emphasized the importance of selecting the best indicators to facilitate the choice of the best approach for monitoring and evaluation(21; 15).

The scholars of previous studies in monitoring and evaluation suggested the methods such as the Outcome Mapping (OM), and the Logical Framework Analysis (LFA). This approaches are IT approaches that incorporates several elements including the identification of key stakeholders, well defined outputs and the act of ongoing monitoring and evaluation into the project monitoring and evaluation(22; 2). The key approach to carrying out an effective design of monitoring and evaluation is how to integrate the plan into the implementation of the electronic governance project. The design of electronic governance project within the public sector is a complex approach with complex methodologies which makes it a challenge for the implementers to incorporate monitoring. This involves systematic design of ICT monitoring systems that integrate the elements of monitoring identified by the framework on monitoring and evaluation which involves the onsite monitoring and remote monitoring as well as other elements as identified in the earlier subsections.

VI. CHALLENGES

The researchers identify the challenge that the cost of monitoring in substantial and therefore planning a periodic monitoring plan which is frequent can be costly and impractical(23). The schedule for monitoring and measuring other indicators facilitates that the measure put in place for monitoring are functioning and therefore the overall project is progressing successfully(3). Most governmental institutions rarely conduct periodic monitoring or adopts the adequate assessment tools and protocols; which hinders the sustainability of projects, however in electronic governance projects implementation, the assessment and monitoring tools are embedded into the systems designed to facilitate monitoring performance and system generation of results(2; 20). Yildiz (2007) added that these models have diverse approaches that provided holistic approach to monitoring, supervision and evaluation of projects within both government and the commercial industry, however these models cannot be directly adapted to electronic governance development and integration in each country as there are different policies and requirement for each project. This was suggested by Omari &Omari (2006) that each country implementing the electronic governance project has different legal frameworks, different professional skills by the government implementers, different objectives and different infrastructures including technical, social, political and economic that creates diverse needs for the government and its citizens.

The challenges of monitoring, supervision and evaluation plan can be associated with the ability and capacity to control and manage project risk(18). The risk associated with monitoring is challenging with national projects which were identified to be acute or severe in sub governmental units where the roles and responsibilities of the local authorities are not clearly defined. This presents a challenge for the team of project implementers identified for the monitoring and evaluation plan, and associated problem of duty overlaps of leaders within the district. The other problems identified are risk of non-collaboration and cooperation between the project team which includes the political leaders within the districts or sub governmental units(24).

There is the challenge of duplication of efforts in performing roles relating to in monitoring and supervision due to conflict between authorities different sub governmental units such as the Presiding Members and the District Chief Executives within Municipalities and Local districts(25). There are several instances of overlapping of roles which results to conflicts and therefore affecting roles performed by members negatively(24; 25). Performing this role efficiently also contributes to marshaling of adequate revenue for the respective districts to finance projects and boost the economy which helps increase wealth of the people(26). Inadequate monitoring and evaluation is a challenge that result to project delays which also leads to inappropriate systems or outdated designs with adoption of obsolete technology. Developing countries implementing complex ICT projects face challenges that results to projects that are either poorly executed, partly executed or projects that become total failures(27; 28). These failures are systems failure, user or stakeholder failures due to lack of training and ability of staff to understand and sync with the new system. These are few of many challenges that must be proactively identified in order to facilitate taking measures to avoid such challenges and increase the successful implementation of the project (18).

VII. DISCUSSIONS OF FINDINGS IN RELATED STUDY

A study conducted by a researcher(29) identified monitoring, supervision and evaluation as a contributory variable to the research model. The variable was adopted as an exogenous variable in nature, for its significance in facilitating the moderation relationship between the research variables. Empirical studies have identified the relevance of the construct in contributing and ensuring that the objectives intended by the other variables are achieved and sustained. The relationship between: monitoring, supervision and evaluation; and the dependent variable (revenue improvement and poverty reduction), was indicated by a t value of 10.882 which is greater than the threshold of greater than 1.96, a p value of 0.000 which is less than the threshold of less than 0.05 significant level and a positive regression coefficient of +0.585. There were 8 items designed to measure this indicator and all the 8 items were considered relevant for the study. There was a positive correlation with a p-value of 0.000 which is less than 0.05 significant level meeting the cutoff requirements suggesting that a change in the level of monitoring, supervision and evaluation will cause a moderation effect on both independent and dependent variables.

No	Research Objective	Research Question	Research Hypotheses
1	Moderation Effect of MONSU on the research constructs?	Does MONSU have moderation effect on the research Constructs?	H5. Moderation effect of MONSU → IVs, MV, DV

Table 1 Research Objective, Question, Hypotheses

The hypotheses for the study were tested using the Partial Least Square (PLS) approach due to its robustness and support of large sample size. **B** values are the regression coefficients or path coefficients in PLS algorithm, t-values and p-values are used to test for significance. The rule of thumb is that the t-values should be greater than 1.96 and the p-values must be less than 0.08.

Factor	H	Regression Coefficients (b)	T-values	P-values	Significance	Causal Relationship
MONSU → DV	H1	+0.585	10.882	0.000	Significant	Positive

Table 2 Results of Hypotheses Significance

Based on the results in the Table 2 above from Smart PLS 3.27, the hypotheses H1 was supported.

The results of the data analysis conducted indicated that there is a positive regression coefficient of +0.585 between Monitoring, supervisory and evaluation and the dependent variable of the study. The associated t-value between the two constructs is greater than 1.96 (10.888). The p-value of the two constructs indicated a value of less than 0.05 (0.000). This provides evidence that the relationship is significant. The t-value is greater than the threshold providing evidence of a causal relationship between Monitoring, supervisory and evaluation and dependent variable (Revenue Improvement and Poverty Reduction). Therefore the hypotheses five *H1* was supported. The significant of this study’s results is that it provided evidence supporting the relevance of adopting monitoring supervision and evaluation in the implementation of electronic governance projects. This study implied that monitoring, supervision and evaluation dimension enabled identification of potential challenges associated with electronic governance implementation and the methods adopted to mitigate or eliminate such challenges. In sum, the study demonstrated that most reliable and innovative approach to

achieving the research objective is through electronic governance adoption and integration and by explicitly identifying the roles stakeholders must play so as to achieve the study's objectives.

VIII. SUMMARY

The adoption and integration of ICT into sub government departmental services is a capital investment which requires an ongoing maintenance costs on maintaining regular connectivity and keeping resources and personnel updated. These expenditures are usually difficult to estimate in advance. The cost of monitoring and supervision of electronic governance project may also be difficult to estimate in advance(30; 11). The general notion is that cost of ICT integration and maintenance is expensive as well as any associated cost of ICT therefore it is important to consider cost effectiveness as a critical factor. The issue of cost is acute in developing countries facing the challenge of reaching their Millennium Development Goals (MDG) where the perception of ICT expenditure increases the need for clear estimations of monitoring and evaluation which involves several direct and indirect costs incurred in the process of data collection analysis(21).

The elements and approaches identified for implementing monitoring and control strategy will increase the overall cost of implementing the project and therefore the implementers must be proactive in determining the cost up front. The electronic governance projects are governmental projects that cuts across multi institutional approvals based on national policies and several bureaucratic processes that call for some high level of investment and efforts in time and resource(17). The process of implementation also calls for outsourcing or hiring experts through the public sector bureaucratic process for approving a tender or outsource which incurs costs. The World Bank provides some minimal cost data for the methods for monitoring and evaluation which involves low, medium and high investment and each method of calculation depends on the other cost factors that are associated with huge bank loans and grants (5).

The standard approach to cost effective monitoring and evaluation implementation that the budget should not exceed or be high to the extent that it impairs the operational activities of the overall implementation of the electronic governance project, while at the same time the cost of monitoring and evaluation should not be too minimal to compromise the reliability and credibility of the results especially if the cost of monitoring increases the overall success of the project. The World Bank came up with the rule of thumb for monitoring and evaluation of ICT projects that; monitoring and evaluation ought to be in the range of 5 to 10 percent of the total cost of the project(21; 5). Analyzing cost of monitoring and evaluation of a project is challenging and the World Bank and other studies added that analyzing the benefits are even more challenging to identify in financial terms. Several benefits are difficult to measure or quantify. This is associated with the fact that monitoring supervision and evaluation involves both qualitative and quantitative evaluations.

The benefits of a qualitative evaluation can only be estimated through the differences in outcomes over a period of time. The non-tangible benefits such as policy makers satisfaction or ICT intervention are important to the successfully implementation of monitoring and evaluation plan however may be difficult to measure in monetary terms(15; 31). Overall the benefits of implementing a monitoring and evaluation plan may be identified in the increased level of confidence of donor organizations and financiers who invest in the electronic governance or ICT projects in the public sector (11). The results of monitoring and evaluation can strengthen the public policy domain in the area of budgetary shift in a positive direction. The overall implementation can increase the morale and participation of stakeholders or employees within the institution and local government or district assembly where the project in being implemented.

The way forward for these challenges was suggested that the government institutions implementing the electronic governance project must adopt customized models that are applicable to different and changing requirements so as to facilitate monitoring, supervising and evaluating the electronic readiness of public institutions and administrations to ensure compliance with the new challenges(12; 17; 29). This analysis was concluded in Siau & Long (2005) that there was no singular and holistic model for monitoring, supervising and evaluating electronic governance integration in any country which is a major challenge, therefore objectives are different however where there is a singular objective for implementing an electronic governance project, one of the several models suggested by the scholars can be applicable as a universal assessment model.

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