Corruption as a Source of Government Project Failure in Developing Countries: Evidence From Ghana

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Abstract
This study explores how corruption impacts the failure of government projects in developing countries with evidence from the Ghanaian context. This study solicits the perceptions of project management practitioners (14), contractors (6), government officials (clients; 5), and the general public (5) on the subject. The findings indicate that corruption influences government project failure on all the failure criteria that were used for the evaluation. However, corruption influences failure at two different levels: project management and product phase. At the project management level, corruption has direct influence, while at the product phase level, the influence is indirect.

Keywords
corruption in projects, developing countries, failure criteria, government project failure

This study explores how corruption impacts on the failure of government projects in developing countries with evidence from the Ghanaian context. Corruption is a constant concern for countries that face economic problems (D’Agostino, Dunne, & Pieroni, 2016). Increasingly, researchers have devoted extant literature to the discussion of the phenomenon; however, these discussions have focused mainly on the relationship between corruption and variables such as economic development (Huang, 2016; Treisman, 2000); social effects (Saha & Gounder, 2013); innovation (Paunov, 2016); firm management quality (Athanasouli & Goujard, 2015); gross domestic product (GDP; Pellegrini & Gerlagh, 2004); returns on investment (Boycko, Shleifer, & Vishny, 1996); increase in government budget (Hessami, 2014); political discontent, instability, and violence (Aisen & Veiga, 2013); rule-violating intentions (Sundstrom, 2016); democracy (Jetter, Agudelo, & Sramirez, 2015); and inequality (Dobson & Ramlogan-Dobson, 2012).

Despite the extensive research devoted to the subject, there is limited research on the potential impact of corruption on project failure. Some researchers (Corojan & Criado, 2012; Heeks, 1999; Kim, 2014) have mentioned that corruption may influence e-government project failure, but they did not discuss how this really happens. The closest research on corruption and projects failure is Aladwani’s (2016) theoretical exposition on how corruption could be a source of e-government project failure. We, therefore, contribute to governance, project management, and corruption literature by conducting an exploratory study on how corruption may influence government project failure in developing countries, using Ghana as a case study. The main question is: How does corruption influence Ghanaian government project failure?

However, project failure in this context is vague, as studies over the years have indicated that there are many criteria involved in project failure (Ahonen & Savolianen, 2010; Atkinson, 1999; Mir & Pinnington, 2014). The study conducted by Ruuska and Teiglanad (2009) on Bygga Villa (Sweden) identified satisfaction of the individual stakeholders’ needs as a subjective component of project success. Davis (2014) echoes this claim, asserting that success/failure is a matter of stakeholders’ perceptions. Nevertheless, the studies of Heeks (2002, 2006) challenge the subjectivity of project failure to some extent. These studies contend that if a project fails at the initiation phase, it can be classed as a total failure. Thus, if the project is abandoned before actual implementation or halfway

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through the project life cycle, then the project may be described as a total failure. In this research, one of the criteria by which we assess how corruption may influence government project failure is abandonment. This leads us to our first research question:

RQ1: How does corruption influence Ghanaian government project abandonment?

Traditionally, projects have been assessed using time, cost, and requirements as the evaluating criteria. Advocates of this definition of project failure, such as De Wit (1988), Turner (1996), Kappelman, McKeeman, and Zhang (2006), and El Emama and Koru (2008), have concluded that project success/failure should be judged on whether the project has met the set time, cost, and requirement. They contend that a project is said to have failed when it fails to meet one and/or all of the triple constraints. However, De Wit (1988), Turner (1996), and Wateridge (1998) did not rule out the existence of other possible success/failure criteria. With these (time, cost, and requirement; otherwise known as triple constraints) performance criteria, projects are assessed at the management phase. This leads us to our second, third, and fourth research questions:

RQ2: How does corruption influence cost overrun for Ghanaian government projects?

RQ3: How does corruption influence time overrun for Ghanaian government projects?

RQ4: How does corruption influence negative requirement deviation for Ghanaian government projects?

On the other hand, studies by researchers such as De Wit (1988), Pinto and Slevin (1988), Turner (1996), Atkinson (1999), Abednego and Ogunlana (2006), Kappelman et al. (2006), El Emama and Koru (2008), and Toor and Ogunlana (2010) have called for the inclusion of other factors that are beyond the management phase. They argue that assessing projects only during the management phase is not sufficient because it is possible for a project to deviate from its projected time, cost, and requirement and still be considered successful at the usage phase. A typical example is the widely cited Sydney Opera House project, which is considered an engineering masterpiece despite taking 15 years to complete and being 14 times over budget (Ika, 2009; Jugdev & Muller, 2005; Savolainen, Ahonen, & Richardson, 2012). This leads us to our fifth and sixth research questions:

RQ5: How does corruption influence stakeholder dissatisfaction for Ghanaian government projects?

RQ6: How does corruption influence Ghanaian government projects that may lead to retarding the growth of the sector where projects are implemented and national development?

The topic is of both academic and practical interest. Academically, this study sheds light on corruption as a major contributing factor for project failure in developing countries. This would serve as a springboard for further research into the relationship between corruption and project failure, particularly quantitative study. Practically, by exploring how corruption may influence government project failure using multiple project failure criteria, this study provides a deeper understanding of how corruption affects government project performance and, therefore, the findings can be used as a guide during government project implementation.

Literature Review

Ghanaian Government Programs and Project Failure

The Ghanaian context is important to this study because government projects play an important role in national development (Alic, 2008; Eichengreen & Vazquez, 1999). Because government policies often translate into programs and projects (Bitler & Karoly, 2015; Goodman & Love, 1980), the success of these projects is central to government performance (Alzahrani & Emsley, 2013). Literature suggests that developed economies were developed through the implementation of government projects and programs (Alic, 2008; Eichengreen, 1994, 1996). Growth witnessed in the past two to three decades in emerging economies indicates that government projects are inevitable in national development (Gichoya, 2005; Luk, 2009). Nevertheless, many of these projects face several setbacks, such as total abandonment (Kumar & Best, 2006), cost deviation (Aziz, 2013), schedule deviation (Fallahnejad, 2013; Marzouk & El-Rasas, 2014), scope deviation (Liu, Chen, Chenm, & Sheu, 2011), and stakeholder dissatisfaction (Ahonen & Savolainen, 2010).

Ghana is not an exception to the pursuance of growth and development through the implementation of government programs and projects. Over the years, a significant amount of money has been solicited from many developing partners such as the International Monetary Fund (IMF), the World Bank, and taxpayers to embark on programs and projects (Damoah, 2015; Damoah & Akwei, 2017; Damoah, Akwei, & Mouzugh, 2015; Republic of Ghana Budget, 2012, 2015). Nevertheless, the literature suggests that most of these projects have failed (Damoah & Akwei, 2017). We, therefore, propose that corruption may influence these programs and project failure.

Corruption in Ghana

Corruption, particularly in the government sector, has become the most discussed topic in Ghana in recent years (Addo, 2016; Bawumia, 2014, 2015). Even though it is difficult to find a criminal code that defines corruption (Azeem, 2009), corrupt practices, such as bribery of local or foreign government officials and private companies, “facilitation of payments,” fraud, embezzlement, theft, collusion, and rent seeking, exist in the country and are pervasive (Gyimah-Boadi, 2002).
Transparency International (TI) reports over the years place Ghana among the most corrupt countries in the world (Transparency International, 2017). Consistent with the definition offered by the World Bank (2017), corruption is defined in the study as the abuse of public office for private gain. Tax Justice Network (TJN, 2016) has criticized this definition for leaving the impression that it is only people who occupy public office who are capable of abusing their office or power. TJN suggests instead the inclusion of practices such as market rigging, insider trading, tax dodging, nondisclosure of conflicts of interest, and illicit party funding. Even though TI’s findings give a picture of the state of corruption in the country, if TJN’s criticism and definition are taken into consideration, the state of the phenomenon could even be worse. For this reason, this study adopts the definition offered by TJN because it is more comprehensive and fits well into this research.

The Ghanaian government has made significant attempts over the years to curb corruption by enacting laws and setting up independent bodies and agencies to address the phenomenon (Amponsah, 2010). Notable among these efforts are the Ghana Public Procurement Act, the Financial Administration Act and its regulations, the Assets Declaration Act, the Whistleblower Act, the Anti–Money Laundering Act, the Public Officers Liability Act, the Serious Fraud Office (SFO), the Commission on Human Rights and Administrative Justice (CHRAJ), and the Ghana Integrity Initiative (GII). Even though these efforts have helped expose corruption (Short, 2010), recent reports suggest that the phenomenon is on the increase (Addo, 2016; Bawumia, 2014, 2015; TI, 2017). We argue that these corrupt practices in Ghana may affect government project performance. We, therefore, propose that corruption could influence Ghanaian government project failure.

**Theoretical Antecedents of Factors That May Influence Corruption in Ghana**

The corrupt practices in the country may be influenced by other factors as well. First, the cultural orientation of the country may be reflected in the implementation of government projects. Hofstede’s (1983) six cultural dimensions may explain why corruption exists in government projects. These dimensions include power distance, individualism, masculinity, uncertainty avoidance, long-term orientation, and indulgence (Hofstede, 1983). Ghanaian society is hierarchal in nature, practicing a master–servant relationship, where the rich and those in authority are revered (The Hofstede Centre, 2016). As a result, government project leaders may have significant power to divert project resources for personal use.

Second, the political culture may influence corruption that could influence government project failure. Ghana practices multiparty democracy, and this has led to partisan politics (Asunka, 2016; Bob-Milliar, 2012). Partisan politics may influence corrupt practices, as empirical studies in politics show that electoral controls over politicians tend to suffer when voters are strongly attached to a political party (Hellwig & Samuels, 2008; Kayser & Wlezien, 2011). Standardized political agency models also back these findings. There is a positive relationship between partisan politics and the accountability of political leaders (Besley, 2007). In agreement with prior studies and political agency models, Asunka (2016) found that Ghanaians fail to hold their political leaders accountable in districts where there is a strong attachment to political parties and vice versa.

Third, the management and administration practices within the public sector of the country may also influence corrupt practices that may influence government project failure. There is a high level of bureaucratic and institutional bottlenecking within the public administration system (Amoako & Lyon, 2014), and this may influence corrupt practices in the implementation of government projects.

**Previous Research on Causes of Project Failure**

Many reasons (factors) have been cited for project failures. For instance, Frimpong, Oluwoye, and Crawford (2003) and Long, Ogunlana, Quang, and Lam (2004) identified 26 and 64 causes of project failure, respectively. In spite of the contextualization of these causes (factors), there are common ones that run through the project management literature. A summary of these factors is presented in Table 1. Surprisingly, attention has not been paid to corruption as a source of government project failure (especially in developing countries) by researchers, despite the pervasiveness of the phenomenon in these countries. We, therefore, propose that corruption would influence Ghanaian government project failure.

<table>
<thead>
<tr>
<th>Types of Causes</th>
<th>Authors and Year of Publication</th>
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<tbody>
<tr>
<td>Communication</td>
<td>Ochieng and Price (2010); Raymond and Bergeron (2008); Weijermars (2009); Wi and Jung (2010); Wong, Cheung, and Fan (2009)</td>
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<td>Expertise/knowledge</td>
<td>Hwang and Ng (2013); Perkins (2006); Ruuska and Teigland (2009); Sambasian and Soon (2007)</td>
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<td>Funding/finance</td>
<td>Fabian and Amir (2011); Sambasian and Soon (2007); Sweis et al. (2008)</td>
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<td>Planning</td>
<td>Assaf and Al-Hejji (2006); Odeyinka and Yusif (1997); Pinto (2013); Pourrastam and Ismail (2011)</td>
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<td>Resources</td>
<td>Fabian and Amir (2011); Hwang and Ng (2013); Ruuska and Teigland (2009); Sambasian and Soon (2007); Sweis et al. (2008); Teigland and Lindqvist (2007)</td>
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<td>Scope change</td>
<td>Ahonen and Savolainen (2010); Kaliba et al. (2009); Liu et al. (2011)</td>
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<td>Socio-culture</td>
<td>Adler (1983); Amid, Moalagh, and Ravasan (2012); Blunt (1980); Blunt and Jones (1997); Heeks (2002, 2006); Hofstede (1983); Hogberg and Adamsson (1983); Maumbe et al. (2008); Murithi and Crawford (2003); Saad, Cicmil, and Greenwood (2002)</td>
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Previous Research on Corruption

Extant literature has been devoted to assessing the relationship between corruption and other variables. One of the most dominant variables is economic development. For instance, Farooq, Shahbaz, Arouri, and Teulon (2013) identified corruption as the factor that impedes economic growth in developing countries. A cross-country study of corruption by Saha and Gounder (2013) found that countries with low levels of income tend to be more corrupt than their counterparts that have high levels of income. Similarly, Treisman (2000) assessed the causes of corruption using different countries’ corruption perception index from TI and identified the same trend.

Saha and Gounder (2013) further found that corruption has a significant social effect. Paunov (2016) identified corruption as a factor that impedes innovation. Athanasouli and Goujard (2015) also found that corruption impacts firm management quality. In an assessment of the relationship between corruption and GDP, Pellegrini and Gerfagh (2004) found a positive relationship. Boycko et al. (1996) found that corruption impacts return on investment. Hessami (2014) found that corruption leads to raising of the government budget. Corruption could also lead to political discontent, instability, and violence, as evidenced in the work of Aisen and Veiga (2013). It also leads to rule-violating intentions (Sundstrom, 2016). Jetter et al. (2015) found that there is a relationship between corruption and democracy. Corruption also leads to inequality (Dobson & Ramlogan-Dobson, 2012).

Few studies have been devoted to the relationship between corruption and project performance. For instance, Sonuga, Ali-boh, and Oloke (2002) identified corruption as one of the factors that lead to project failure in Nigeria. In a comparative analysis of drivers and barriers to the adoption of relational contract practices in construction projects using Sydney and Beijing as examples, Ling, Ong, Ke, Wang, and Zou (2014) suggested that such contract type could lead to corruption allegations. Similarly, Bowen, Edwards, and Cattell (2015) identified corruption as a factor that impacts on the construction industry in South Africa. Locatelli, Mariani, Sainati, and Greco (2017) discussed types of corruption and the characteristics of projects that are more likely to suffer from corruption in “corrupt project context” of megaprojects using an Italian high-speed railway as a case study. They identified several characteristics that increase the odds that megaprojects will suffer corruption. These characteristics include project size, uniqueness, heavy involvement of the government, and technical and organizational complexity. Moreover, they suggest that those projects executed in countries with high levels of corruption are more likely to suffer from corruption than projects carried out in the context of less corrupt countries. They also found that corruption affects project management success and project success.

The literature suggests that an attempt has been made to cite corruption as a factor for project failure; however, the previous literature did not discuss how corruption impacts government projects in a developing country context, where the phenomenon is pervasive. By exploring how corruption impacts government project performance, using multiple project assessment criteria, we extend the call to discuss the impact of corruption on project performance (Locatelli et al., 2017).

Theoretical Framework

In this research, we move away from the common factors of project failure by exploring the relationship between corruption and government project failure using multiple project success/failure criteria adapted from Atkinson’s (1999) square route framework, as presented in Figure 1. We propose that corruption could influence Ghanaian government project failure in the form of abandonment; requirement deviation; cost overrun;
time overrun; stakeholder dissatisfaction; and retarding the development of the sector where government projects are implemented and retarding overall national development.

**Methodology**

This study adopted the interpretive philosophy and social construction paradigm. Because of the lack of research in this area in developing countries, the interpretive paradigm was deemed appropriate since the practical knowledge sought in this study is embedded in the developing country context, stakeholder interactions, and meanings (Bryman, 2012; Crotty, 1998). Projects are unique (Söderlund, 2004), and factors affecting failure depend on geographical location (Ahsan & Gunawan, 2010), sociocultural settings (Maumbé, Owei, & Alexander, 2008), who is assessing the project (Carvalho, 2014; Ika, 2009), and the criteria being used for the assessment (Mir & Pinnington, 2014). We, therefore, assumed that the corrupt practices that may influence failure may be specific to the local context. Thus, the social constructionism paradigm assisted us in generating new understanding of the influences of corruption on government project failure. The stakeholders of Ghanaian government projects construct meanings in their unique ways, which are dependent on the Ghanaian context, experiences, and frames of reference of the world they tried to interpret (Crotty, 1998; Silverman, 2013).

We used the purposive sampling technique to select four sets of participants for the study: the general public, contractors, government officials leading and/or involved in government projects (clients), and project management practitioners. The participants were selected based on two criteria: knowledge of corruption and government project failure in Ghana (Saunders, Lewis, & Thorntonhill, 2012; Teddlie & Yu, 2007), and practitioners who work for active and well-known project management companies. We targeted the general public because they are the main beneficiaries of government projects (Ahsan & Gunawan, 2010), and even though some of them might not possess technical know-how in the implementation process, they follow the implementation and the outcomes of government projects closely; hence, their perceptions of the project performance are important.

Further, we used the qualitative research approach to collect data within the Ghanaian environment in which it naturally occurs, supported by the social meanings of the four participants. The data were collected using semi-structured interviews, which gave participants the freedom to provide in-depth knowledge and reliable comparable, country-specific data for the study. We used face-to-face and Skype interviews to allow for further probing questions. The initial idea was to conduct all interviews on face-to-face physical presence, but some of them had to be conducted through Skype because of the busy schedules of some participants during the daytime.

A pilot interview involving four (4) participants (one from each category) was conducted and analyzed to ensure the validity of the research questions (Foddy, 1994). We conducted a total of 30 interviews with the participants (see the full profile of respondents in Table 2 in the Appendix) to yield insight from their illuminative and rich information sources (Patton, 2002). The interviews were conducted in participants’ homes, offices, construction sites, and on Skype by prebooking an appointment. During the interviews, the snowball technique was also used to identify further participants (Bryman, 2012; Saunders et al., 2012). The numbers of participants were not predetermined at the beginning of the interviews, but data were collected until we reached a saturation point at which the data had been thoroughly optimized such that no new information emerged from participants (Guest, Bunce, & Johnson, 2006; Hill et al., 2005; Morse, 1995, 2000; Silverman, 2013).

The interviews were conducted between June 2014 and February 2015. All the interviews were conducted in English (the official language of Ghana). The participants were asked about their perceptions of how corruption influences Ghanaian government project failure in terms of cost, time, requirement, stakeholder benefits, abandonment, and contribution to sector and nation development. They were constantly reminded of these criteria and each criterion was rephrased as a separate question to ensure that all the aspects of the failure criteria were addressed by the participants. Each interview lasted between 30 and 50 minutes.

All the interviews were transcribed after each interview. The transcribed data were uploaded into the NVivo10 software and reduced by selecting, focusing, and condensing the information. The data were analyzed using thematic analysis through a line-by-line approach to identify themes based on the framework developed in Figure 1. After the line-by-line coding, content and cross-case analysis was conducted to code sentences that explain the themes. Axial coding was also conducted to identify and explain the relationship between corruption and Ghanaian government project failure. The themes developed from the open coding were grouped together, based on their relationship with one another. We first mapped the themes with the initial framework in Figure 1, and then expanded these into overarching and subthemes to explain the relationship between them (Braun & Clarke, 2006; see Figure 2 and Table 2). Most of the overarching themes of corruption were developed from in vivo codes, while the sub-themes were developed from the initial conceptual framework. We then reviewed the themes to ensure that they work in relation to the data set through visiting and comparing the data many times to verify and confirm the themes identified (Miles & Huberman, 1994).

The themes were then refined, defined, and organized into a coherent framework that explains corruption and government project failure (see Figure 2; Braun & Clarke, 2006). Thus, the themes from the initial framework (see Figure 1) became prominent, the relationship among the various parts changed, and specific aspects were clarified, which led to modifications in the conceptual framework developed from the literature review to the current theoretical framework in Figure 2. Based on the analysis, the multiple realities constructed by the four sets of
participants were used to develop both a diagrammatic model and a narrative of the influence of corruption on Ghanaian government project failure (Remenyi, Williams, Money, & Swartz, 1998).

Analysis and Discussions

Research Question 1: Corruption and Project Abandonment

The respondents revealed that in some cases, corrupt practices may result in the total abandonment of government projects and suggested that this could be traced to politics. The contractors and project management practitioners perceived that in some cases, project abandonment occurs because of government-appointed project leaders’ demands for bribes from contractors. If the contractors refuse, the project leaders would do anything possible to make the projects fail. They would therefore not approve documentations from such contractors; hence, the contractors have no option but to abandon the projects. For instance, one project management practitioner said:

I have a personal experience, the official wanted me to pay for his fuel—you know what I mean, and I refused; because of that he didn’t want to sign my documents for me. I had to spend so much time moving up and down. So I also got angry and left the project. As I speak, the project is still lying down. (P7)

The respondents also said that this abandonment of government projects often happens because government project contracts are mainly awarded based on “who you know” and on party lines rather than on merit. The perception is that if contracts are awarded along these lines, these monies could be “kicked back” to help run particular political parties. For example, according to P6, it is rare to get contracts without knowing anybody, especially for local contracts. And once you know the person in charge of the award of Ghanaian government projects’ contracts, these malpractices would “definitely happen even if you don’t want to… If you ask the government officials, they would deny it because of their position and for fear of the media.” Some of the government officials interviewed admitted, though, that they have heard people talk about these corrupt practices being the reasons for some projects’ abandonment, but said they had not witnessed it themselves. P21, for instance, admitted that corruption could lead to project abandonment, but he does not think corruption alone should be a reason to abandon a project:

Why should you abandon the project because you have realized corruption is taking place? Maybe that might be the underlying factor, but [there are] other factors such as delays in payment or change of government.

The general public, in particular, was of the view that corruption is the main reason why government projects are abandoned and attributed it to change of government. They stated that the government that takes over from the previous one would not want to continue the previous government’s projects simply because it cannot get any “kickbacks.”

Why would they be keen to continue the previous government projects when they know the contract has already been awarded and they have no chance of getting any kickbacks for themselves and their party? My brother, this is common knowledge and [an] open secret in this country. (P9)

This finding agrees with earlier studies that found that party members collude with government officials and contractors to
siphon government funds through construction contracts and then they pay those funds back in the form of kickbacks (Luna, 2015). This practice could be traced to the national culture of Ghana, as is the nation has very strong family bonds, which serve as the primary source of identity, loyalty, and responsibility (The Hofstede Centre, 2016). Political parties are regarded as a family that members join, and people participate in political activities with the aim of obtaining benefits (Bob-Milliar, 2012).

Research Question 2: Corruption and Project Cost Overrun

All the participants agreed that corruption leads to cost deviation, which results in cost escalation. The majority of the participants (25) identified cost escalation as first among all the failure criteria used for the assessment. For instance, P17 stated that “cost escalation is the main and probably the number-one area in which corruption impact on Ghana government project failure.” The respondents argue that cost escalation comes in many forms, such as government officials and contractors inflating project prices:

Look, the government officials would connive with the contractor involved in the projects or programs to increase the prices, so that at the end of it all, they would share the extra money. (P1)

The project management practitioners said that, in most cases, the contractors would wish to avoid such corrupt practice, but “their hands are tied” (P4, P6, P8, and P10), because if they did not engage in corruption, they would not get the contract. As P14 stated:

This is an open secret; nobody would accept that they pay to get a contract and that they also have to add it to the total contract sum, but this is real. You can ask everybody in this country and they would tell you the same thing or even worse things than what I am telling you. Ask even a small boy or girl, and they would confirm this.

Further, the analysis revealed that in some cases, the supplier of products for the projects happens to be the same as the government officials who awarded the contract to the contractor; and therefore, the government official is able to connive with the contractor to inflate the prices, so that they can share the excess. The analysis revealed that in Ghana, it has become normal to pay 10% or more of the contract sum to government officials involved in the project implementation, which is then added onto the overall contract sum awarded. P16 explained, “You know what, payment of 10% of contract money by contractors to government officials involved in government projects in Ghana has become normal; if you do not pay, forget about the contract.”

In all, 22 respondents mentioned the 10% bribe as the reason for cost escalation and project abandonment. Eight respondents, seven government officials, and one contractor identified the 10% bribe, but did not attribute cost escalation solely to it.

Despite the overwhelming claim of the 10% that leads to cost escalation, one of the government officials interviewed is of the view that cost escalation cannot always be attributed to corruption practices on the part of the government officials as perceived by the general public, but that there are other factors that causes cost escalation, and this emanates from the civil servant. However, he did not mention other specific factors:

In most cases, when there is escalation of government projects cost, (citizens) think that we the government officials have collected money from contractors; this perception is not always true. Most of this cost escalation is due to other factors, which are mainly on the part of the civil servants and not politicians. (P23)

Similarly, the participants perceived that in most cases, there are “unauthorized middlemen” who serve as the “link” between the contractor and the public servant. The analysis revealed that in most government projects, especially at the local level, you can only win a contract if you have a middleman. As P28 puts it, “Rarely would you be able to win a contract if you do not have such middlemen who can connect you.” These middlemen have grown very strong in the country because the government officials use them as fronts to avoid being recognized. In view of this, these middlemen charge both the contractor and the government officials for their services and these monies are added onto the contract sum. An excerpt from P26’s interview explains this: the government officials do not want to “go with their ‘face’ for fear of being caught by the media and the subsequent disgrace that would follow.”

These corrupt practices that may influence cost escalation could be traced to the cultural orientation inherited from colonial rule. This finding is not surprising; previous research has linked poor project performance in the public sector to cultural orientation in the country (Amponsah, 2010; Damoah & Akwei, 2017). During the colonial era, public-sector work was perceived as belonging to the white colonial masters, and as a result, could be handled haphazardly (Amponsah, 2010; Damoah, 2015; Damoah & Akwei, 2017; Damoah et al., 2015). Further, the sector is regarded as a “national cake” where everybody should try to cut as much as possible for their personal gains (share; Damoah & Akwei, 2017; Damoah et al., 2015). This encourages people within the country who have access to public money to try, as much as possible, to embezzle government funds through project implementation. The implication is that the government ends up spending excessively on project and program implementation and extra resources are needed to curb and/or control these corrupt practices.

This finding confirms prior studies conducted in the construction industry in developing countries. Cheng (2014) found cost overrun as a common problem in the construction industry and Kaliba, Muya, and Mumba (2009), Ahsan and Gunawan (2010), and Aziz (2013) all found cost deviation in project implementation in developing countries. Cost deviation in
project management has become a norm in organizations (Pinto, 2013). Although our findings confirm those of earlier studies, this research extends the literature through identifying corruption as a further source of cost escalation, as previous studies did not look at corruption as a source of cost escalation in project management. The implication of this finding for policymakers and practitioners is that although there are many factors for cost deviation in project management (Ahsan & Gunawan, 2010; Aziz, 2013; Frimpong et al., 2003; Kaliba et al., 2009; Sambasivan & Soon, 2007), they should not focus only on the common factors such as inflation, delays in payment, and scope change but, in addition, should focus on context-specific issues such as corrupt practices, which are pervasive in developing countries.

**Research Question 3: Corruption and Time Overrun**

The study revealed that corruption could influence Ghanaian government project and program failure in the form of time deviation. Participants argued that corrupt practices have direct and indirect effects on the duration of Ghanaian government projects. Directly, they perceive that in most cases, contractors and politicians deliberately delay projects through connivance. The argument is that once there is a delay, the cost would escalate and they could use that as a means to embezzle funds for personal gain. Twenty of the respondents said that government officials, public servants, and civil servants who serve as consultants (experts) demand money and other resources such as fuel from contractors before they certify the progress of projects. This may influence delays if contractors are not willing to comply. The implication is that the cost of the project would escalate once there is a delay in certification:

> Sometimes, the contractors must buy fuel for the consultants to travel to the project’s site, though they have already received their monthly pay. … If you fail to buy the fuel, forget it; they would never go and inspect the project for you to move on with the project. (P7)

You dare not try to sack such consultants; they have strong political backing. Some are 100% political party appointments, and you know how politicians are very powerful in this country. So, if you are a contractor, you just have to compromise or forget about getting another job. … Corruption goes with politics in Ghana in all parts of life here and not only in project management. (P30)

This practice is very common in government projects. Participants P5, P2, P3, and P18 compared this practice between the public and private sectors and concluded that although some contractors work for both government and the private sector, they collect bribes in the public sector but cannot do so in the private sector. In the words of P18:

> It’s funny to know that it is the same contractors who work for both the private man and the government but they know that they can engage in these corrupt practices in the public sector but they are afraid to do so in the private sector. So the problem has to do with the government officials and the mentality they have for government work. People think that it is the only way that they can have a fair share of the national cake—the ordinary Ghanaian thinks that government officials or politicians are “chopping” the taxpayers’ money anyhow, so they must also “chop” as much as possible if they get the opportunity.

Similarly, 11 of the respondents said that because government officials and contractors do not want to be exposed, they would agree in secret for the contractors to pay them “in kind.”

The participants attributed these corrupt practices to politics. They believe that the culture of corruption has come about because of the political nature of the appointment of consultants. Hence, the consultants can engage in these practices with impunity, knowing that if they are caught, they cannot be sacked. This happens as a result of the Ghanaian constitution, which entrusts the executives (particularly the president) with a great deal of power in the appointment of public servants.

Time deviation (escalation) has been identified as a cause of project failure in developing countries in relation to performing organizations and client-related issues such as scope change, poor planning, communication, and delays in payment (see Frimpong et al., 2003; Kaliba et al., 2009; Liu et al., 2011; Sambasivan & Soon, 2007; Sweis, Hammad, & Shboul, 2008); however, it has not been discussed in relation to corruption for such delays. This study bridges this gap in the literature in developing countries.

**Research Question 4: Corruption and Projects Requirement Deviation**

The analysis of data revealed that some Ghanaian government projects deliverables often do not meet requirements as a result of corruption. Shoddy work is produced in some circumstances, especially in projects that are directly awarded by Ghanaian government officials. Thus, the quantity and quality of the deliverables are sometimes compromised because of corruption. This was attributed to the lack of supervision by government consultants and regulatory bodies such as quality control officers; hence, contractors end up using the wrong products when carrying out projects. The respondents opined that in most cases, the consultants (inspectors) who are supposed to inspect projects at various stages of the project life cycle colluded and connived with the contractors to use substandard materials that are obviously cheaper than high-quality ones in a bid to save the money for themselves. For example, “sometimes instead of saying five types of cement, they would agree to use two or three” (P24), and the consultants are unable to supervise and monitor project standardization. However, the respondents perceived that the consultants cannot be sacked because they are political appointees or the government has influence in their appointment:

The participants attributed these corrupt practices to political party appointments, and you know how politicians are very powerful in this country. So, if you are a contractor, you just have to compromise or forget about getting another job. … Corruption goes with politics in Ghana in all parts of life here and not only in project management. (P30)
They said the industry where this occurs most is the construction sector, where the officials would ask the contractor to build a house for them during the construction of the main project:

So before the project is completed, they would also have at least one house—depending on the nature of the project and the duration, sometimes, they can get like two or three houses before a major construction project is completed. That is why you can see when roads are constructed, you would see potholes in less than a year after completion, sometimes even before the whole stretch of the road is completed, and those that were constructed earlier on would have potholes. My friend, you can’t blame the contractor; he also needs to make a profit. (P1)

The implication is that once the contractors have used part of the contract money to build a house for the government officials, they also need to reduce the quality so that they can make a profit.

Research Question 5: Corruption and Stakeholder Dissatisfaction

One area where participants perceive that corruption would influence project failure is in the area of stakeholder benefits or satisfaction. Apart from P19 and P30, all of the participants mentioned that when there is corruption, citizens do not receive all the benefits they are supposed to receive from public projects. They perceived that once corruption affects the management phase of the project, it will have ripple effects on the benefits that the key stakeholders are supposed to receive and they often referred to the key stakeholders as the general public/citizens. This is because of the fact that government projects in developing countries are mainly implemented purposely for the “ordinary citizens” (Ahsan & Gunawan, 2010). P13, for instance, stated:

When there are corrupt practices during government project implementation, the citizens do not enjoy all the benefits. Assuming that, due to corrupt practices, the quality of a road constructed is compromised; few years or months on, the road has “potholes,” who will suffers; it is you and I, the ordinary Ghanaian. So, my brother, stakeholders such as the ordinary citizens would not be satisfied because they are not benefiting from the road as expected.

P1, P12, P13, P23, and P26 argued that when there is corruption, what is supposed to go to the citizens goes instead into individual “pockets,” and as a result, the projects are unable to realize the full benefits. For example, P23 stated:

Assuming that the actual cost of the project that the central government has approved is US$20 million, and before the project begins US$5 million is lost through corruption. . . . do you think the contractor is going to use US$15 million or US$20 million in the execution of the project? So, obviously, if he uses US$15 million, the people will not get all the benefits that they are supposed to get; hence, they won’t be happy. They won’t be happy because they are aware of these practices; this is an open secret.

Research Question 6: Corruption and Underdevelopment of Sectors Where Projects Are Implemented and National Development

The study revealed that corrupt practices in the management of Ghanaian government projects affect the development of the sector in which such projects are implemented. Ultimately, this has a significant impact on overall national development, as government projects are perceived to be an engine for national development (Alzahrani & Emsley, 2013; Amoatey, Ameyaw, Adaku, & Famiyeh, 2015).

The findings show that underdevelopment of sectors and national development comes in both direct and indirect forms. Directly, when there is corruption in the implementation of the Ghanaian government projects, the sectors are unable to develop as expected because funds are sometimes redirected for personal use by officials and projects are delayed or abandoned altogether, “so obviously it affects the sector where the projects are implemented and ultimately retard national development” (P3). Indirectly, corruption leads to economic and social hardships that impact on the sector and national development; thus, if there are socioeconomic hardships, it is the citizens who suffer. The respondents perceived that if projects are not able to achieve their projected objectives, such as time, requirement, and cost, then citizens are unable to benefit fully from such projects, which affects national development as a whole. This assertion was unanimous among all participants. In the words of one of the participants:

Corruption undermines national development; it is not only in the implementation of government projects or programs but all other parts of governance of our country. You know what, all the problems we have in Ghana in terms of development is corruption—people always talk about corruption in projects because those ones are obvious and visible, but trust me, everywhere there is corruption and they (the corrupt practices) are affecting the country. (P8)

Figure 2 shows that corruption in Ghana comes in many forms and types. It happens at the individual, institutional, and relationships levels. This may then influence Ghanaian government project failure in the forms of abandonment, negative requirement deviation, cost overrun, time overrun, stakeholder dissatisfaction, and sector and national underdevelopment.

Conclusions

This study explored how corruption leads to government project failure, using multiple failure criteria within the Ghanaian context. Six questions were addressed:

RQ1: How does corruption influence Ghanaian government project abandonment?

The study found that in some cases, corrupt practices result in the total abandonment of government projects. This was traced mainly to partisanship politics. It was revealed that in
some project abandonment cases, the government appointees who lead projects demand bribes from contractors, and if the contractors refuse, the government officials want to halt the project and would therefore not approve documentation; hence, the contractors would have no option but to abandon the projects. Moreover, the government officials would stifle the progress of projects that had been started by the previous government in order to gain political capital.

RQ2: How does corruption influence cost overrun for Ghanaian government projects?

The study found that government officials go into the management of projects with the intention of making money for personal gain and also to use the money to support their political party. They, therefore, inflate contract sums through connivance with contractors. Further, the processes of awarding of government project contracts breed corrupt practices. Contract awards involve a long process and contractors and government officials engage the services of unofficial middlemen who take at least 10% of the contract sums. Consequently, the contractors pass this on to the project cost.

RQ3: How does corruption influence time overrun for Ghanaian government projects?

Civil and public servants are mainly appointed by the government in the form of consultants who often indulge in corrupt practices during project management implementation that may lead to government project failure. They request “fuel money” before they certify further work to continue or complete projects. If contractors fail to comply with their request, it means that the project comes to a standstill.

RQ4: How does corruption influence negative requirement deviation for Ghanaian government projects?

The processes of awarding of government projects contract breed corrupt practices. Contract awards involve a long process, and contractors and government officials engage the services of unofficial middlemen who take at least 10% of the contract sums. Some officials also take the same percentage of contract sums either in cash or in kind for their personal gain. Consequently, the contractors reduce the quality and quantity of the project deliverables.

RQ5: How does corruption influence stakeholder dissatisfaction for Ghanaian government projects?

It was found that once corruption affects the management phase of the projects, it will have ripple effects on the benefits that the key stakeholders are supposed to gain. Even though different stakeholders are affected, the key stakeholder(s) who are mostly affected are the general public.

RQ6: How does corruption influence Ghanaian government projects that may lead to retarding in the development of the sector where government projects are implemented and retarding overall national development?

As with stakeholder dissatisfaction, this is an indirect impact. The finding is that once corruption has affected government projects and the project has failed at the management level, it would have indirect effects; hence, there is a failure in the public sector in which the projects are implemented. The ultimate effect would be on national development.

Overall, the findings indicate that corruption influences government project failure on all of the criteria used for this evaluation. However, corruption influences failure at two different levels—the project management and product phase levels. At the management level, corruption has direct influence, while at the product level, the influence is indirect. Moreover, corrupt practices happen at three different levels: individual, institutional, and relationships. At any level, they can influence the projects to fail. The implication is that policymakers and practitioners should make conscious efforts to reduce and/or avoid corrupt practices at the management level in order to avoid the subsequent effects on the product phase level.

**Practical Implications**

This study extends the causes of project failure literature by discussing how corruption influences project failure in government projects in a developing country context. The findings of the research will be value-bound and significant to the four key stakeholders (project management practitioners, the contractors, government officials, and the general public) in government projects within the Ghanaian environment as a result of the socially constructed process of interaction, cogeneration, and interpretation of corruption as a source of government project failure in Ghana. Therefore, policymakers and project management practitioners would be able to use findings as a guide during government program or project implementation to avoid corrupt practices that may eventually influence failure. Specifically, the use of hard copies of project documents should be replaced with electronic ones; this will help reduce corruption and delays in accessing projects documents, which compels practitioners to indulge in corrupt practices. This can also help with easy access to project documents by the media and the general public, which will help with monitoring and transparency.

Second, the Ghanaian government should make the monitoring of its projects a priority, with minimal political interference. Thus, technocrats should manage public projects rather than conducting them through political patronage. There should be an independent body devoid of party politics.

Third, to reduce shoddy work (project deliverables), independent laboratories should be allowed to test project materials rather than the assemblies, which are part of the government. Consultants who monitor and certify completion of Ghanaian government projects should be independent. The part that has to be certified by government should constitute incumbent
party and the opposition members of parliament (MPs). This will help reduce partisanship that leads to corrupt practices.

Moreover, it is important for the leadership of Ghanaian government projects to institute project offices separate from government agencies. This will help reduce political interference and political patronage that influence corruption.

In addition, stricter laws need to be enacted by parliament to ensure that projects cannot be halted when there is a change of government. Also, the role of a national development planning commission to set out programs and plan for development devoid of politics should be strengthened in order to reduce the number of projects being halted with changes in government.

**Academic Implications**

Despite the contextualization of projects and programs and their associated factors (causes) that lead to failure, there are commons ones that run through project management literature, as presented in Table 1. This current research extends the causes of project failure to include corruption as a major factor that influences project failure in a developing country. By focusing on corruption, this study sheds light on the phenomenon as a major contributing factor in developing countries, where corrupt practices in the public sector are pervasive. In spite of the pervasiveness of corrupt practices in developing countries and their potential to affect project implementation within the public sector, researchers have not paid much attention to corruption. Therefore, this research should serve as a springboard to academics, researchers, and project management practitioners for further research into the relationship between corruption and project failure, particularly through quantitative study.

**Limitations and Further Research**

Because of the sampling technique used, the findings of this study cannot be generalized; however, this serves as an exploratory study that provides platforms for further research. Further research would be needed as a confirmatory study that would involve quantitative data and a large sample to assess the extent to which corruption could influence government project failure, using the multiple failure criteria identified in the framework. A representative sample technique would assist in uncovering all of the industry players in order to generalize the findings.

**Appendix**

**Respondents’ Profiles**

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Age</th>
<th>Education</th>
<th>Years of Experience in Current Position</th>
<th>Work Experience in Project Management/Implementation</th>
<th>Overall Work Experience</th>
<th>Industry</th>
<th>Sector</th>
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<tr>
<td>PROJECT MANAGEMENT PRACTITIONERS</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>P1 (Project manager)</td>
<td>61</td>
<td>Master’s</td>
<td>7</td>
<td>15</td>
<td>37</td>
<td>ICT</td>
<td>Private and public</td>
</tr>
<tr>
<td>P2 (Project and program consultant)</td>
<td>57</td>
<td>PhD/Professional</td>
<td>12</td>
<td>15</td>
<td>32</td>
<td>ICT</td>
<td>Public and private</td>
</tr>
<tr>
<td>P3 (Architect)</td>
<td>37</td>
<td>BA/Professional</td>
<td>4</td>
<td>10</td>
<td>10</td>
<td>General</td>
<td>Public</td>
</tr>
<tr>
<td>P4 (Structural engineer)</td>
<td>40</td>
<td>BA/Professional</td>
<td>4</td>
<td>14</td>
<td>14</td>
<td>General</td>
<td>Public</td>
</tr>
<tr>
<td>P5 (Project manager)</td>
<td>47</td>
<td>BA/Professional</td>
<td>3</td>
<td>15</td>
<td>18</td>
<td>ICT</td>
<td>Public and private</td>
</tr>
</tbody>
</table>

(continued)
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### Table 2. (continued)

<table>
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<th>Respondent</th>
<th>Age</th>
<th>Education</th>
<th>Years of Experience in Current Position</th>
<th>Work Experience in Project Management/Implementation</th>
<th>Overall Work Experience</th>
<th>Industry</th>
<th>Sector</th>
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</thead>
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<tr>
<td>P6 (Civil engineer)</td>
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<td>Master’s/ Professional</td>
<td>5</td>
<td>10</td>
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<td>Construction</td>
<td>Public and private</td>
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<tr>
<td>P7 (Project coordinator)</td>
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<td>Master’s</td>
<td>10</td>
<td>15</td>
<td>26</td>
<td>General</td>
<td>Public and private</td>
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<td>P8 (Consultant)</td>
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<td>PhD/ Professional</td>
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<td>25</td>
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<td>Public and private</td>
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<tr>
<td>P9 (Architect)</td>
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<td>Master’s</td>
<td>4</td>
<td>5</td>
<td>11</td>
<td>General</td>
<td>Public and private</td>
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<tr>
<td>P10 (Consultant and lecturer)</td>
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<td>PhD/ Professional</td>
<td>15</td>
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<td>Public and private</td>
</tr>
<tr>
<td>P11 (Architect)</td>
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<td>BA/PhD/ Professional</td>
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<td>10</td>
<td>General</td>
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<tr>
<td>P12 (Structural engineer)</td>
<td>40</td>
<td>BA/ Professional</td>
<td>4</td>
<td>14</td>
<td>14</td>
<td>General</td>
<td>Public</td>
</tr>
<tr>
<td>P13 (Quantity surveyor)</td>
<td>39</td>
<td>BA/ Professional</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>General</td>
<td>Public</td>
</tr>
<tr>
<td>P14 (Physical and works director)</td>
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<td>Master’s/ Professional</td>
<td>1</td>
<td>32</td>
<td>32</td>
<td>Education</td>
<td>Public</td>
</tr>
</tbody>
</table>

**CONTRACTORS**

| P15 (Director) | 39 | Professional | 15 | 15 | 15 | General | Private and public |
| P16 (CEO and administrator) | 55 | Master’s/ Professional | 1 | 32 | 32 | General | Private and public |
| P17 (Administrative director) | 45 | BA | 7 | 15 | 19 | Construction | Private and public |
| P18 (Real estate developer) | 62 | A-Level | 35 | 35 | 40 | Construction | Private and public |
| P19 (Finance and administrative director) | 27 | Master’s | 4 | 15 | 15 | Construction | Public |
| P20 (Director) | 45 | A-Level | 7 | 7 | 25 | Construction | Public and private |

**GOVERNMENT OFFICIALS (CLIENTS)**

| P21 (Project coordinator) | 50 | BA | 2 | 2 | 27 | General | Public |
| P22 (Consultant) | 45 | BA/PhD/ Professional | 10 | 17 | 20 | General | Public |
| P23 (Consultant) | 60 | BA/Professional | 5 | 15 | 40 | General | Public |
| P24 (Administrator) | 55 | Master’s | 5 | 8 | 30 | Healthcare | Public |
| P25 (Deputy administrator) | 40 | BA/Professional | 3 | 7 | 17 | General | Public |

**GENERAL PUBLIC**

| P26 (Media practitioner) | 45 | Diploma | 7 | – | 25 | Construction | Public and private |
| P27 (Teacher) | 42 | Diploma | 19 | – | 19 | Education and retail | Public and private |
| P28 (Medical practitioner) | 45 | BSc | 15 | 2 | 15 | Healthcare | Public and private |
| P29 (Teacher and businesswoman) | 38 | Diploma | 10 | – | 10 | Education and retail | Public and private |
| P30 (Banker) | 31 | BA | 5 | 1 | 7 | Banking | Public |

### References


Damoah, I. S. (2015). An investigation into the causes and effects of project failure in government projects in developing countries: Ghana as a case study (A thesis submitted in fulfillment of the


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