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Road and Rail Infrastructure V

Stjepan Lakušić – EDITOR



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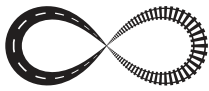
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EXPLORING CHALLENGES FACING ROAD CONTRACTORS IN EXECUTION OF GOVERNMENT OF GHANA (GOG) FUNDED PROJECTS

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Abstract

Road contractors are faced with numerous challenges that impede their undertakings in the execution of governmental projects. The study aimed at exploring the challenges faced by road contractors in execution of Government of Ghana (GoG) funded projects. The study was carried out along the tenets of a preliminary literature review and followed by a survey using a structured questionnaire. It was administered to road contractors with classification of A1B1 and A2B2 in Ghana. The data collected were analyzed using Mean Score Ranking and Relative Importance Index (RII). The study revealed that chronic delay in the payments of contractors for work done, high level of political influence and corruption, lack of finance and credit facilities for contractors, changes in government, executive bureaucracy at client's departments, poor communication structures, disturbance of public activities among others, appears to be the major challenges that road contractors face in the execution of GoG funded projects. The study offers useful lessons on road construction that experts can draw on when executing Government of Ghana (GoG) funded projects. The need for this study cannot be doubted since the consciousness of such challenges will help in resolving issues faced by road contractors in execution of Government of Ghana (GoG) funded projects.

Keywords: Challenges, Government of Ghana (GoG) Funded Project, Road contractors

1 Introduction

The construction industry plays an imperative part in the socio-economic growth of the Ghanaian economy. According to [20], activities of the industry have a lot of significance to the success of national socio-economic growth by providing facilities to improve infrastructure and most of all employment. According to [21] the industry generates income and job avenues for people and therefore the changes in the construction industry will be felt at all levels of the economy and in virtually all aspects of life. In Ghana, the construction industry contributes 10.5 % of the Gross Domestic Products (GDP) employed about 6 % of the economically active population [11].

According to [24], capital-intensive projects such as Roads, Ports, Dams that the industry provides, and which is carried out by civil engineers, as in the different parts of the globe, is giant and key sector in economic advancement. Irrespective of the case, there is construction of road, and it cut across all divisions, being among the key drivers of the Ghanaian economy, and its significance cannot be overemphasized. Traditionally, most of these construction activities are usually funded and firmly controlled by the government or its subsidiaries [28]. Thus, government has been the main cog in the wheels of such infrastructure expansion and advancement in every economy [4]. In developing countries like Ghana, construction of road

makes up some major components of the industry and as such requires tremendous capital outlay, and this depicts that huge amount of the national budget on infrastructure advancement should be channelled to road construction. Nonetheless, in spite of the established imperativeness, it is a disappointing fact that these construction activities are still failing to achieve its objectives as a result of the fact that, road contractors are still challenged with numerous factors that impede their undertakings during its execution.

Currently, the execution of governmental projects is becoming more and more unsuitable due to the bureaucratic nature in procurement of public works. Other researchers have argued that prolong payment delays, unbudgeted financial burdens, cash flow problems make its unattractive [23, 29]. In Ghana, [3] opined that irregular and delay payments is a major challenge faced by road contractors in execution of government projects. According to [8], the condition of contract spells out specific period within which a contractor should be paid after submission of monthly statement to the consultant for certification and onward payment. However, in many cases, the contractor is not paid within the contractual specified period and this acts as a challenge to contractors in the execution of governmental projects. Further, “politics is a major problem” road contractors get frustrated with the contracting environment in Ghana. Contractors often complain that the business environment of governmental projects are driven by politics and whom you know syndrome [13]. In case of a change in government, projects being executed are stalled, and new ones are commenced without any continuation of the previous ones. For road contractors to survive the current turbulence in this economic atmosphere, there should be new initiatives to march the uncertainties [22]. The main aim of this study was to explore the challenges facing road contractors in the execution of government funded projects. To validate the factors identified from the literature review and interviews with industry practitioners, a questionnaire was developed and administered to contractors, consultants, and site/design engineers within road construction firms of class A1B1 and A2B2 in Ghana. Data generated was further analysed descriptively by indicating the level of severity of each identified factors to one another.

2 The nature of Government of Ghana (GoG) funded projects

The Ghanaian construction industry is comparatively enormous; thus, it is regarded as a key driver of the country’s economy among other industries. According to [19], the multifaceted nature of the industry cut across every single sector of the economy including roads, bridges, buildings, dams etc. In Ghana, higher percentage of government funded projects comes from donor funds which in other terms referred to as Donor Funded Project. The revenue generated within the country is not enough to finance such projects; this compels the government to seek funds from international organizations and institutions in financing infrastructural projects. Government of Ghana in an effort to utilize effectively these donor funds, procures experienced consultants and contractors to execute these projects according to specification and within a specified period. GoG, Donor Agency, Consultant and the Contractor therefore become parties to the contract. Ghana’s capital-intensive projects such as Roads, Bridges, etc. are usually financed fully or partially using donor funds which come in the form of Loans and Grants.

2.1 Road infrastructure projects in Ghana

In Ghana and the other parts of the world, road infrastructure projects take in huge sums of capital generated by the country; as higher percentage of the country’s budget goes into road these projects [15]. Conversely, investment made into road infrastructure development contributes hugely to the expansion of the economy; hence the need for road infrastructure projects cannot be underestimated. Road infrastructure constitutes road in addition to highway networks, which includes structures (retaining walls, bridges, culverts, tunnels),

electrical systems (traffic lights and street lighting), signage and markings, treatments at edges (sidewalks, curbs, landscaping), and road maintenance depots which is a special facility as well as other areas that support movement of goods, services, human capital etc. for various purposes. According to [15], the Government of Ghana is the main financier of most road infrastructure projects across the country where the sources of funding for these projects are Donor Funds, Road Funds as well as the Consolidated Fund. [17] stated that, information sourcing from the Ministry of Transport shows that the following Bilateral as well as Multi-lateral Donor Agencies are the main sponsors behind Ghana's road infrastructure projects funding which normally come in a form of loans or grants:

- 1) International Development Association (World Bank)
- 2) The European Union
- 3) The Africa Development Bank
- 4) The Saudi Fund
- 5) Japan International Co-operation Agency
- 6) Organization of Petroleum Exporting Countries
- 7) The Danish Government
- 8) Overseas Economic Co-operation Fund of Japan etc.

The Consolidated Fund for road infrastructure projects takes its source from charges, government income, fees, and taxes from business commerce of the economy whereas international transit fees, road tolls, ferry tolls, vehicle registration fees, bridge tolls, fuel levy, and road use fees constitute the source of Road Fund. Generally, the government is accountable to the development of road network distribution across the country aside its expansion and maintenance for the benefit of the citizenry of Ghana. The road infrastructure prerequisites are geared up by the transport ministry of the government and are finally presented for funding consideration from the government finance agencies.

2.2 Challenges faced by road contractors in GoG funded projects

There are several researches in Ghana that have revealed the potential challenges that could affect contractors' performance of construction projects. For instance, [1, 2, 9, 18, 25-27, 30-32] among others. On the other hand, [33] in [34] also revealed similar factors that can affect projects performance.

Notwithstanding, the factors that can affect contractors' performances, there are some peculiar ones which have the tendency to influence funding of road particularly in Government of Ghana funded road projects. Some of these factors include chronic delay in the payments of contractors, high level of political influence and corruption, lack of finance and credit facilities for contractors, change in government, poor communication structures, executive bureaucracy at client's departments, disturbance of public activities, wrong procedures for awarding of contracts, poor planning, contract and specification interpretation disagreement, delay in producing necessary documents, undue extra work and design omissions and errors, lack of stakeholders involvement.

[16] also added that, some of the challenges facing today's road/building contractors are new while some are also centuries old. Majority of these challenges are as a result of construction operations with the others being as a result of peripheral activities. These challenges are not associated with the construction work itself, but these challenges need to be addressed as well as managed by contractors for a successful project delivery. It is very essential for road contractors to have a full understanding of these challenges along the project timeline.

3 Research methodology

Quantitative paradigm was the underpinning philosophy considered in this study. The quantitative research design was used to explore challenges facing road contractors in execution of Government of Ghana (GoG) funded projects. A questionnaire which utilizes closed-ended questions was used to explore the challenges faced by road contractors by measuring respondents' perceptions using series of Likert items, where: 5= strongly agree; 4=agree; 3=neutral; 2=disagree; 1=strongly disagree. Preceding to the prompting of the initial study, a wide-range of collected works review was embarked on. The literature review shielded extensively on modern works; challenges road contractors face during the execution of Government of Ghana (GoG) funded projects. This helped in achieving fourteen (14) challenges facing road contractors in the execution of (GoG) funded projects (see Table 1).

3.1 Sample size and sampling technique

in a survey research, sampling is essential. [6] argued that it is necessary because of time and cost constraints. The target population were professionals with A1B1 and A2B2 road contractors based on the Ministry of Roads and Highways classification. The total population in the regions was 162 [3]. To establish a suitable sample size, the following formula from [7] and [5] were used:

$$SS = \frac{z^2 \times p(1-p)}{c^2} \quad (1)$$

Where:

SS – sample size

z – standardized variable

p – percentage picking a choice, expressed as a decimal

c – confidence interval expressed as a percentage

Here the confidence interval was set at 95 % based on the reasons put forward by [35] as seen in [14]. The argument was that 95 % confidence interval is used to find a balance between the level of precision, resources available and usefulness of the finding. The percentage picking a choice was also assumed to be 50 % which according to [14] represents the worst-case scenario. Based on these assumptions the sample size is calculated as:

$$SS = \frac{1.96^2 \times 0.5(1-0.5)}{0.1^2} = 96.04 \quad (2)$$

Thus, from the calculation, a sample size of 97 was chosen for the study. A purposive sampling technique was used to draw the sample from the population. According to [36], purposive sampling is sampling technique that allows the researcher to use samples that have the required information with respect to his/her research objective.

4 Data analysis

Data analysis is defined as the ways by which answers are found by means of interpreting the gathered data. The retrieved questionnaire was entered into the Statistical Packages for Social Sciences (SPSS version 21 Successively, the results were analyzed statistically using Relative Importance Index (RII) to determine the level of agreement of the challenges faced by road contractors in the execution of governmental projects (see for instance [37]). The RII value indicates the relative significance or importance of one factor compared to other va-

riables in the same category. Mean Score Ranking (MSR) was also used to compare sample mean to the known population.

Table 1 Relative Importance Index (RII) of the Challenges

No.	Challenges	Mean	RII	Ranking
1	Chronic delay in the payments of contractors	4.11	0.821	1 st
2	High level of political influence and corruption	3.86	0.772	2 nd
3	Lack of finance and credit facilities for contractors	3.82	0.765	3 rd
4	Changes in government	3.69	0.738	4 th
5	Executive bureaucracy at client's departments	3.68	0.737	5 th
6	Poor communication structures	3.67	0.734	6 th
7	Disturbance of public activities	3.66	0.733	7 th
8	Lack of stakeholders' involvement	3.65	0.730	8 th
9	Poor planning	3.63	0.726	9 th
10	Contract and specification interpretation disagreement	3.60	0.719	10 th
11	Undue extra work	3.57	0.713	11 th
12	Wrong procedures for awarding of contracts	3.56	0.712	12 th
13	Delay in producing necessary documents	3.51	0.702	13 th
14	Design omissions and errors	3.47	0.695	14 th

4.1 Discussions

From table 1, it clearly indicates that all challenging factors are critical however, ranking them in the order of their relative significance, Chronic delay in the payments of contractors for work done was ranked first (1st) with a mean and an RII value of 4.11 and 0.821 respectively. It is largely known that delay in the payment of contractors would cause severe cash flow difficulties which would have an overwhelming knock-on effect down the contractual payment chain. [10] stated in his report that, cash flow is cedi (Ghanaian currency) important to a builder as any delay of payment will influence the contractor's cash flow and again cause difficulties in delivery of the project. Delayed payment issues are well-thought-out to influence many players in the Ghanaian road construction industry, most particularly, on government funded projects. Subsequently, there is the insistence to ascertain other solutions which could effectively put an end to the cash flow problems in our road industry in Ghana. High level of political influence and corruption was rated second (2nd) with a mean and an RII value of 3.86 and 0.772 respectively. As the building industry contains an all-embracing and intricate set of undertakings where several parties like, contractor, consultant, plus government closely work together, political influence as well as corruption are some of the most common challenges of the industry [12]. [12] added that, this problem in the developing countries is worse. Thus, authorities are in search of a better way of contracting to resolve or reduce the consequences of these challenges. Lack of finance and credit facilities for contractors, changes in government, executive bureaucracy at client's departments, poor communication structures, disturbance of public activities, lack of stakeholders' involvement all had a mean value as well as an RII value greater than 3.65 and 0.730 respectively. Financial resources and credit facilities are very crucial in the process of construction, as contractors are usually required to meet a number of financial commitments and even prove the availability of sophisticated equipment which are needed during the process of preparing and implementing project. Thus, the unavailability of funds tends to slow down the activity and even result in the termination of contract as [1] opined.

5 Conclusion

Road contractors are challenged with numerous factors that impede their undertakings in the execution of governmental projects. The study aimed at exploring the challenges road contractors faced in the execution of Government of Ghana (GoG) funded projects. This involved a survey of questionnaire of personnel involved with the challenges faced by road contractors during the execution of GoG funded project. Some listed challenging factors (fourteen) identified were ranked based on respondents' view and level of agreement. Among the fourteen challenging factors, chronic delay in the payments of contractors' high level of political influence and corruption, lack of finance and credit facilities for contractors, changes in government, executive bureaucracy at client's departments, poor communication structures, disturbance of public activities and lack of stakeholders' involvement among others, appears to be the major challenges that road contractors face in the execution of GoG funded projects. These challenges identified have the tendencies to create cash flow problems, cost overrun of project, results in delay in completion of projects, suspension of works, programme of works interruption, creates negative economic impacts, etc. This study therefore offers useful lessons on road construction that experts can draw on when executing Government of Ghana (GoG) funded projects. Notwithstanding the contribution the study made to the construction knowledge and practice in the area of road construction, the study is limited in its geographical consideration and sample. It is therefore recommended that further studies should be carried out by expanding the frontiers of the data collection to cover the whole country; Ghana. Finally, it is concluded that, challenges in relation to financial resources has been a major factor thwarting road contractor's performance and requires necessary attention.

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