

FACTORS AFFECTING IMPLEMENTATION OF VISION 2030 FLAGSHIP PROJECTS IN KENYA: A CASE OF THE GALANA-KULALU IRRIGATION SCHEME

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ABSTRACT

Vision 2030 blueprint has received applauds as one of most progressive ideas ever envisioned. However, its implementation has come to be synonymous with its failure rate more than its success rate. The study focus on food security as one of the most desired objectives and the case in point is the development and implementation of the Galana-Kulalu irrigation scheme. Galana-Kulalu food security scheme was touted as a solution to cyclic hunger problems in the country where 1,000,000 acres was to be put under irrigation by the year 2022. To date, only 5,000 acres out of the targeted one million is under crop, even as millions of Kenyans are going to bed without food. The irrigation project is one of the key campaign promises that the Jubilee administration made in its manifesto to make Kenya a food-secure nation through the one-million-acre land irrigation initiative. The initiative objective was to reduce food shortages among Kenyans since food security is the first step towards realizing a strong growing and efficient nation. Objectives that guided this study were to establish the cost related factors on the implementation of vision 2030 projects in general and in particular, the Galana-Kulalu irrigation scheme, contractor related factors on the implementation of this

project and to determine the importance of monitoring and evaluation in the implementation of vision 2030 projects in general. The study was based on a target population of 70 National Irrigation Board officials and 100 project managers were selected. Descriptive research design method was used in collecting data; simple sampling and convenience sampling method will be used in choosing the samples to be studied in the research. SPSS was used to analyze both primary and secondary source of data such as questionnaires. Finally the data was presented in charts, tables and graphs as will be found appropriate for each set of data. The findings revealed that cost related factors, contractor related factors and monitoring and evaluation significantly relate to implementation of vision 2030 flagship project since P-value (0.00) is less than 0.05. However, the study recommended that a proper financial guideline should be drawn in the scheme with a clear direction on the sourcing of funds for the projects, the process of monitoring and evaluation of the financial process be enhanced and the delays that are realized as a result of bureaucracy be addressed.

Key Words: *implementation, Vision 2030 flagship projects, Galana-Kulalu irrigation scheme, Kenya*

INTRODUCTION

Public Sector Projects

The Kenya Vision 2030 is the national development blueprint that aims to transform Kenya into a newly industrializing, globally competitive and middle-income country providing a high quality of life to all its citizens by 2030 in a clean and secure environment. The Vision was officially launched in July 2008. The Vision comprises of three key pillars: Economic; Social;

and Political. The three pillars are anchored on the foundations of macroeconomic stability; infrastructural development; Science, Technology and Innovation (STI); Land Reforms; Human Resource Development; Security, Public Sector Reforms and a National Value System.

According to Mobey and Parker (2002), to increase the chances of a project successful project implementation these three variable aspects have to work interwoven and seamlessly, human, budgetary and technical. The project implementation process is complex, usually requires extensive and collective attention to a broad aspect of human, budgetary and technical variables, (Jugdev and Muller (2005). In addition, projects often possess a specialized set of critical success factors in which if addressed and attention given will improve the likelihood of successful implementation. Business today is operating under high level of uncertainty, projects implementations are open to all sorts of external influence, unexpected events, ever-growing requirements, changing constraints and fluctuating resource flows. The implementation of Vision 2030 is a progressive process with goals and milestones that will be achieved over time.

According to Koushki, Al-Rashid and Kartam, (2005) cash flow analysis problems in infrastructural projects are among the most common phenomena from simple to complex projects. Most stalling of projects are as a result of cost escalations (Gkritza & Labi, 2008). Cost escalations are when the costs exceed the initial indicated estimates. The main factor that leads to cost escalations is when estimates are based on a similar project in the same location, or different location and perhaps jurisdiction. No two infrastructure projects will cost the same amount of money no matter how similar they are, so fluctuation of prices of material is the most likely cost related factor, others are cash flow and financial difficulties by contractor and shortage of workers and skill (Seboru, 2015). And yes the increasing development of policy and administration, advanced technology, increasing complexity of construction operations and growing competition in the market have made project management essential for many organizations', and places greater demand on construction managers to deliver projects on time, within the planned budget and with high quality (Enshasi, Mohamed & Abushaban, 2009).

When a firm is involved in a big construction project, a contractor is normally procedurally appointed to deliver the project. Contractor Related Delay Factors type has been identified as one of the delayers of timely completion of projects. Some factors of contractor related delay in construction projects are: Ineffective project planning and scheduling, lack of experience of contractor, frequent change of subcontractors, obsolete technology, inappropriate construction methods, and reworks due to errors (international research journal of engineering, vol 3, 2018).

Irrigation Projects

Kenya has experienced severe perennial droughts and long periods of food shortages and starvation in our country. As recent as March last year the number of Kenyans needing emergency food aid stood at an alarming record figure of three million according to statistics by Kenya Red Cross Society Kenya. This was as a consequence of two failed rainy seasons consequently affecting hugely the country's net crop harvests. Failing rainy season is now

becoming a common phenomenon while it is becoming a consensus almost to a man that the climate is changing and the world is becoming a warmer place. This is visible in increases in average air and ocean temperatures, the widespread melting of snow and the rising average sea level. There are more heat waves, longer droughts, and failed rainy seasons. Globally, precipitations are rising, while some regions such as the Sahel and the Mediterranean see more frequent and intense droughts. Heavy rainfall and floods are becoming more frequent, and storms are more intense. There is also a consensus that the severest impacts of climate change will affect the developing countries the most. Climate change will rock the pillars of sustainable development growth, poverty reduction and environmental sustainability (MOA, 2011).

Accordingly, policy makers and development experts believe that irrigation is the panacea to frequent drought related crop failure and to meet the demand for cheap and stable food supply in many countries. Policy makers adopt irrigated agriculture for food security, since irrigation doubles crop production. Therefore, the development of large irrigation systems has a long history in many places worldwide. Although large-scale irrigation schemes play an important role in improving food security, many schemes, especially in Africa, do not yield the expected outcomes. Irrigated lands now account for about 20 percent of the world's farmed area and 40 percent of global food production. Worldwide, in 2012 over 324 million hectares are equipped for irrigation, of which about 85 percent or 275 million ha are actually irrigated (UN, 2015).

Asia is also the continent benefiting the most of its irrigation infrastructure, with the largest part of area equipped for irrigation that is actually irrigated 89 percent. In Europe, the part of area equipped for irrigation actually irrigated, 65 percent is low compared to the rest of the world. This is due to a moderate climate in a large part which allows agriculture to benefit from the available precipitation and thus not always needing to be irrigated. 8 percent of the world's harvested irrigated crops area is in the Asian continent. Over 60 percent of the irrigated area worldwide is dedicated to cereals; Asia hosts 87 percent of the irrigated cereals areas (World Bank, 2014).

With one million hectares, the Gezira Scheme in Sudan is the largest irrigation scheme under one management in the world. The scheme consumes 35 percent of Nile's water in Sudan and produces half of the country's agricultural output. Overall, Sudan, South Africa, Madagascar and Nigeria are the main countries for irrigated agriculture. Other countries with more than 100 000 ha of full water control irrigation are: Ethiopia, Kenya, Tanzania, Zimbabwe, Mozambique, and Senegal. Total withdrawals for agriculture in SSA amount to 105 billion m³, less than 2 percent of the total renewable water resource. Most countries in the region have low levels of water storage infrastructure, averaging 543m³per capita, compared to 2 428 m³ in South America and well below the world average of 963m³per capita. In Kenya, for example, total storage capacity per capita is only 126m³per capita, less than 4 percent of the level in Brazil (World Bank, 2014). However, in several countries, including Somalia, Malawi, Mali and Zambia, equipped partial control irrigation (spate and lowlands) predominates, and in Nigeria, Angola, Sierra-Leone, Chad and Zambia, non-equipped and wetland cropping systems are important.

Similarly, Kenya has experienced heavy crop losses associated with drought in the years 1980, 1984, 2000, 2008, 2009, 2011, 2016 and 2017(WFP, 2017). Since 2009, the government set out to reduce reliance on rain-fed production by investing KES12.5 billion into rehabilitation of irrigation schemes in the country. Kenya currently has seven, additional, large-scale irrigation schemes in progress, including the Mwea, Bura, West Kano, Perkerra, Tana, Bunyala and Ahero irrigation schemes. According to Kenya's government, the country's irrigation potential stands at 1.3 million hectares. To date, only 12 per cent, or 162,000 hectares, has been exploited that does not meet the demand for food (FAO, 2017).

STATEMENT OF THE PROBLEM

Challenges that occur during the implementation process are an important area of research because even the best plans would be ineffective if not implemented successfully. Policies can only impact the bottom line if it is successfully implemented. In the past it has been proposed that the public sector experiences great difficulties in regard to implementing reforms and offering of quality services. According to David (2009), policy implementation definitions may sound easy although in reality successful policy formulation does not guarantee successful implementation of projects. Vision 2030 is a major strategic decision that the Kenyan government has undertaken to pursue. Several studies have been undertaken on challenges facing on vision 2030 flagship projects implementation. According to Samuel (2018), lack of effective management in the early stages of the projects, coupled with lack of credit facilities from suppliers, inadequate skilled manpower, poor pricing and tendering processes, inadequate contract documentation skills and generally lack of proper management training were the major factors contributing to contractors' failure to implement projects successfully. Wanjohi (2007) focused on challenges of strategy implementation in Mathare 4A slum upgrading project in Nairobi. Marete (2010) looked at the challenges facing the implementation of Kenya Human Rights Commission's (KHRC) five year strategic plan (2008-2012). KHRC is a donor dependent advocacy based firm. Most of these organizations studied contribute directly to the goals and objectives of vision 2030, but failed to address factors affecting projects implementation neither at the Ministry of State for Planning, National Development and vision 2030 nor at the Vision 2030 Delivery Secretariat or how they can be overcome; they were also evaluated on how to positively influence the realization of Kenya Vision 2030. Owolabi et al, (2014) agrees that supervision in infrastructural projects is a significant determinant to completion of most public project. They also found out that when there is inadequate inspection of work it might result in rework, increased project cost, poor time completion and abandonment. This therefore forms a knowledge gap about the challenges that is facing the mega project that the government is currently undertaking to curb persistent food shortages in the country. The project means a lot for the current government who created it and the success of the project will be at its top priority. Therefore, this study sought to fill this knowledge gap by assessing the factors affecting implementation of vision 2030 flagship projects at Galana-Kulalu Irrigation schemes.

SPECIFIC OBJECTIVES

1. To determine the influence of cost related factors on the implementation of vision 2030 projects.
2. To establish the influence of contractor related factors on the implementation of vision 2030 projects
3. To determine the importance of evaluation in the implementation of vision 2030 projects.

THEORETICAL REVIEW

The study adopted the Theory of Constraints (TOC) (Goldratt, 1984) started the Theory of Constraints (TOC), and based this management theory that every system has at least one constraint limiting it from getting more of what it strives for. If this were not true, then the system would produce infinite output. The TOC has been applied to production planning, production control, project management, supply chain management, accounting and performance measurement, and other areas of business as well as such not-for-profit facilities as hospitals and military depots. The TOC is both descriptive and prescriptive in nature; it not only describes the cause of system constraints, but also provides guidance on how to resolve them. This theory refers to systems in organizations as chains. A system is a collection of interrelated, independent processes that work together to turn inputs into outputs in the pursuit of some goal. The weakest link is the constraint that prevents the system from doing any better at achieving its goal. This theory can be applied to factors that contribute to the delay in completion of irrigation construction projects. The presence of any one factor in the project will cause delays in its completion. Therefore it is the responsibility of the project teams to identify such factors and seek ways to avoid or minimize them for effective completion of project

EMPIRICAL REVIEW

Cost related Factors in the implementation of Galana Kulalu irrigation project

Cost is one of the primary measures of a project's success. This is true, especially for Construction projects in developing countries, because public construction projects in these countries are executed with scarce financial resources (Choge & Muturi, 2014). Although the government of Kenya sets aside huge sums of money to be spent in construction sector, the industry is facing a lot of challenges. Most construction projects in Kenya are exposed to extreme cost escalation menace to the extent that it calls not only for extra funding but also specialized expertise hence leading to technical and project managerial conflicts between project's parties. Adherence to cost estimates has been a major challenge and considered to be the biggest problem which hinders project's progress since it decreases the contractors' profit margin hence influencing time completion (Choge & Muturi, 2014).

Rampa et al (2011) noted that the most striking feature of the water sector in Kenya is probably the huge increase in the overall resources invested in the sector in recent years with the

expenditures by national government, private investors, and international donors increasing from KES 2 billion in 2002 to KES28 billion in 2009 to KES32 billion in 2010. This has resulted in a booming interest by a wide range of actors for water related issues, with a view to accessing the enlarging pot of financial and non-financial resources available for the sector. The water sector governance has yet to become harmonized even when there are many regional water boards which have been formed and which are supposed to coordinate the investments into water abstraction by public and private agencies. As the Galana/Kulalu project unfolds, it has generated diverse opinions on its viability and benefits to local communities at the coast. The policy on providing infrastructure and land to private sector investors as incentives for large scale irrigation in a public private partnership arrangement does not guarantee or safeguard the water and land rights of local communities.

Kariungi (2014) observed that although project delivery process does not have a stage called funding, budgetary constraints affect each stage of the process. The Right of Way to a project is not identified by a project that only fulfils the environmental process, only for the policy makers to disagree with the chosen source of funding. Mansfield, Ugwu and Doran (1994) reviewed the correlation between cost overruns and project delays and realized that a good agreement exists between the two factors. This implies that the availability of cash to cater for project costs influences the completion of a project. The study also revealed a strong positive correlation between budgetary constraints and procurement delays. Most of the sampled projects experienced budgetary constraints; a situation which compromised projects delivery.

Contractor related Factors and Completion of Irrigation Projects

The type and experience of a contractor has been found to be an influencing factor in the completion of construction projects these include such factors as the attitude of the contractor, size of the contracted firm and the experience of the contracted firm (Acharya, Lee, Kim & Lee, 2006). For instance, in developing countries, there is an emphasis to involve start-up firms and Small and Medium Enterprises (SMEs) in bidding for construction projects in an attempt to create competitiveness among local firms in public construction projects (Chilipunde, 2010). Rebelo (2005) stated that the construction industry and SME contractors play a significant and critically important socio- economic role in developing countries. It is therefore important that SME contractors be well equipped to effectively manage their construction enterprises from the perspective of the environment, health and safety, as well as from business sustainability, which contributes to the socio-economic development of local communities and society at large. However, this has not always been the case in their performance in infrastructural projects (Chilipunde, 2010).

In a study of the relationship between contractors and subcontractors in Saudi Arabia, it was found that a number of factors significantly affected these relationships. These factors included delay in contract progress payment, lack of construction quality, errors and delays in design drawings and approval of sample materials were ranked highest as contractor-subcontractor

interface problems. Ranking lowest among these factors were legal disputes, scheduling conflicts among subcontractors, geological problems and weather conditions (Bowen et al., 2010). Inadequate construction capacity to execute projects is another cause that hinders completion of projects. The issues relating to management, laws and regulation should be the responsibility of project management (Government of India, 2009).

Completion of projects requires adequate and effective project management techniques and skills of the contractor. Weak management of contractors has often affected the completion of construction projects. In Lebanon, contractual relations and project management from viewpoints of contractors and consultants have been found to affect completion of infrastructural projects (Khalafizadeh, Mirhosseini & Tayari, 2014). Similar associated contractor factors include weakness of rush in selection of contractor. The right level of knowledge, experience, methods and management skills are needed to ensure a greater chance for projects to be completed on or before the deadlines (Hussin & Omran, 2011).

Choge and Muturi (2014) also associate the completion of infrastructural projects on the experience of the contractor. Contractors are selected on the basis of price, experience in undertaking particular types of construction project and their reputation or track record in producing high quality work within budget and on time. In most cases there is a trade-off between price, experience and record of accomplishment but the desire to accept the lowest tender does not always lead to a project that is completed within time. The inherent contractors experience during preparation, planning, authorization and evaluation procedures for large infrastructure projects creates obstacles to the implementation of such projects (Commission of the European Union, 2008).

Monitoring and evaluation in the implementation of Galana Kulalu irrigation project

Globally, citizens want better and more services to maintain or improve their livelihoods. To improve service delivery, governments must design and implement comprehensive monitoring and evaluation (M&E) systems to facilitate continuous assessment, M&E of structures, systems and processes, in line with the national government or the county integrated development plans (CIDPs), service delivery outcomes, and operational plans to implement the budget. The emphasis in monitoring should be on controlling the process or procedure to align it with the achievement of an objective that is relevant to the beneficiaries. A good monitoring system provides early warning signals so that corrective action can be taken in time.

Monitoring involves comparing actual performance with the planned performance (RSA 2008). According to the National Treasury (2007), monitoring reports on actual performance against what was planned by collecting, analysing and reporting data of all projects, programmes and policies to support effective management. Moreover, Rossi, Lipsey and Freeman (2004, cited in Kettner, Moroney and Martin 2008), define monitoring as an assessment of the extent to which a programme is implemented as designed and serves the intended target group.

Evaluation on the other hand as defined by Fournier (2005) is an applied inquiry process for collecting and compiling evidence that highlights the effectiveness, efficiency and value of an intervention. According to Mark, Henry and Julnes (2000), the goal of evaluation is social betterment; evaluation can contribute to the reaching of this goal by assisting democratic institutions to better select, oversee, improve and understand the context of social programmes and policies. Mark et al., (2000) add that “evaluation should be motivated by the goal of providing information that women and men as administrators; as legislators; and as citizens in a democracy can use to make better sense of the objectives, operations and effects of social policies and programs”

RESEARCH METHODOLOGY

Research Design

Descriptive survey design was adopted for this study. According to Mugenda & Mugenda (2003), descriptive survey design determines and reports things as they are and portrays the facts as they are. According to Kothari (2004) descriptive research studies are those studies which are concerned with describing the characteristics of a particular individual or group. Descriptive design is a process of collecting data in order to test hypothesis or to answer questions concerning the current status of the subject of the study. This research design therefore will be very instrumental in seeking information from respondents on their opinions on the challenges facing implementation of vision 2030 flagship projects in Kenya. To get this information, the researcher will administered questionnaires. One for the Galana Kulalu management officials and the other will be for the local beneficiaries.

Target Population

The target population of the study consisted of 95 respondents namely, 70 National Irrigation Board officials who are currently implementing the project and 25 project managers who were selected randomly.

Sampling Techniques and Sample Size

A sample design refers to the technique or the procedure the researcher would adopt in selecting items for the sample (Mugenda, 2005). The study used random sampling and convenience sampling. According to Mugenda (2005), 30% of the population is the most suitable size. A sample of 30% of the population size was selected for the purpose of this study. Therefore, from the total population 29 respondents were selected.

Data Sources and Instruments

This tools or instruments are ways of gathering data. Without them, data would be impossible to be put in hand. It includes questionnaire, interviews, rating scale, observation and government records. The researcher used self-administered coded questionnaires on respondents from the

sample. With regards to the types of the questions, the questionnaire consisted of a combination of open-ended questions and closed-ended questions, structured interviews and observation. Secondary data was collected from libraries, internet, magazines, newspapers, Galana Kulalu irrigation project development progress reports etc. focus Group Discussions was used as another data collection instrument.

Data Collection Procedures

Before data is collected permission was sort from the university and NACOSTI and also appointments will be sought for the presentation of questionnaires to the respondents. The data collected from the respondents using both open and closed-ended questions in the questionnaires which was arranged chronologically to ensure that the correct code is entered for the correct variable. The data collected may be prone to errors and hence cleaning is needed for the purposes of ensuring comprehensiveness and accuracy of the filled questionnaires.

Data Analysis and Presentation

Once the qualitative data is collected responses to each question was assigned a numeric value so that information can be entered into an electronic base and analyzed using statistical package for social science (SPSS) software designed for quantitative analysis. The findings were then presented using frequency tables, charts and graphs as found appropriate for each set of data.

RESEARCH RESULTS

The respondents agreed that the organization to put in place effective financial guidelines for the project, proper monitoring and evaluation process that are meant to ensure that all the activities are carried out as budgeted for and also most of the respondents strongly agreed with the project monitoring and evaluation criteria used in the organization. Availability of funds influences the completion of projects. The availability of cash to cater for project costs influences the completion of a project.

Additionally, majority of respondents agreed that contract-related factors influence implementation of the project. The results then implies that availability of clear written standards and delegation of authority in the project contractor influenced project implementation to a great extent while putting in place the standards and policies that are required in the process on implementation, making the project management team aware of all the procedures and requirement in the implementation process and ensuring the existence of experienced and capable staff influenced project implementation in Galana-Kulalu Irrigation project to a moderate extent.

Further, evaluation aspect help in implementation of vision 2030 flagship projects. To improve service delivery, governments must design and implement comprehensive monitoring and evaluation systems to facilitate continuous assessment, monitoring and evaluation of structures, systems and processes. From inferential statistics, cost related factors, contractor related factors

and monitoring and evaluation significantly relate to implementation of vision 2030 flagship project since P-value (0.00) is less than 0.05.

INFERENCE STATISTICS

Inferential statistics is a type of statistic which deals with making conclusion about a given data which is subjected to random variations. It includes detention and prediction of sampling and observed errors. The researcher applied the following inferential statistics in the data analysis.

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Sig
1	0.918	0.843	0.717	0.329	.000

Analysis in Table 1 shows that the coefficient of determination (the percentage variation in the dependent variable being explained by the change in the independent variables) R2 equals 0.843, that is cost related factors, contractor related factors and monitoring and evaluation leaving only 15.7 percent unexplained. The P-value of 0.000 (less than 0.05) implies that the model of implementing vision 2030 flagship project is significant at the 5 percent significance.

Table 2: Regression Coefficients

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.431	0.221		5.424	.000
Cost-related factors	0.456	0.0124	0.156	1.558	.001
Contractor-related factors	0.451	0.0385	0.334	3.834	.000
Evaluation factors	0.407	0.0436	0.334	2.422	.000

In addition, the researcher conducted a multiple regression analysis so as to determine the relationship between implementation of vision 2030 flagship projects at Galana-Kulalu Irrigation scheme and the three variables. As per the Regression model equation ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \epsilon$)

$$Y = 4.341 + 0.456X_1 + 0.451X_2 + 0.407X_3$$

Where: Y = implementation of vision 2030 flagship projects; X₁ = Cost-related factors; X₂ Contractor-related factors; X₃ = Evaluation factors

According to the regression equation established, taking all factors (Cost-related factors, Contractor-related factors and Monitoring and evaluation factors) at zero rate, implementation of vision 2030 flagship projects would be at 4.341. A unit increase in cost-related factors would lead to a 0.456 increase in implementation of vision 2030 flagship projects; a unit increase in

contractor-related factors would lead to a 0.451 increase in implementation of vision 2030 flagship projects while a unit increase in monitoring and evaluation factors would lead to a 0.407 increase in implementation of vision 2030 flagship projects. This infers that influence of cost-related factors contributed more to the implementation of vision 2030 flagship projects in Galana-Kulalu Irrigation scheme.

CONCLUSIONS

From the findings of the study, cost of projects has been of the biggest hindrance to project implementation at Kulalu- Galana scheme. This is because of ineffective financial guidelines which do not give clear direction on the sources of the funds, the process of monitoring and evaluation, the procedures that are to be followed when sourcing for funding and the bureaucratic procedures which require various stages of approval leading to delays in the implementation process.

Also, it can be concluded that cost-related factors affect the implementation of vision 2030 flagship projects in Kulalu- Galana scheme. It can also be concluded that even though there was funding, poor budget allocation thus affects the implementation of vision 2030 flagship projects. The study further concluded that monitoring and evaluation influence the implementation of vision 2030 flagship projects.

RECOMMENDATIONS

1. A proper financial guideline should be drawn in the scheme with a clear direction on the sourcing of funds for the projects, the process of monitoring and evaluation of the financial process be enhanced and the delays that are realized as a result of bureaucracy be addressed.
2. The government should ensure funds are available before projects are started, so that contractors can be paid in accordance with the contract agreement. This will reduce stalled projects and prevent fluctuating cost of materials.
3. Procurement procedures should be strengthened to ensure that only vendors that are able to supply materials that conform to user requirements and on time are awarded contract.
4. The study recommends that effective communication, coordination and sharing of activities and responsibilities among those charged with the implementation of flagship projects.
5. The study further recommends that Monitoring and evaluation indicators should be well constructed to avoid poor monitoring and evaluation.

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