

## Government project failure in Ghana: a multidimensional approach

### Introduction

Project management has become an integral part of organisations (Maylor et al., 2006). This is as a result of the changing nature of managing organisations due to technological advancement, and a complex, competitive global marketplace (Maylor et al., 2006; Ramazani and Jergeas, 2015; Klein et al., 2015; Nguyen et al., 2015). Projects require huge capital outlay and this necessitates good project management practices to ensure value for money (Panayides et al., 2015). Good project management practice is important because it increases shareholder value and conveys soft and hard benefits to several stakeholders (Ahsan and Gunawan, 2010; Ngacho and Das, 2014; Yang, 2014).

However, existing literature suggests that projects are failing (Venugopal and Rao, 2011; KPMG, 2013), and this is costing companies and governments huge sums of money (Espiner, 2007; McManus and Wood-Harper, 2008). For example, a nationwide survey in New Zealand in 2010 indicated that two-thirds of organisations had experienced at least one project failure in the previous year, and that only one-third of projects had been delivered on budget, leading to a loss of approximately NZ\$15 million (KPMG, 2013). Similarly, the findings of McManus and Wood-Harper (2008) show that only one in eight information technology projects can be considered truly successful. There is also evidence that the UK wasted over US\$4 billion on failed IT projects from 2000 to 2008 (Asay, 2008). These examples indicate that occurrences of project failure are on the ascendency.

There are many project failures in developing countries (Saad et al., 2002; Liu et al., 2011; Aziz, 2013) and, in Ghanaian government projects, failure has become the norm rather than the exception (see Central Press, 2011; Daily Guide, 2011; Zoure, 2011; Ghana News Agency (GNA), 2012). In their quest for development, developing countries engage in projects such as building of roads, dams, plants, pipes, industries, theatres, e-government

services, telecommunication, and ICT, among others. These projects, which are normally financed by the IMF, World Bank and tax-payers, face several setbacks such as abandonment (Kumar and Best, 2007), cost deviation (Kaliba et al, 2009; Aziz, 2013), schedule deviation (Sambasivan and Soon, 2007; Sweis et al, 2008; Fallahnejad, 2013; Marzouk and El-Rasas, 2013), scope deviation (Liu et al, 2011), and stakeholders' dissatisfaction (Ahonen and Savolainen, 2010). Notwithstanding these, only a few studies of project failure have focused on government projects in developing countries. Our study aims to address this by investigating government project failure in a developing country, Ghana.

Project failure is defined within the remit of what constitutes project failure (Lyytinen and Hirschheim, 1988; Agarwal and Rathod, 2006; Ika, 2009); who evaluates the project (Carvalho, 2014); the timing of the evaluation of the project in question (Heeks, 2002, 2006); and the criteria used in assessing the project's performance (Klakegg, 2009; Mir and Pinnington, 2014). The factors used to determine project success/failure are subject to different stakeholders' perceptions of what constitutes project failure/success (Davis, 2014). Consequently, it is difficult to measure the extent of project failure using clear, generally accepted, well-defined criteria. Our study contributes to the literature by assessing the extent of Ghanaian government project failure using a multidimensional approach.

The remainder of the study is presented as follows: section two presents the research context. Section three reviews the government projects and develops a theoretical framework for the study. Sections four and five present the methods for the study and the results respectively. Section six discusses the findings of the study, whilst section seven presents the conclusions.

## Research context

Public sector project failure in Ghana may be explained within three major dimensions – cultural, economic and political. First, the role of culture in explaining public sector project failure in Ghana may be traced to the Hofstede cultural dimensions (Hofstede, 1983). Hofstede provides six (6) dimensions for culture – Power Distance; Individualism; Masculinity; Uncertainty Avoidance; Long-Term Orientation and Indulgence.<sup>1</sup> Pursuant to this, GLOBE puts countries into clusters based on these cultural attributes espoused by Hofstede (Hoppe, 2007). Using these six dimensions, the Ghanaian cultural attributes have been espoused as presented in Appendix D. In relation to power distance, the Ghanaian society is hierarchical in nature – practising a master-servant relationship where the rich and those in authority, especially religious and political leaders, are revered (World Factbook, 2015; The Hofstede Centre, 2016). People in higher and management positions are more respected and, as such, Ghanaians feel proud to be addressed by their academic and professional titles. Moreover, age, experience and wealth are accorded a high level of respect, with older people being viewed as ‘wise’ and given preferential treatment in most cases (World Factbook, 2015; The Hofstede Centre, 2016). Consequently, political leaders and project leaders could significantly influence government project failure. Further, there is a very strong family bond, which serves as the primary source of identity, loyalty and responsibility, and therefore the country is regarded as feminine in terms of the masculinity dimension (The Hofstede Centre, 2016). Similarly, Ghanaian society is collectivist in terms of individualism and this leads to the award of project contracts on the grounds of family and clan patronage instead of ability, and this could affect project performance. There is also evidence that attitude towards government work is poor and some writers attribute this to cultural orientation during the colonial period. For instance, Amponsah (2010) traces Ghanaian government project failure to colonial rule, when public sector work was perceived

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<sup>1</sup> For further reading please refer to Hofstede, G. (1983), Cultural dimensions for project management, International Journal of Project Management, Vol.1, No.1; pp.41-48, for additional understanding of each dimension.

to belonging to the 'Whiteman' and as such could be handled haphazardly. The cultural set-up could have an influence on government project performance, as cross-cultural management literature indicates that management concepts, models and practices are incompatible with other cultural and social settings (Blunt, 1980; Hofstede, 1983; Hogberg and Adamsson, 1983; Adler, 1983; Hoppe, 2007).

Second, with regard to its economy, the country is at a very crucial stage of its development as a result of the prospects of the oil revenues from its oil reserves (Ahadzie, 2009). As a result, the country was regarded as the leader in economic development in 2011, with an estimated growth rate of between 13 and 20% (Economy Watch, 2011; World Bank, 2012), and, as such, projects have become a focal point in this development. The question as to whether these projects will be successful in sustaining this growth has become an issue for many Ghanaians and some commentators, because past governments have been enthused about similar projects before but these projects ended in failure (Central Press, 2011; Daily Guide, 2011; GNA, 2012). For instance, the pre-colonial and post-colonial eras saw many state policies turned into programmes and projects through the ideology of industrialisation but they were abandoned after changes in government (Jeffries, 1982). Arguably, these economic developments could have an impact on government project performance.

Lastly, the country has witnessed political stability since 1992 and has not witnessed any civil war in her history. From 1992 to date, there have been six successive free, fair and transparent elections and, as a result, the country is considered as the 'eye' of Africa in democracy (leading in democratic practices) by international organisations and unions such as the African Union (AU), Economic Community of West African States (ECOWAS), and the European Union (EU) (Agyeman-Dua, 2008; Debra, 2009; Economist Intelligence Unit, 2014). Even though, the country practices multi-party democracy, only two parties have won in these successive elections. As a result of the multi-party democracy, government

performances in programmes and projects are often attached to the overall government performance. The political standing of the country may impact on government project performance. Closely related to politics is the factor of institutional bottlenecks within the public administration system within the country (Amoako and Lyon, 2014), which could stifle government project implementation.

### Literature Review

In this study, the term government project is defined as any project undertaken or initiated by the government of a country at the national or local level. Government policies are often translated into programmes and projects (Goodman and Love, 1980; Bitler and Karoly, 2015). Government project performance is key to every government because projects measure economic growth (Alzahrani and Emsley, 2013). Moreover, programmes and/or projects implemented as a result of government policies may play an important role in ameliorating inter-generational persistence of economic disadvantage and reducing inequalities among citizens (Currie and Rossin-Slater, 2015; Freedman and McGavock, 2015).

Existing literature suggests that developed economies have major infrastructural development projects in their development history (Eichengreen, 1994; Eichengreen, 1996; Eichengreen and Vazquez, 1999; Alic, 2008). In fact, “project-based work has become a critical component of global industrial activity” (Pinto, 2013, p.643), and, as such, projects are inevitable in development. A typical example is the shift away from an agricultural-based economy to a manufacturing-based economy, which has made the USA a superpower state today. Chief among the projects was the introduction of state-sponsored postgraduate research at the various universities to support this industrial revolution (Alic, 2008); and the recent introduction of well-being policies and programmes aimed to improve the life of pregnant women, young people and their families, education and work-life balance (Bitler and Karoly,

2015; Currie and Rossin-Slater, 2015).

Recent growth in emerging economies indicates that government projects are central in these achievements (Means and Schneider, 2000; Jaeger, 2003; Gichoya, 2005; Luk, 2009). For instance, emerging economies' use of Information Technology in the form of e-government in recent years to facilitate government transactions shows how essential these projects can be. It helps government(s) to use technology, especially web-based applications, to enhance access to and efficiently deliver government information and services (Brown and Brudney, 2001; Kumar and Best, 2006), and it establishes relationships between a government and its citizens, other governments, and businesses (Means and Schneider, 2000; Jaeger, 2003; Gichoya, 2005; Luk, 2009).

These projects are normally funded by governments in the form of tax payers' money, multilateral companies (Toor and Ogunlana, 2010), NGOs, public-private partnerships (Abednego and Ogunlana, 2006; Ruuskaa and Teigland, 2009), or the World Bank (Fabian and Amir, 2011). They are often geared towards enhancing the life of the general populace by improving the socio-economic well-being of its citizens (Walker and Plotnick, 2001; Ahsan and Gunawan, 2010; Haveman et al., 2015). However, literature indicates that some of these projects have failed (Walker and Plotnick, 2001; Liu et al., 2011; Havila et al., 2013; Patanakul, 2014), and failure is becoming more common with government projects (e.g. Savolainen et al., 2012). For example, in International Development (ID) projects, failure has become a rule rather than an exception (Ika et al., 2012, Hermano et al., 2013). In the case of IT projects, even the 'successful' projects run well over budget and behind schedule (Pinto, 2013).

Due to the country's good economic and political standing, the need to embark on "more effectively targeted programs to help the poor" and to improve development has become very crucial in Ghana (World Bank, 2012, p.9). This has prompted the government to

make significant efforts to undertake more developmental projects (World Bank, 2012). For example, the main focus of the 2012 and 2015 budgets was to provide key infrastructure to the various sectors of the economy, by stimulating public sector growth and making private sector support a priority, so that jobs could be created for the Ghanaian workforce (Republic of Ghana Budget, 2012, 2015). For these reasons, the 2012 budget was crafted around the theme 'Infrastructural Development for Accelerated Growth and Job Creation'.

These proactive policy and regulatory interventions are backed by the World Bank, IMF and other development partners such as the China Development Bank (CDB) (see Ghana Republic Budget, 2012, 2015). The key infrastructure projects earmarked for implementation in 2012 were mainly in Electricity, Oil and Gas, Water and Sanitation, Railways, Roads and Ports, Health, Education, and Agriculture. However, reports indicate that this is not the first time that such initiatives have been taken by the government (African Development Bank (AfDB), 2006; World Bank Report, 2004, 2007; Klutse, 2009; Central Press, 2011; GNA, 2012). Other prominent initiatives include the Affordable Housing Units projects (Klutse, 2009; Imani, 2010; GNA, 2012; Ghanaweb, 2011), educational reform projects (Nyarko, 2011), National Identity Card (ID card) project (Myjoyonline, 2011), Ghana @50 projects (Central Newspaper, 2012), and Ghana National Insurance Scheme (NHIS) (World Bank, 2007a; Mensah, 2009). However, most of these projects failed to achieve their intended objectives (AfDB, 2006; World Bank, 2012). Media reports and existing literature show that Ghanaian government projects have witnessed a number of failures – ranging from infrastructure to services projects. This has resulted in donor apathy towards projects in Ghana (World Bank Report, 2007c). The media has cited many reasons for such failures. They include political, financial, corruption, culture, leadership, planning and human errors (Addo, 2015; Bawumia, 2014, 2015).

## Project Success/Failure Criteria

As stated in the introduction, project failure is high but what constitutes failure is subject to the criteria being used to assess the projects. Consequently, despite the extant literature on what constitutes project failure, there has been no consensus on the success/failure criteria. Impliedly, there are many ways for a project to fail and, as such, failure or success depends on the criteria used (Klakegg, 2009). However, these definitions can be categorised into two –the traditional approach, which is centred on the management of the project and the product stage. The traditional approach to defining project failure and success is centred on the project baseline, otherwise known as project constraints or what Atkinson (1999) famously terms the ‘Iron Triangle’. This definition does not view project success/failure beyond the product or delivery stage (Abednego and Ogunlana, 2006). Advocates of the traditional definition, such as Turner (1996), Kappelman et al. (2006), and El Emama and Koru (2008), argue that project success/failure should be judged on whether the project has met the set time, cost and requirement. Proponents of this definition contend that a project is said to have failed when it fails to meet one and/or all the triple constraints; however, Turner (1996) and Wateridge (1998) did not rule out further possible success/failure criteria.

Other writers argue that project failure should go beyond the traditional axiom postulated by authors such as de Wit (1988), Pinto and Slevin (1988), Turner (1996), Kappelman et al. (2006), and El Emama and Koru (2008). For example, Wideman and Shenhar (1996) document instances where projects are unable to meet baseline time, budget, and requirements, but were still considered successful. This indicates that assessing project performance on the traditional key performance indicators (KPIs) is not enough (Toor and Ogunlana, 2010). This view is ably supported by the widely cited Sydney Opera House project, which is considered as an engineering masterpiece despite taking 15 years to



complete and being 14 times over budget (Jugdev and Muller, 2005; Ika, 2009; Savolainen et al., 2012).

Recent developments in project management practices, and the awareness of the existence of numerous stakeholders associated with projects, especially public or government projects (Patanakul, 2014), has caused a paradigm shift from the traditional definition towards a focus on the after delivery and the impact stage. Thus, in some studies (Mantel and Meredith, 2002; McManus and Wood-Harper, 2008), there is a deviation from the traditional definition to the stakeholder perspective. In this view, project failure or success is based on stakeholder satisfaction and, as such, a successful project is one that meets stakeholders' satisfaction and vice versa. However, satisfying all stakeholders associated with a particular project is extremely difficult, as they may be numerous, especially in public sector projects (Jensen, 2001; McManus and Wood-Harper, 2008). Nevertheless, McManus and Wood-Harper (2008) argue that these stakeholders should be satisfied to a certain degree, or at least the majority of them must be satisfied.

There is also an economic perspective to what constitutes project failure/success (Mangione, 2003). Within this view, a project's failure/success is a function of its ability to generate enough return on investment (ROI). Thus, a project is considered a failure if the ROI is negative and successful if the ROI is positive (Mangione, 2003).

The dichotomous view<sup>2</sup> of project success/failure has caused researchers to divide the success/failure definition into two parts – project management success/failure and project success/failure (de Wit, 1988; Munns and Bjeirmi, 1996; Ika, 2009; Salazar-Aramayo et al., 2013; Berssanti and Carvalho, 2014; Serra and Kunc, 2015). Project management failure is linked to the iron triangle or the triple constraints, whilst project failure is linked to the impact of the project on the client or the end users of the project's deliverables – the product phase

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<sup>2</sup>Thus, project management phase versus product phase.

(Munns and Bjeirmi, 1996) – and/or the benefits that the organisation receives from the project in the long term (Muller and Jugdev, 2012; Serra and Kunc, 2015).

Atkinson (1999) offers a definition comprising both the traditional approach (management phase) and the after delivery (product phase). Atkinson shares the view of Wideman and Shenher (1996): that project failure should go beyond the triangle stage (time, cost, and requirement) to include the post-delivery phase in order to look at the product phase. In view of this, Atkinson (1999) adds three more ways in which projects should be assessed. This is called the square route framework. This framework uses the Information System (IS) as an example and argues that, apart from the ‘iron triangle’, a project should be assessed on its Information System, benefits to the organisation, and benefits to the stakeholder community. Atkinson’s (1999) square route framework is comprehensive and all-encompassing; it fits into this study. Thus, this study adopts the framework by replacing the IS and benefits to the organisation with sector and national development respectively. Further, we do not include the economic perspective offered by Mangione (2003) in this study, because this purely relates to the private sector, where shareholders are the focus, but this research is conducted within the government sector, which has no shareholders. Therefore, in this study, Ghanaian government project failure is assessed using the criteria outlined in the adopted framework presented in the figure below.

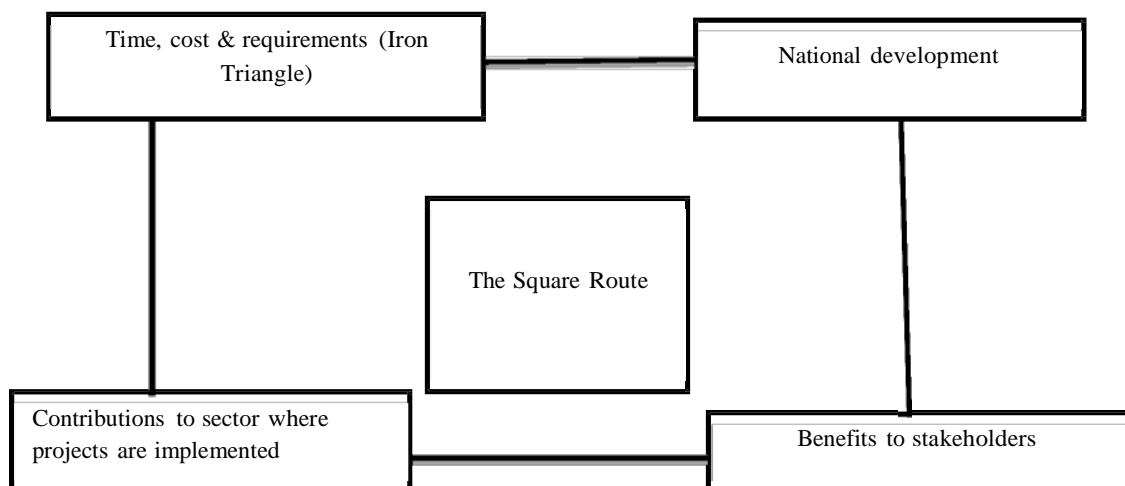


Fig.1 Square root framework

Source: Author's Construct (adopted from Atkinson, 1999, p.341)

### Methodology

An initial literature review was conducted in order to paint a broader picture of project failure within which the Ghanaian government project failure framework could be appreciated, and to develop the theoretical framework used as an assessment tool.

### Population

The empirical part of the study used a mixed-method data collection – thus, in-depth semi-structured interviews and a questionnaire survey. Three sets of stakeholders were the target population – the general public, contractors, and project management practitioners (PMP). Specifically, the PMP and contractors were taken from the Ghana Business Directory (Ghana Business Directory, 2014) (Project management services and contractors list) or were members of professional associations and institutions such as the Ghana Institute of Engineers, Ghana Association of Managers, Association of Building and Civil Engineering Contractors of Ghana and Chartered Institute of Project Management – Ghana, whilst the general public were picked using simple random sampling. Only individuals who worked in these companies were targeted. Companies that appeared in more than one of these lists had only one entry and the rest were eliminated. Further, only active companies were targeted.

### Research Approach

The empirical part of the research used a two-stage sequential approach by employing an in-depth semi-structured interview and a questionnaire survey respectively.

### Stage 1 In-depth semi-structured interview

Exploratory data gathering in the form of an in-depth semi-structured interview was conducted in order to validate the literature as well as to gather any new data within the local context. An initial three (3) interviews were conducted as a pilot study – one from each category of respondents. They were analysed and then all the necessary amendments were made before the full interviews were conducted. By pre-testing, the researchers followed the steps that Foddy (1994) recommended should be followed in order to ensure the validity and reliability of a study's questions. Ten (10) participants were purposely selected from the listed associations based on their knowledge, in order to provide valuable information on Ghanaian government project performance using the success/failure criteria presented in the framework above. Purposive sampling was adopted because the researcher wanted to gather data from only those who had rich information about the subject under study. As a result of this, only practitioners who work for active and well-known companies were contacted to participate in the study. The number was not pre-determined at the start of the research – it was arrived at when the data reached saturation point: the point at which the data has been thoroughly optimised such that no new information emerges from participants (Morse, 1995, 2000; Hill et al., 2005; Guest, 2006; Silverman, 2013). Further, this is in line with previous research that has used interviews – a typical example is the study of female sex workers in West African cities, where Guest et al. (2006) reached saturated point after interviewing 12 participants in a homogenous population.

The researchers interviewed all the participants at their homes, offices or construction sites. These interviews took place between June and September 2013, and each was audio-recorded and transcribed afterwards. All interviews were conducted in English (the official language in Ghana); nonetheless, participants were allowed to express themselves in their

local language if they wished; however, none spoke in any local language. The transcribed data was analysed using thematic and content analysis with the help of Microsoft Word and NVivo 10 software. Pre-determined themes in the adopted framework in Figure 1 in section two were used.

### Stage 2 Questionnaire survey

Using the data from the literature review and interviews, a questionnaire was developed for the survey. A five-point Likert scale where 5= Least Achievement and 1= Highest Achievement was used, as indicated in Appendix B. Yamane's 1967 formula was adapted to determine the representative sample size for the PMPs and contractors for the questionnaire (Israel, 1992). Using the formula, the 722 registered and active members in the companies ( $N = 722$ ) were used. This number was arrived at after auditing the associations as indicated above. At an acceptable 95% level of confidence, there is a statistical z value of 2 ( $z = 2$ ), with an error limit of 10%. Adapting Yamane's formula, the required sample for the contractors and PMPs is determined as:

$$n = \frac{N}{1 + Ne^2} = \frac{722}{1 + 722(0.01)^2} = \frac{722}{8.22}$$

$$n = \frac{722}{8.22} = 87$$

Where,

$n$  = required response

$e^2$  = limit of error

$N$  = sample size

This means that the lowest acceptable response must be 87 at a 95% level of confidence, with the level of error at 10%. However, to strengthen the validity, the researcher distributed 300 questionnaires to the PMP and contractors.

The researchers, as part of the administered survey, received 159 responses from the individuals in the companies, as indicated in Appendix C (i), which is above Yamane's required response threshold. As a result of the sample size exceeding Yamane's estimate, the researcher adopted the formula to determine the confidence level and limit of error for the actual responses received.

$$e^2 \frac{z^2 p(1-p)}{n1} = \frac{z^2 p(1-p)}{N} = \frac{2^2 0.22(0.78)}{159} - \frac{2^2 0.22(0.78)}{722}$$

$$e^2 = \frac{4(0.2)(0.78)}{159} - \frac{4(0.2)(0.78)}{722}$$

$$e^2 = 0.00392453 - 0.0009506925$$

$$e = \sqrt{0.002974}$$

$$e = 0.0545$$

$$e = 0.055 * 100 = 5.5$$

p = actual responses as a percentage of population

N = population surveyed

e = error limit

n1 = actual responses received

The results show that a 22% response rate of the total population of 722 at a 95% confidence level has an approximately 5.5% error limit. In social science research, a 95% confidence level with an error limit of 10% is acceptable (Yin, 2009). Therefore, having a lower error margin of 5.5% increases the validity of the data.

On the other hand, the general public was selected using simple random sampling. For the sample size, due to Ghana's large population, Yamane's formula could not be used and therefore quota sampling was applied here – thus, 200 samples (20 for each of the 10 regions in Ghana) were used. Moreover, the use of 20 each for every region was to ensure regional

balance. This was to improve representation (Saunders, 2012) – it was assumed that people from different regions might have different perceptions about the subject matter.

Like the interview, the questionnaire was piloted to improve the reliability and validity of the data; this consisted of seven (7) participants – Project Management Practitioners (3), Contractors (3) and General public (1). In addition, a preliminary analysis of the seven questionnaires was carried out using Cronbach's alpha. Cronbach's alpha allows us to measure the reliability of different variables (Legendre, 2005). It consists of estimates of how much variation in the scores of different variables is attributable to chance or random errors (Selltiz et al., 1976). As a general rule, a coefficient greater than or equal to 0.7 is considered acceptable and a good indication of construct reliability (Nunnally, 1978). All the necessary amendments were made to ensure that the questionnaire was clear and understandable to the respondents.

Overall, 500 questionnaires were distributed to individuals through emails and in person. Initial calls and emails were made to the respective companies and individuals to request their participation. Out of the 500 questionnaires sent, 270 were returned and 265 were fully completed and good for analysis. The full demographic is presented in Appendix C (i) under response rate. This part of the research took place between June and December 2014.

The data was analysed using statistical techniques which included Relative Importance Index, Spearman Rank Correlation Coefficients, and Kendall's Coefficient of Concordance and the Chi-square test of significance. The purpose was to statistically test the various criteria identified in the literature, as indicated in the framework, against Ghanaian government projects in order to know in which success/failure criteria area government projects fail most and also to test the homogeneity of the population sampled.

## Results

Using the failure/success criteria outlined in Atkinson's adopted square route framework, it was found that respondents perceived that Ghanaian government projects fail on all the criteria.

## Iron Triangle

### Time

All the respondents were in agreement that Ghanaian government projects do not meet their projected timescales and that they have witnessed a lot of time overlap. In the words of R3, for instance, Ghanaian government projects "...hardly meet their time duration and most of them don't meet their time duration, if I can remember. It's only about two or three that were finished within the stipulated time, and even these were projects funded by donor agencies. Projects which were directly funded by the government of Ghana hardly meet the time".

However, respondents were not able to give specific ratings in terms of the failure percentage. Whilst some of the respondents gave their perception of the failure rate (e.g. R1, R10), others (e.g., R2) did not attempt to rate it at all. For instance, R1 rated time overruns at 90% by saying that, "looking at time, I can assure you that about 90% of government projects are unable to meet time". However, R2 said that, "it is not easy to rate, especially because of the dynamics of the times; it will be difficult to say 50% achieve that, 20% achieve – I may not be able to say so. But I can say that quite [the] majority of government projects at least are unable to meet [their] projected time objective".

### Cost

In relation to cost or budget, all respondents agreed that there is deviation in most government projects and the deviation is mostly in terms of cost escalation. As with the time factor, most



of the respondents (R2, R3, R4, R6, R8, R9, R10) were reluctant to rate cost in terms of percentage; however, they perceived that hardly any Ghanaian government projects meet this success criteria. Nonetheless, R1 did provide a rating, by saying that, “in terms of budget I can for sure tell you that about 60% are unable to meet the target budget”. Moreover, R5 rated the degree of cost overruns at 35%. However, R5 was only able to speculate about this, not having any specific records to confirm this claim.

The most popular reason they all cited was due to delays in payments by government and government agencies responsible for payments, which meant that contractors have to wait and, in waiting, price fluctuations set in – hence, cost escalation. Another reason was the over-reliance on foreign donors and international financial agencies for funding of projects: what is called release of funding.

#### Requirement

Apart from R4 and R8, all of the respondents perceive that Ghanaian government projects sometimes do not meet the requirements. In fact, those (R4 & R8) who were silent on the subject put the three failure criteria (time, cost and requirements) together and said that Ghanaian government projects rarely meet these criteria.

Specifically, R1 said that, in the area of sanitation, for instance, the required deliverables are not achieved in that, “sometimes, these projects do not meet the standard that they want; especially, women have special needs, so if these needs are not there for them, they don’t use it”. Further, R1 said that, in relation to requirements or deliverables, “about 45% do not meet it but the rest [do]”. R8 and R7, who are both contractors, said that sometimes contractors produce shoddy work, though neither of them agreed that they had ever done so. However, they did say that their colleagues have sometimes produced shoddy

work, and sometimes the projects do not work at all. In the area of construction, for instance, both R7 and R8 said that sometimes buildings collapse before the project is completed.

R9 perceived that, “in terms of quality – the problem is because most of the projects are executed by foreigners and they don’t know our weather conditions, our culture and other things that are locally known to the citizens of Ghana, and therefore do the work anyhow”.

#### Stakeholder Satisfaction

In relation to stakeholder satisfaction or benefits to the stakeholder, the respondents’ views were similar. All of them agreed that some of the projects benefited the stakeholders whilst others did not. The main reason cited for non-satisfaction was sitting projects in the wrong place or embarking on projects where they are not needed – due to lack of feasibility studies and inadequate consultation with the stakeholders. For instance, one respondent (R1) said that, “if I should look at it from [an] ordinary man’s viewpoint, because Ghana is a developing country, and most of these projects are non-existent, then you may be tempted to say that stakeholders are 100% satisfied, but, from the technical point of view, you can say that about 60/70% are able to meet stakeholder satisfaction targets”.

R2 also said that, “most often, the stakeholders get the benefit and therefore become very satisfied with the product from the project but they don’t get it when they actually need it most”. However, R3 perceived that the degree of benefit or satisfaction depends on the sector in which the project is being executed: “...about 40% [of projects] are unable to meet the expectation of the beneficiaries – for example, using market buildings, about 30% meet satisfaction and 70% [are] unable to meet expectations of users”.

#### Contributions to the sector where projects are implemented

In terms of sector contribution, the response was relatively positive. The respondents agreed that Ghanaian government projects often contribute to the sector in which they are implemented. R2, for example, said that they “contribute to the sectors, thus, the main reasons why they are made; but most often; it takes a long time to get these benefits”. R3 also said that, “our activities are geared towards several sectors, some are education, economic, sanitation ...; for the education [projects], they are able to meet the needs of the beneficiaries because people have realised the importance of education” and, as such, these projects contribute to the enhancement of their educational needs.

The only negative response was that sometimes the projects are not needed or they are not implemented where they are needed, and therefore the expected contribution to that sector is not realised. In addition, if a project is abandoned, then it will fail to contribute to the sector. For instance, R9 perceived that sometimes the government will build a teacher’s bungalow but they will site it in the wrong place and thus it may not be patronised as expected.

#### National development

Most of the respondents did not talk much about this topic. The reason was that, once they had contributed to the respective sectors as discussed above, they had automatically contributed to national development. In the words of R6, for instance, “this is the same as the contribution to [the] sector as I have already stated”. R2 also said that, once the projects have been completed, then they contribute to the development of the country. R1 specifically rated this contribution at 70%, leaving 30% as no contribution – due to the irrelevance of such projects. He cited political reasons for the existence of such irrelevant projects.

#### Ranking Ghanaian government project failure on different criteria

Based on the results from the in-depth semi-structured interviews, Ghanaian government projects fail on all the success/failure criteria; however, it was not revealed which criterion performs worst in comparative terms. In order to do so, a questionnaire was developed so that participants could rank these failure criteria in order of importance (the worst failure criteria) as shown in Appendix B, under questionnaire survey.

The Relative Importance Index (RII) statistical technique was employed to compare how participants ranked these factors. The result is presented in Table 1 below. The Relative Importance Index (RII) was calculated using equation 1 (as outlined in Fagbenle et al., 2004):

$$RII = \frac{\sum_{i=1}^5 P_i U_i}{N(n)} \dots\dots\dots 1$$

Where,

RII = relative importance index

$P_i$  = respondent’s rating of the failure of government projects

$U_i$  = frequency of respondents placing identical ranking on the failure of government projects

N = sample size, which in this case (contractors=78, PMP=81 and general public=106)

n = the highest attainable score on the failure of government project, which in this case is 5

i= 1,2,3,4, 5

The indices calculated were ranked for contractors, PMP and general public. The results of the rankings as well as the overall rankings are shown in Table 1.

Table 1: Relative Importance Index and Ranks of Ghanaian Government Project Failure

Factors	Contractor		PMP		General Public		Overall Rank
	RII	Rank	RII	Rank	RII	Rank	
Cost	0.546	2	0.486	6	0.458	5	5

Time	0.500	6	0.491	5	0.457	6	6
Requirement	0.513	4	0.551	4	0.474	4	4
Stakeholder satisfaction	0.513	4	0.583	3	0.509	2	3
Contribution to where the project is being implemented	0.556	1	0.598	1	0.506	3	1
National development	0.518	3	0.593	2	0.515	1	2

The overall rankings indicate that the worst performance criterion for Ghanaian government projects is in the area of meeting the time. Cost is the next area in which Ghanaian government projects fail the most. This is followed by requirement, stakeholder satisfaction, national development and contribution to the sectors where projects are implemented respectively.

#### Agreement Analysis

It is important to establish that the rankings provided by the contractors, PMP and the general public were not due to chance or some form of bias but represent the true performance of government projects.

To do so, two methods were used – Spearman Rank Correlation Coefficient and Kendall's Coefficient of Concordance (W). Both tests are non-parametric tests, which mean the distribution does not necessarily need to be normal before they can be applied. In other words, the computation uses medians and not means; hence, they are not affected by outliers.

The Spearman rank correlation coefficients ( $\rho$ ) was calculated using equation 2 (as outlined in Fugar and Agyakwah-Baah, 2010):

$$\rho = 1 - \frac{6 \sum_{i=1}^n d_i^2}{n(n^2 - 1)} \dots\dots\dots 2$$

Where,

$d$  = the difference between the ranks given by any two categories of respondents for an individual cause; in this case the categories are contractor, PMP and general public.

$n$  = the number of criteria/factors, which in this case is six criteria

$i = 1, 2, 3, 4, 5, 6$

The results of the computation showed a Spearman rank correlation coefficient of 0.997, 0.996 and 0.999 for contractors and PMP, contractors and general public, and PMP and general public respectively. All three coefficients are strong and positive, which shows a high agreement between the rankings of the three categories.

The pair with the highest agreement was PMP and general public, a result which is consistent with the findings of Puga and Agyakwa-Baah (2010), who found consultants and clients to have the highest agreement on the causes of delays in building construction projects in Ghana, compared with the opinions of contractors.

It is important to use a single coefficient to establish the degree of agreement between the three categories. This is where the Kendall's Coefficient of Concordance ( $W$ ) becomes useful. Kendall's  $W$  is directly related to the Spearman rank correlation coefficient (Legendre, 2005). Kendall's  $W$  is calculated from the mean ( $\bar{\rho}$ ) of the pairwise Spearman correlations ( $\rho_s$ ) using equation 3 (as outlined in Siegel & Castellan, 1988, p. 262; Zar 1999, pg.448):

$$W = \frac{(m - 1)\bar{\rho} + 1}{m} \dots\dots\dots 3$$

Where,

$m$  = the number of categories of respondents, which in this case is 3

$\bar{\rho}$  = the mean of the pairwise Spearman correlations, which in this case is 0.997

The computed Kendall’s W is 0.998, which shows that there exists a high degree of agreement across the categories (contractor, PMP, general public) on the Ghanaian government projects failure.

Test of Significance

It is important to establish if the extent of agreement/disagreement across the categories is statistically significant. To do so the Chi-Square test is used. First, a hypothesis is formed:

Null Hypothesis =  $H_0$  = There is disagreement in Rankings among the three categories

Alternate Hypothesis=  $H_1$  = There is agreement in Rankings among the three categories.

The Chi-Square test is also a non-parametric test used to determine if a significant difference exists among the category rankings. There is a relationship between the Chi-Square value and Kendall’s W shown in equation 4 (as outlined in Frimpong et al., 2003):

$$x^2 = m(n - 1)W \dots\dots\dots 4$$

Where,

m = the number of categories of respondents, which in this case is 3

n = the number of criteria/factors, which in this case is six criteria

W= Kendall’s coefficient which in this case is 0.998

The result of the computation is  $x^2 = 14.97$  and using the critical table for n=6 and  $\alpha = 0.05$  (that is a 95% confidence interval), the Chi-square critical ratio=  $x_{\alpha}^{2(n-1)} = x_{0.05}^{2(5)} = 11.07$ .

Decision Rule

Since the computed Chi-Square value ( $x^2 = 14.97$ ) is higher than the Chi-Square critical ratio ( $x_{0.05}^{2(5)} = 11.07$ ), we reject the null hypothesis ( $H_0$ ) and conclude that there is a high degree of

agreement among the three categories on the performance (failure) of Ghanaian government projects.

## Discussion

This section discusses the extent of project failure in Ghanaian government projects adopting the square route framework proposed by Atkinson (1999) – this includes the following criteria: time, cost and requirement (iron triangle); contribution to the sector in which the project is implemented; stakeholder satisfaction; and national development. In relation to the above criteria, all respondents agreed that Ghanaian government projects fail; however, the extent of failure differs from criterion to criterion. This is discussed below in descending order.

### Iron Triangle Criteria

#### Time

All the respondents were in agreement that Ghanaian government projects do not meet their projected timescales and that they have witnessed a lot of time overlap. Thus, rarely do Ghanaian government projects achieve their anticipated time duration. Some participants rated time duration failure at 90% whilst others rated it at 50%. This suggests that there is no consensus on the extent of failure in terms of not meeting the stipulated time duration.

This finding is in agreement with earlier researchers such as Sambasivan and Soon (2007), Sweis et al. (2008), Kaliba et al. (2009), Ahsan and Gunawan (2010), Kaliba et al. (2009) and Liu et al. (2011), who have concluded that schedule deviation is common in project management in developing countries. However, these previous studies were conducted



in specific industries and/or specific projects (cases), whilst this study looks at government projects in general.

Further, these delays in completion of Ghanaian government projects could also be traced to institutional bottlenecks within the Ghanaian public administration set up; which Amoako and Lyon (2014) found that it stifles public management activities. Similarly, this could also be linked to cultural orientation; inherited from the colonial era, where government work is perceived as belonging to the Whiteman and as such should be handled haphazardly. This also confirms a common statement in Ghana which is interpreted as “we hold government’s work, we don’t carry it on our head”, which literally means do not give your 100 per cent to the government’s work, after all, it not your property (Amponsah, 2010). The implication is that government officials do not pay attention to government projects during implementation, hence, time overlap.

#### Cost

In relation to cost, all respondents agreed that there is deviation in most government projects and the deviation is mostly cost escalation. As with time, most of the respondents were reluctant to rate cost in terms of percentage; however, they perceived that Ghanaian government projects hardly ever meet this success/failure criterion. This was ranked number five (5), as shown in Table 1 – thus, it is the second worst-performing criterion in Ghanaian government project failure.

This finding supports a prior study conducted by Cheng (2014) into construction projects, which asserted that cost overrun is a common problem in the industry. Further, Kaliba et al. (2009), Ahsan and Gunawan (2010), and Aziz (2013) have all found cost deviation in projects in developing countries. Similarly, Pinto (2014) has asserted that cost deviation in project management has become a norm in organisations. Based on these prior

studies' findings, it can be said that this finding is not surprising. The difference between the prior studies and this research is that they were conducted only in a specific industry whilst this study is looking at government projects in general; therefore, this finding can be applied to different industries within the government sector. Moreover, cost escalation can be viewed from a government perspective from the findings of this research – this research finding provides a unique dimension to the project management literature.

#### Requirement

It was found that some Ghanaian government projects do not meet deliverables or requirements. This problem was ranked fourth. The study revealed that shoddy work is often 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 due to corruption or failure to follow the right procedure. It was found that, due to lack of supervision by government consultants and regulatory bodies such as quality control officers, contractors ended up using the wrong products when carrying out projects. The study revealed that this is often found in the construction sector, where the performing organisations have to submit samples of their materials for testing, but they often fail to do so. Further, the study found that consultants are unable to supervise and monitor project standardisation, and this result in substandard work.

This finding is in consistent with Amponsah's study which traced Ghanaian government project failure to colonial rule, when public sector work was perceived to belonging to the 'Whiteman' and as such could be handled haphazardly (Amponsah, 2010). The suggestion is that government officials who are supposed to monitor projects to ensure that they are up to the required standards are fail to do so, hence, poor product.

### Stakeholder satisfaction

In relation to stakeholder satisfaction or benefits to the stakeholder, all respondents perceived that Ghanaian government projects partly meet stakeholders' satisfaction; and this was ranked third by the questionnaire participants. The consensus was that some of the projects benefited the stakeholders whilst others did not. Further, the study revealed that the satisfaction level ranges from 30-70%. The interviewees cited implementing projects at the wrong places or where they are not needed as the main reason for such non-beneficial outcomes. They further perceived that sometimes the deliverables are sub-standard, and therefore they are unable to be used, and so people become dissatisfied with the products of such projects.

This finding confirms Ahonen and Savolainen's (2010) study, which concluded that, in one project, some stakeholders might be satisfied whilst others might not – depending on who is measuring satisfaction and the criteria being used to measure the project's performance. Even though Ahonen and Savolainen's research studied International Development (ID) projects, there is some degree of similarity with this study, as both are related to government projects: Ahonen and Savolainen (2010) concentrated on specific government projects whilst this study focuses on government projects in general. Further, both studies are in developing countries.

Similarly, Lyytinen and Hirschheim (1988), Agarwal and Rathod (2006), Ika (2009) and Carvalho (2014) have all concluded that different stakeholders might have different opinions on the success and/or failure of a project. Therefore, this finding is not surprising, as prior studies have proven that stakeholders often do not agree on their level of satisfaction.

### National development

Most of the respondents did not talk much about this topic. This was because, once they had contributed to the discussion of the respective sectors, they had automatically contributed to

national development. For example, some interviewees argued that, once the projects have been completed, then they have contributed to the development of the country. It was found that about 70% of Ghanaian government projects contribute to national development, leaving 30% as non-contributory – this is due to the irrelevance of such projects.

Further, it was revealed that the reason for this irrelevance is directly linked to politics. Most politicians make campaign promises and then they have to fulfil such promises, even if the projects to which they relate are not needed for national development.

This finding is in agreement with earlier studies such as Eichengreen (1994), Eichengreen (1996), Eichengreen and Vazquez (1999), Alic (2008) and Alzahrani and Emsley (2013), that points out that projects are central to nations' development. The implication is that Ghanaian government projects failure in the area of national development would impact on the citizens.

#### Sector contribution (contributions to sector where projects are implemented)

In terms of sector contribution, the response was relatively positive, as it was ranked first by respondents. The respondents agreed that Ghanaian government projects often contribute to the sector in which they are implemented, simply because that is the main reason why they are implemented. The only negative issue was that, sometimes, the projects are not needed. In addition, if a project is abandoned, then it will fail to contribute to the sector.

#### Conclusions and Implications

We assessed the extent of government project failure using six success/failure criteria as the evaluation framework. Project management practitioners, contractors and the general public were interviewed to solicit their perceptions of the extent of Ghanaian government project failure. The findings showed that government projects fail on all six criteria; however, the

extent of failure depends on the criterion used. It was found that the worst performance criterion is meeting the projected time, followed by cost, deliverables, stakeholders' satisfaction, contribution to national development and contribution to the sector where the project is implemented respectively. A further comparison of their perceptions of these failure areas (criteria) found that the three sets of participants were in agreement on the rankings presented.

We found that, even though projects fail on all the six criteria used for the assessment, the criteria where projects fail most is within the management of the projects and not the product phase of the project. The implication is that project executors and policy makers need to be more proactive in the management of projects. Meeting the projected time was the number one area where projects fail most – we realised that rarely do projects meet their timescale, and it was estimated that over 90% of such projects experience time overrun. We further found that projects experience cost overrun. The implication is that cost estimators need to ensure that proper budgeting is carried out before the start of a project. With regard to requirement, it was found that shoddy work is sometimes produced by contractors and that some of the projects do not meet requirement.

In addition, it was found that, even though projects fail at the product phase (stakeholders' satisfaction, contribution to national development and contribution to the sector where the project is implemented); the extent of failure is minimal compared to the management phase. In the areas of contribution to sectors where projects are implemented and national development, the extent of failure is very minimal, as that is the main reason for project implementation. What accounts for such failure is when projects have been abandoned. Moreover, within the stakeholder satisfaction, the extent of failure was not severe as compared to cost, time, requirement/deliverable, but it was also not as moderate as

contribution to national development and contribution to the sector where the project is implemented.

Many reasons were cited for Ghanaian government project failure – they include political interference, delays in payment, culture, funding, poor planning, corruption, and political patronage. These factors are linked directly or indirectly to cultural and political orientation within the Ghanaian society. However, since the focus of this study was not on these factors, further research would be needed to look into the full details relating to these factors.

Thus, our overarching conclusion is that Ghanaian government projects fail on all the failure criteria used in the assessment framework, but areas of failure have relative importance.

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## APPENDIX

## (A) IN-DEPTH SEMI-STRUCTURED INTERVIEW

## (i) Interview question guide

Ghanaian government projects performance

1. How would you assess or evaluate Ghanaian government projects achieve the following targets: time, budget and requirements?
2. How would you evaluate government project performance in terms of its benefits to stakeholders such as the general public, contractors etc?
3. How would you evaluate Ghanaian government projects' contribution to the sectors in which they are implemented and national development?

## (ii) Table 1. Category of Personnel Engaged

Respondents Category	Number	Type of Engagement
Project Management practitioners	6	In-depth Semi-structured Interview
Contractors	2	In-depth Semi-structured Interview
General Public	2	In-depth Semi-structured Interview
<b>Total</b>	<b>10</b>	

## (iii) Table 2. Interview Respondent's Profile

Respondents	Age	Education	Years of Experience in Current position	Work Experience In Project Management	Overall Work Experience	Industry	Sector
R1(Administrator)	33	Masters	5	8	8	Healthcare	Public
R2 (Consultant & Lecturer)	46	PhD/ Professional	15	15	21	General	Public & Private
R3 (Architect)	37	BA/PgD/ Professional	4	10	10	General	Public
R4 (Structural Engineer)	40	BA/ Professional	4	14	14	General	Public

R5 (Quantity Surveyor)	39	BA/ Professional	15	15	15	General	Public
R6 (Physical & Works Director)	55	Masters/ Professional	1	32	32	Education	Public
R7 (Finance & Administrative Director)	27	Masters	4	15	15	Constructio n	Public
R8 (Director)	45	A-Level	7	7	25	Constructio n	Public & private
R9 (Teacher & Business Woman)	38	Diploma	10	-	10	Education & Retail	Public & Private
R10 (Banker)	31	BA	5	-	7	Banking	Public





## (C) QUESTIONNAIRE RESULTS

## RESPONSE RATE

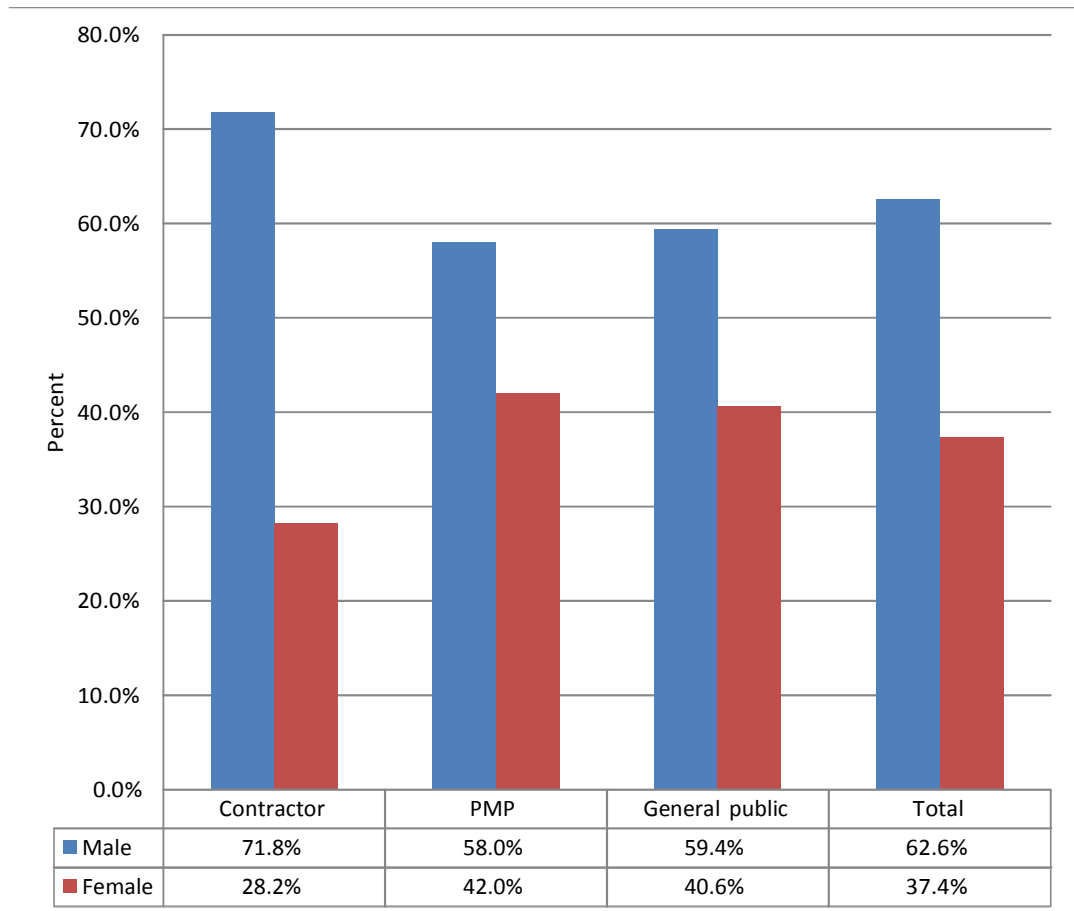
Table (iv) Percentage of questionnaire distribution and their responses

Description	Contractors and PMP		General public	Total
Questionnaires distributed	300		200	500
	Contractors	PMP		
Number of respondents	78	81	106	265
Percentage of responses	53		53	53

## Personal Information of Respondents

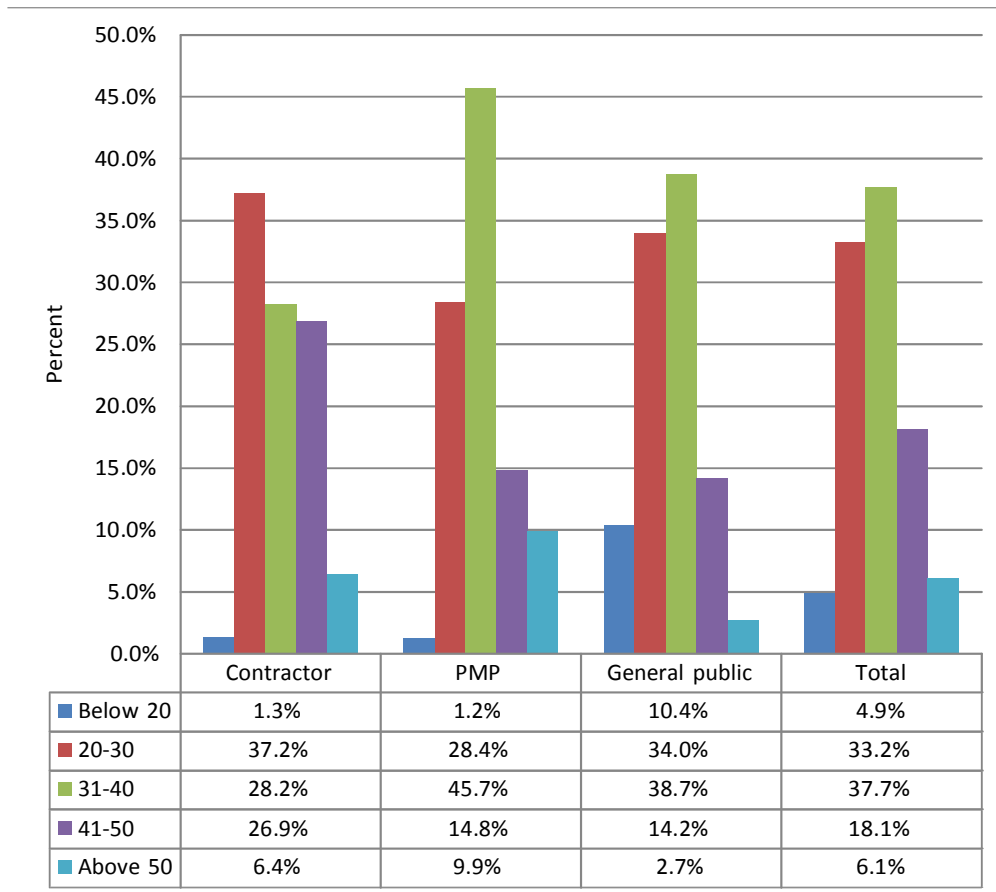
### Gender of respondents

Figure (ii) Gender of respondents with regard to stakeholders



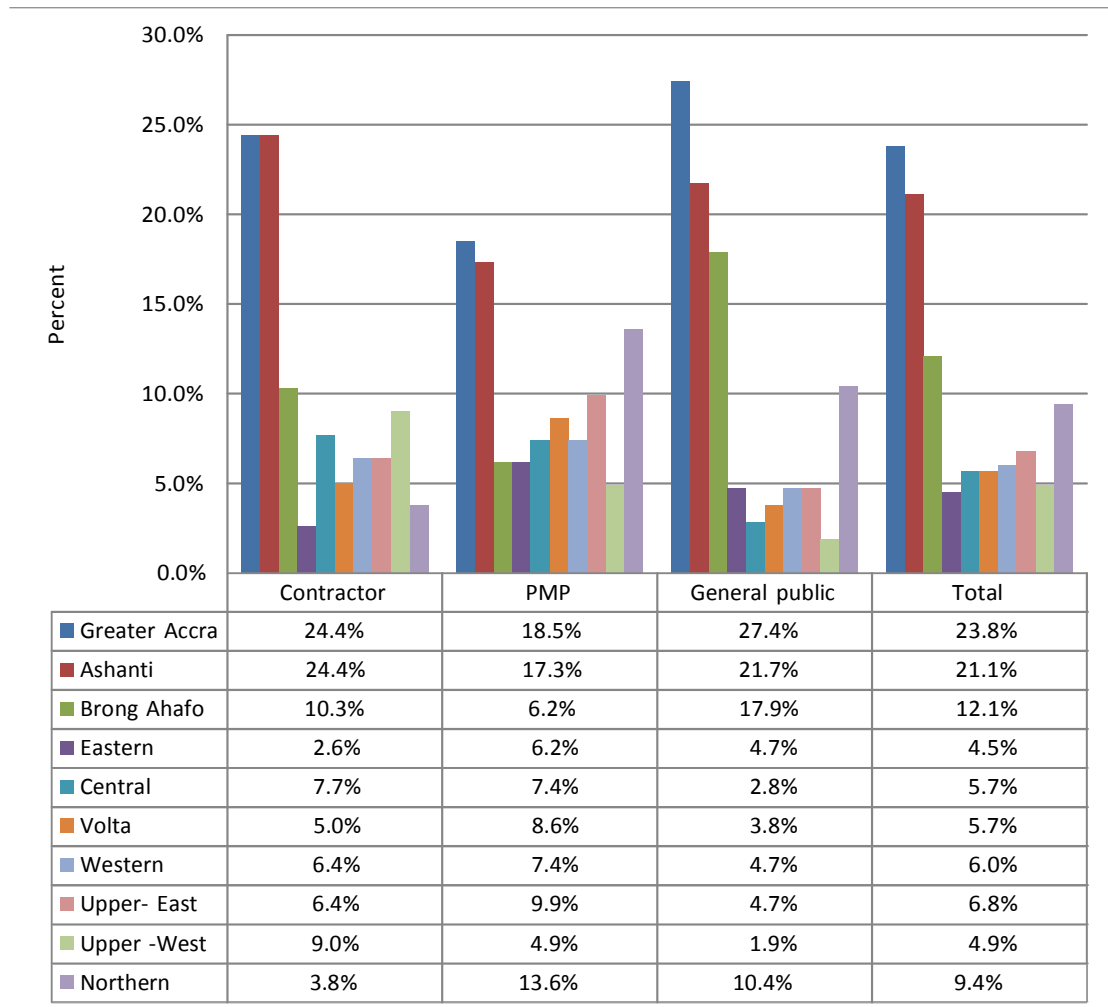
## Age group of respondents

Figure (iii) Age group of respondents



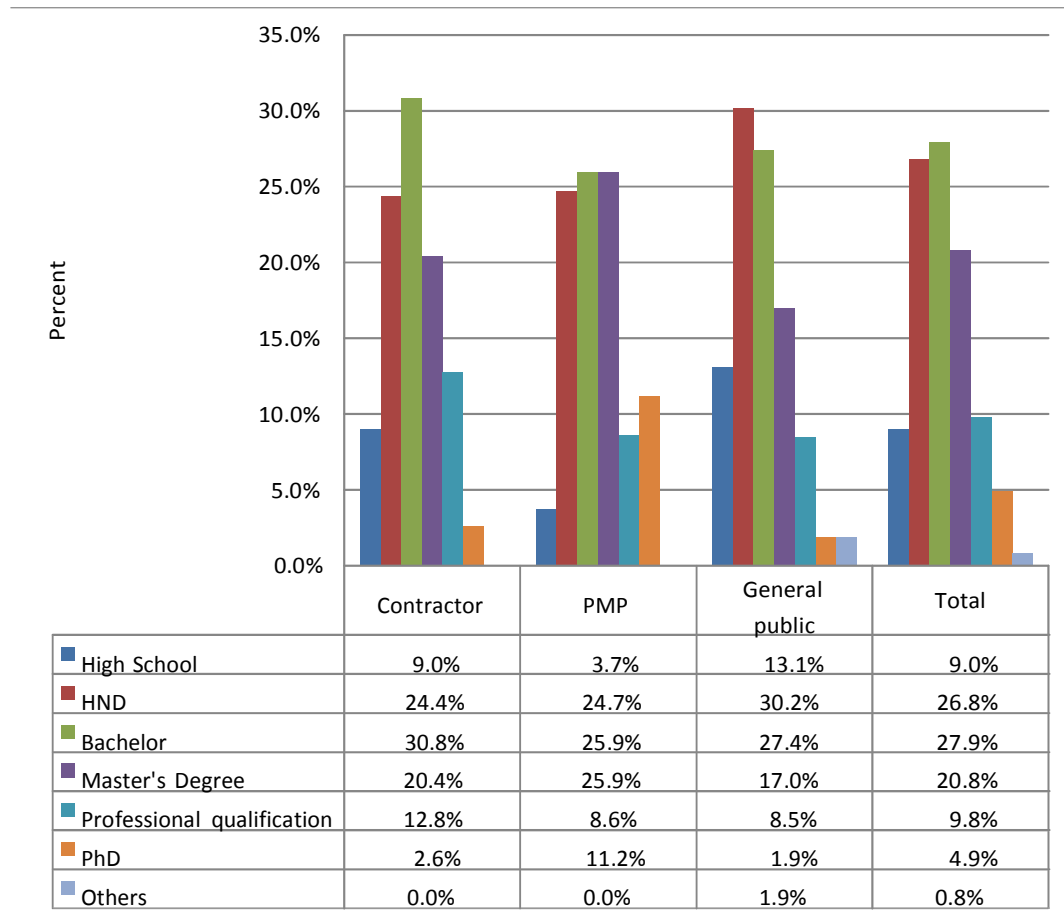
## Regional location of respondents

Figure (iv) Regional location of respondents



## Educational level of respondents

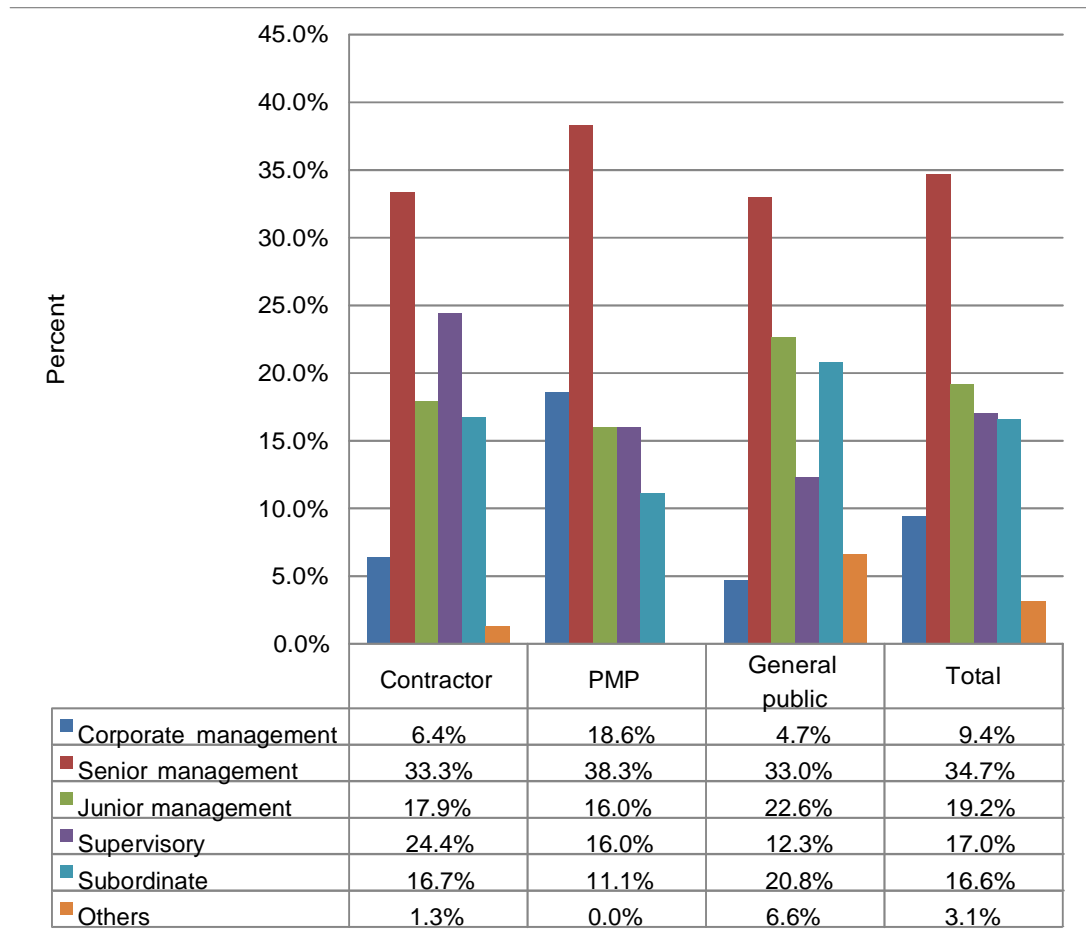
Figure (v) Educational level of respondents



## Professional Information of Respondents

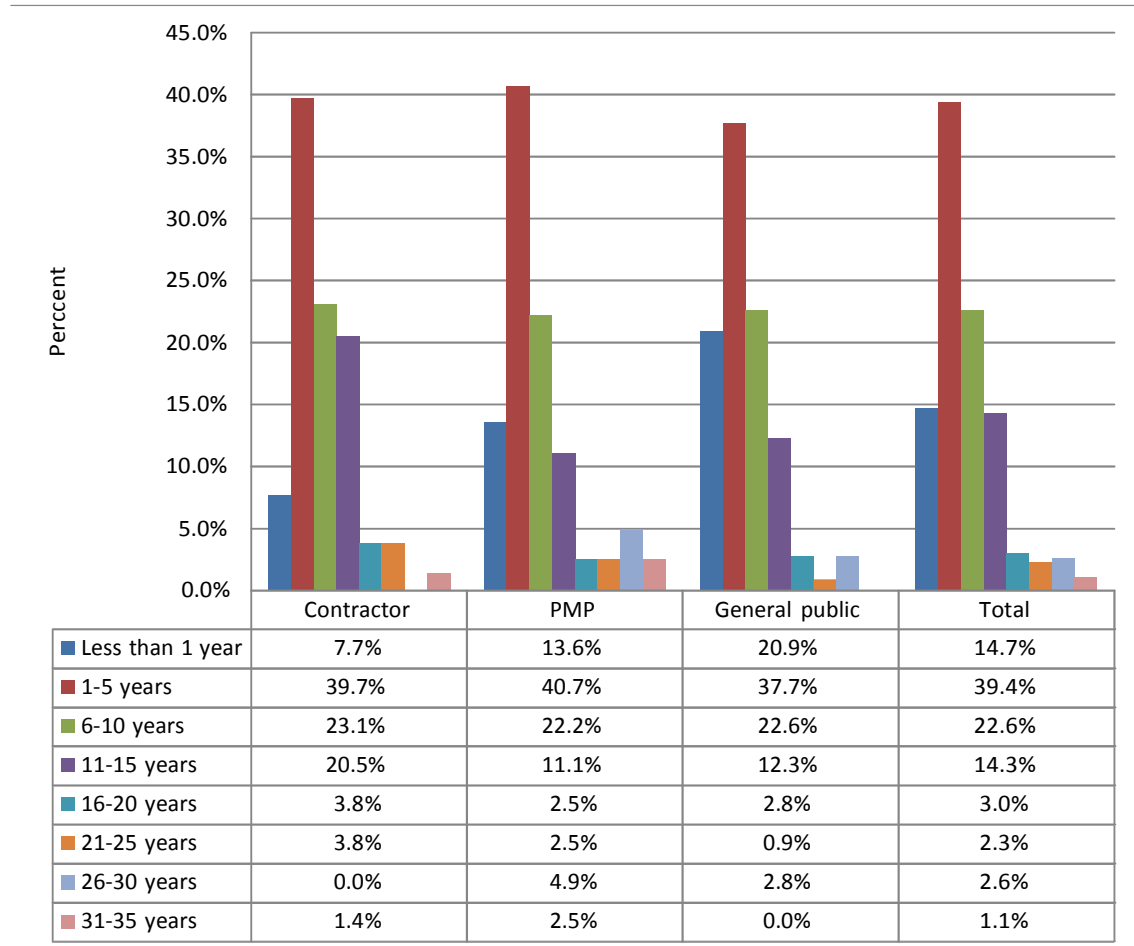
### Position of respondents

Figure (vi) Position of respondents with regard to stakeholders



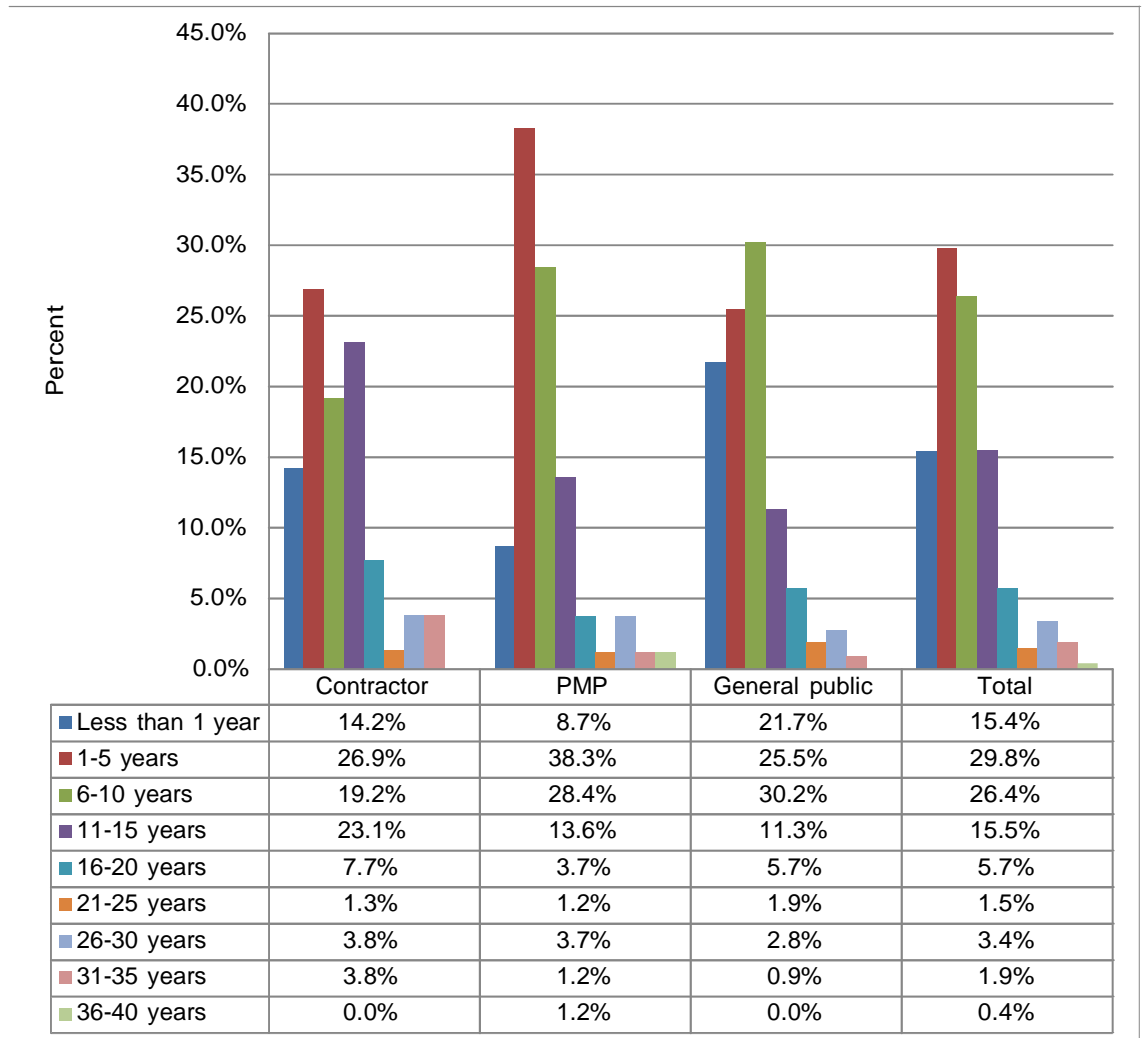
## Years of experience in current position

Figure (vii) Years of experience in current position



## Years of experience in general

Figure (viii) Years of experience in general





## Sector of respondents

Figure (ix) Sector of respondents

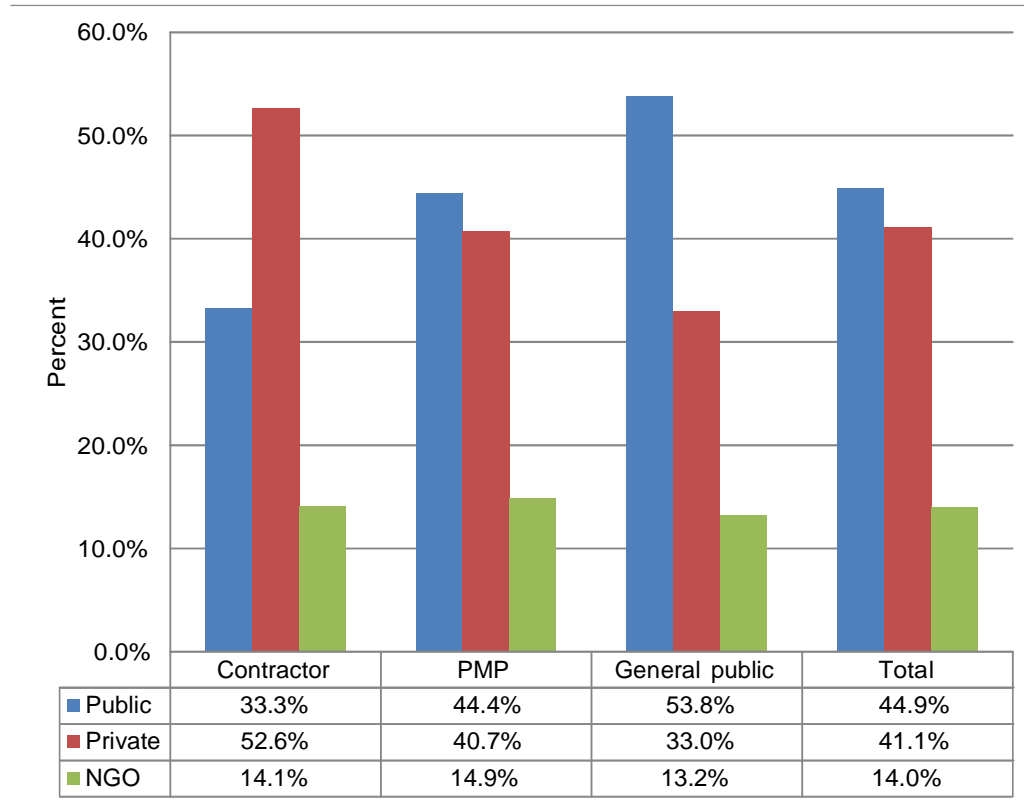
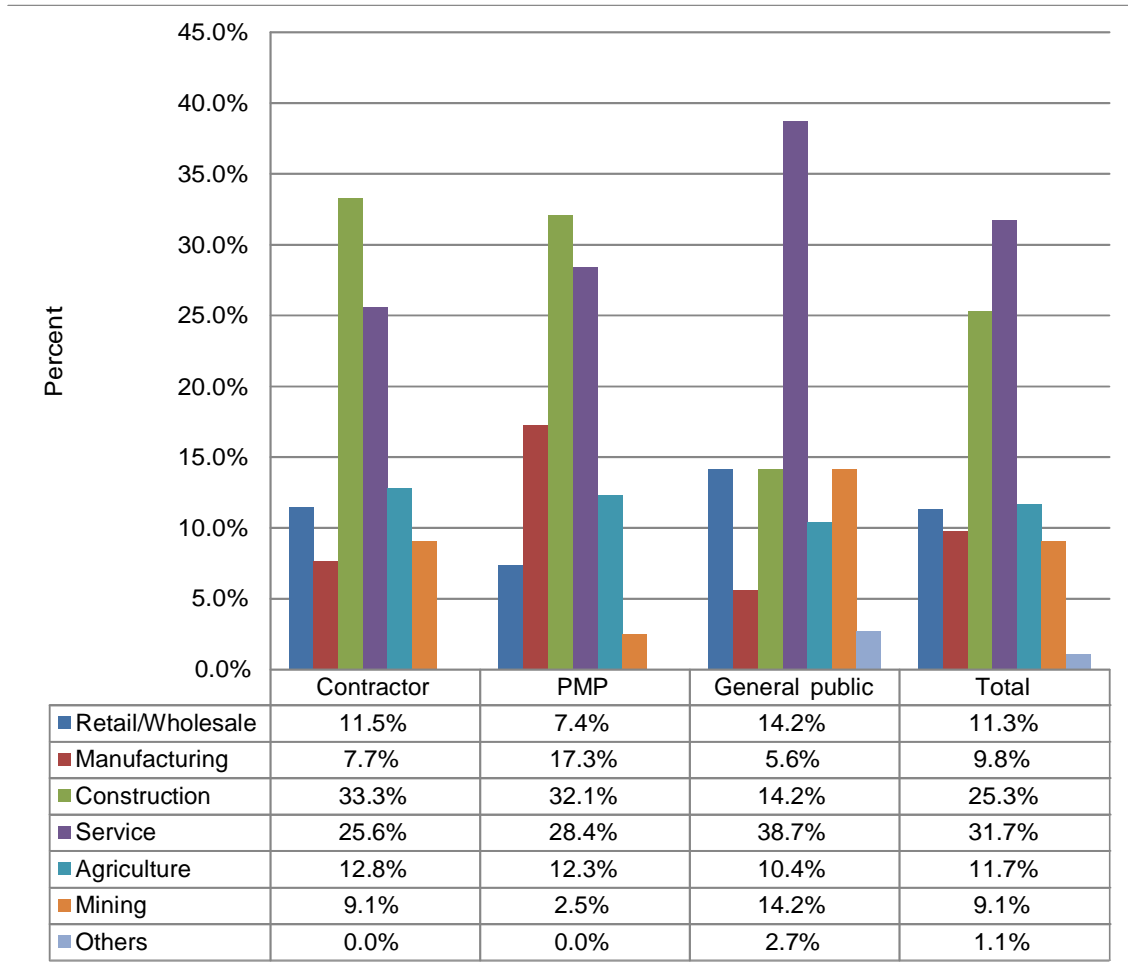


Figure (x) Industry of respondents with regard to stakeholders



## (D) Ghanaian Cultural dimension

Table (v) Hofstede 6-D Model

Cultural dimensions	Scores (%)	Ghanaian cultural attributes
Power Distance	80	Acceptance of hierarchical order in society and organisations
Individualism	15	Collectivist society
Masculinity	40	Relatively feminine society
Uncertainty Avoidance	65	Prefer to avoid uncertainty
Long Term Orientation	4	Great respect for traditions, a relatively small propensity to save for the future, and a focus on achieving quick results
Indulgence	72	Willingness to realise their impulses Desire to enjoy life and having fun Places a higher degree of importance on leisure time, act as they please and spend money as they wish

Source: The Hofstede Centre (2016)