THE ECONOMIC EFFECT OF ABANDONED PROJECTS IN GHANA - THE STUDY AREA OF SELECTED REGIONS IN GHANA

Joseph Ampofo Ansah[1], Christine Ampofo-Ansah[2], Eunice Antiaye[3] and Richard Nii Kotey[4]

[1]Josah Developers Limited, Accra- Ghana

[2,3]Accra Technical University (Secretaryship and Management Studies Dept.)

[4]Riverside Publications, Accra- Ghana

ABSTRACT

Ghana is littered with many abandoned projects which is a cause for concern, considering its economic effect. The study will look at the various projects at different sectors of the economy and find out the causes of abandonment and how to mitigate them. The researcher surveyed various construction. projects in 6 regions of Ghana across various sectors. Target population was 500. However, 312 respondents responded to the questionnaire representing 62.4% which is representative enough. The researcher identified some causes of abandonment namely: Delayed capital, Cost overrun, Overambitious project activities and goals, Political influence, Incompetent project managers, Inflation, causing price and wage changes and Disputes on responsibility (who is in charge of the project). Factor analysis was then used to examine the dimensions within the dataset, to establish and confirm the correlation that exists among the factors and related items were grouped. The study adopted a quantitative enquiry approach where various analytical tools were employed and relative importance index (RII) for the three main constructs; causes of abandoned projects, impacts of abandonment and mitigating actions. The items ranged from low to high level importance based on the ranking criteria recommended. The relative criteria for the study constructs ranked between 0.861 and 0.972 indicating high importance level and has significance on the overall economy of Ghana. The effects on economic prosperity following the abandonment and consequent nonexistence of the benefits that could have been derived on alternative investment considering the scarce resources available. The opportunity cost of government investment is the potential benefits the country has lost because of huge capital investment in infrastructural activities and this has ripple effect

on the economy in a number of ways such as waste, under-utilization of human resources; reduction in employment, Increase in bankruptcy of firms, incidence of bad debt among others.

Key words: Abandoned projects, impact of project, economic effect, delayed payment and cost overrun.

1.0 Introduction

An abandoned project can be regarded as a project which has been totally abdicated or indefinitely delayed. Abandonment of a project may occur at any stage of the project lifecycle and may incur significant amount of loss. Doraisamy *et al (2015)* suggest that, the concept of abandonment is connected to stoppage in progress of a project. They are of the view that, when progress of a project faces too many problems and consequently seems impossible to continue, it becomes an abandoned project. They further argue that, when a project starts at an earlier date and has to be stopped due to some reasons, it is described as an abandoned project. Some researchers further indicate that, abandoned projects are not limited to buildings alone but also include roads, dams, electricity projects, bridges, factories, industrial structures etc. An abandoned project can also be referred to as a project which was begun but discontinued either due to poor pre-project planning, deliberate disregard by new governments of different political parties, based on mischief or lack of interest or on ideological grounds or simply, a project that has not been completed although it could have been completed. A project is a one-time activity with a well-defined set of desired end results, Meredith & Mantel Jr. (1996). The economic impact of an abandoned project is significant indeed Prior to Ghana being ushered into the Fourth Republic, the political landscape had been largely dominated by one "party" military dictatorship. That negative background however ensured continuity and/or progression in projects to completion. The era of constitutionalism in the Fourth Republic brought on good political fortunes, ensuring successful and smooth change of government from one political party to another. However, this era has seen a spate of abandoned projects initiated by successive previous governments. The situation is underpinned by political rivalry between the National Democratic Congress(NDC) and New Patriotic Party(NPP), the two political parties which have dominated the political scene in Ghana.In addition to the political factor, there are other causes such as donor apathy; orchestrated by others such as aid misuse, inflation of project costs, lack of commitment on the part of governments etc. This has resulted in the situation where the entire country is littered with a litany of abandoned projects, cutting across various sectors of the economy.

The theoretical foundation of this study is based on the hypothesis that, there are large numbers of abandoned projects in Ghana and the abandonment has had significant negative impact on the economy of the country. The study will investigate the situation and publish its findings. The focus of this paper is to examine the negative impact that this behaviour has had on the economy of Ghana. Although abandoned projects can be found in almost every sector of the economy, it is preponderant in the building and construction sector.

2.0 Literature Review

According to Panayides*et et. al*(2015), projects require huge capital investment, which therefore calls for consistency in policy and deployment of good project management practices for value delivery. When governments fail to manage projects well by undertaking proper planning before commencement and ensuring consistency in the supply of the required financial and logistical resources, the projects fail and that brings so much loss to the economy, in the light of the opportunity costs, Espiner, (2007), McManus and Wood-Harper(2008), Asay(2008), Fabian and Amir(2011).

Factually, the issue of project abandonment is a challenge for both developed and underdeveloped countries. Saad et al.(2002), Liu et al.(2011) Aziz (2013).McManus and Wood-Harper (2008) contend that, in the area of information technology, the ratio of success to failure of projects is 1:8. Again, according to Asay(2008), the United Kingdom government between the years 2000 and 2008 saw more than US$4 billion go down the drain following failed projects in Information Technology. Furthermore, we can cite the World Bank-funded Chad-Cameroon Pipeline project which was abandoned in 2007 after havingUS$4.2 billion invested in it, according to Fabian and Amir(2011), a discontinuation that was caused by financial malpractices on the part of handlers of the project.

In line with development aspirations, countries all over the world especially developing countries are embarking on massive infrastructural development drive in such areas asroads, dams, plants, pipes, industries, e-governmenance services, telecommunication, ICT, power etc. In view of poverty and serious resource constraints on the part of developing countries, most of these projects are financed by the Bretton Woods Institutions. Various setbacks to taxpayer value have been cited:abandonment, Kumar and Best(2006), cost deviation, Kaliba et al, (2009), Aziz(2013),schedule deviation, Sweis et al., (2008),Fallahnejad(2013), Marzouk and El-Rasas (2014), scope deviation, Liu et al., (2011), and stakeholders' dissatisfaction, Ahonen and Savolianen, (2010).

The factor of cost inflation has been identified as one of the key causes of project failure or abandonment in Ghana, Daily Graphic(2006), Amponsah (2013). There have also been several cases of project abandonment reported in the Ghanaian media and international reports, World Bank and IMF reports (2004, 2007),Central Press(2011) Daily Guide, (2012) GNA(2012, 2014).

Ahsan and Gunawan (2010) have suggested that the abandonment is especially high with international development projects(ID) which are targeted towards enhancing the lives of the poor. According to Amponsah (2013, p.3) "…. at least one out of every three infrastructural development projects in Ghana either fails or is challenged to achieve one of the objectives of Scope, Cost or Time. In [a] few cases they do not achieve the intended purpose for which they were undertaken". Also having observed one failure or after the other, donor agencies have become reluctant in providing the needed support for projects in the country, according to Daily Graphic(2007), Alagidede et al (2013), Amponsah (2012, 2014), Amponsah & Darmoe (2014)and World Bank report (2007).

This study has become especially necessary against the backdrop of resource scarcity both as a matter of general economic challenge and international classification by the United Nations and World Bank as a developing country, Ghana is faced with serious resource constraints and yet faced with endless basic needs to meet. This orientation therefore calls for judicious allocation of resources so as to deliver value to the people and other stakeholders. The issue of abandoned projects constitutes serious waste of the nation's already scarce and inadequate resources.

3.0 Research Methodology

The study adopted a quantitative enquiry approach where various analytical tools were employed and relative importance index (RII). A quantitative methodology aligns with this study since majority of research undertaken in construction management, project management, engineering, and property assessment use quantitative methodology Creswell (2014).

Research questions and hypothesis

The hypotheses of the study examined causes of project abandonment, the mitigating factors to prevent project failure and economic effect of projects which are abandoned. The research questions and hypotheses were as follows:

R1: What are the causes of abandonment in projects?

H1$_{0:}$ There are causes of abandonment in projects

R2: Why are projects abandoned?

H2$_0$: Certain factors contribute to projects that are abandoned.

R3: What are the impacts of abandoned projects on other sectors of the economy?

H3$_0$: Projects that are abandoned impacts other sectors of the economy.

R4: What mitigating factors are able to sustain projects to completion?

H4$_0$: Certain mitigating factors sustain projects to completion.

Variables: Independent variable for the study is Abandoned projects and Dependent variables as following; Delayed capital, Cost overrun, Ambitious projects/goals, Political influence and Incompetence project managers.

Effects of Abandonment: Certain factors were identified as those that occur as a result of abandonment of project as follows: Loss of jobs, locked up capital, other projects suffer, capital has to be injected into the abandoned project to revive it and the fact that abandonment affects other sectors of the economy. Again, certain causes of abandonment were identified as: delayed capital, cost overrun, overambitious project activities and goals, political influence, incompetent project managers, inflation causing price and wage changes and disputes on responsibility (who is in charge of the project).

Research Instrument

Data analysis technique

The main constructs of the study were assessed for reliability using Cronbach's alpha coefficient. Ideally, the Cronbach alpha coefficient of a scale should be greater than 0.70 (Iarossi, 2006). Relative importance index (RII) was the main test used to determine the importance of respondents assigned to each of the study item. The respondents were asked to rank the study items on a 5-point Likert scale (1-5). The item ratings which took the form of rank order ranged from 1=not critical to 5= very critical and 1=least important to 5=most important. As a result of the ranking order of the items, the use of non-parametric testing was appropriate such as the use of the relative importance index method (Siegel & Castellan, 1988) for assessing the preferences of the participants. According to (Kometa et al., 1994) the relative importance index technique is used extensively by construction and facilities management scientists for analyzing structured questionnaires.

Equation 1 below shows the relative importance index according to (Olomolaiye et al., 1987; Chan & Kumaraswamy, 1997

$$RII = \frac{\sum w}{A*N} = \frac{5_{n5}+4_{n4}+3_{n3}+2_{n2}+1_{n1}}{A*N} \qquad \text{Equation 1}$$

Where *W* represents the weighting for each item in the model, *A* is the highest weight associated with the study items whilst*N* represent the total number of respondents, RII takes values from 0.00 to 1.00 based on the RII criteria; the higher the value the more important the item is and vice versa. The importance level of the RII is given as follows according to Chen et al. (2010). The RII which uses the ordinal scale approach uses these ranking scales in the establishment of level of importance; $0.8 < RII < 1.0$ (High,H); $0.6 < RII < 0.8$ (High-Medium,H-M); $0.4 < RII < 0.6$ (Medium ,M); and $0.2 < RII < 0.4$ (Medium-Low, M-L) and $0.0 < RII < 0.2$ (Low ,L).

Factor analysis was used to examine the dimensions within the dataset. It is used to establish the structure and the inter-correlation that exist among set of factors (Norusis, 1993). It helps in finding variations among group items in a model. Although the factor analysis is not a technique for ranking items, it was used to establish and confirm the correlation that exists among the items, leading to the grouping of related items.

4.0 ANALYSIS OF DATA

The study targeted respondents made up of contractors, project management practitioners, engineers and stakeholders. The target population was 500 which consist of 350 contractors, 50 consultants, 50 Engineers and 50 from other stakeholders. However, 312 respondents responded to the questionnaire representing 62.4% which is representative enough.

Respondent Background Information

The study also considered the legal status (identity) of the respondent firms. Table 1 shows that 12 respondents were enterprises or sole proprietorships, 32 of the respondent firms were in partnership or joint ventureship and 268 respondents were limited liability companies. From the table below, it can be concluded that the most dominant firms operating in the construction sector in Ghana are Limited Liability Companies.

Table 1: Ownership Structures

S/N	Response	Frequency
1.	Enterprise/Sole Proprietorship	12
2.	Partnership/ Joint Venture	32
3.	Private Limited Company	268
	Total	312

Source: Research Survey, 2020

Table 2: Category of Construction Firms

S/N	Response	Frequency
1.	Building Construction	235
2.	Road Construction	67
3.	Dam Construction	8
4.	Others (Please specify ………	2
	Total	312

Source: Research Survey, 2020

Table3: Position of Respondents with Regard to Stakeholders

S/N	Response	Frequency
1.	Contractor	247
2.	Project management practitioner	20
3.	Stakeholder	28
4.	Engineer & Other Stakeholders	17
	Total	312

Source: Research Survey, 2020

Table 4: Experience of Respondents

S/N	Response	Frequency
1.	≤5 years	1
2.	6 – 10 years	14
3.	11 - 20 years	139
4.	over 20 years	158
	Total	312

Source: Research Survey, 2020

The experience of the respondents in the context of this research is determined by the number of years of practice and involvement in their industry. The assumption here is that, all things being

equal a contractor's years of experience is likely to have a direct influence on his experience with respect to project delivery and the financial constraints that are associated with it, hence being in a position to supply credible answers to the questionnaire.

Regional location of respondents

Out of the 312 respondents, the majority (86) were from the Greater Accra Region. This is followed by Ashanti (76), Northern (45), Upper East (38), Central (35) and Eastern (32) respectively.

Table 5 Regional locations of respondents

S/N	Region	Frequency
1.	Greater Accra Region	86
2.	Ashanti	76
3.	Northern	45
4.	Upper East	38
5.	Central	35
6.	Eastern	32
	Total	312

Source: Research Survey, 2020

Table 6: Source of Project Funding

1.	Financial Institutions	6
2.	IGF	2
3.	Grants	43
4.	MP Common fund	11
5.	Others (Please specify …	3
	Total	312

Source: Research Survey, 2020

Table 7: Project Life Cycle Responses

S/N	Response	Frequency
1.	Evaluation stage	3
2.	Initial stage	6
3.	planning stage	2
4.	execution and control stage	217

5.	completion stage	84
	TOTAL	312

Source: Research Survey, 2020

Table 8: Number of Employees Recruited By Contractors

S/N	RESPONSE	FREQUENCY
1.	Between 1-100 employees	9
2.	Between 101-200 employees	13
3.	Between 201-300 employees	27
4.	Between 301-400 employees	110
5.	more than 400 employees	153
	Total	312

Source: Research Survey, 2020

Table 9: The Causes of Abandoned Projects

Key; 1 =not critical, 2 = less critical, 3= averagely critical, 4= critical, 5= very critical

S/N	CAUSES	5	4	3	2	1	Ranking
1.	*Lack of Monitoring*	85	143	51	22	11	
2.	*Corruption*	207	70	23	6	6	
3.	*Political Interference*	191	105	12	1	3	
4.	*Lack of supervision*	85	143	51	22	11	
5.	*Change in Government*	202	98	9	2	1	
6.	*Bureaucracy*	133	144	19	10	6	
7.	*Lack of Continuity*	191	105	12	1	3	
8.	*Change of leadership*	202	98	9	2	1	
9.	*Fluctuation of Prices*	50	121	77	41	23	
10.	*Lack of proper Planning*	85	143	51	22	11	
11.	*Bad management practice*	75	123	71	31	12	

12.	*Delays in Payment*	138	89	30	33	22	
13.	*Release of Funds*	162	98	49	2	1	
14.	*Procurement processes*	98	123	45	34	12	
15.	*Commitment to project*	85	143	51	22	11	

Source: Research Survey, 2020

Table 10: The Impacts of Abandoned Projects

S/N	FACTORS	5	4	3	2	1	TOTAL
1.	*It slows down economic growth*	191	105	12	1	3	312
2.	*Loss of revenue by state*	133	144	19	10	6	312
3.	*Unemployment*	191	105	12	1	3	312
4.	*Cost escalation*	138	89	30	33	22	312
5.	*Bad image for government*	138	89	30	33	22	312
6.	*Collapse of local businesses*	133	144	19	10	6	312
7.	*Government sector underdevelopment*	50	121	77	41	23	312
8.	*Loss of foreign aid/grants*	162	98	49	2	1	312
9.	*Discourages investment*	162	98	49	2	1	312
10.	*Stricter donor regulations*	133	144	19	10	6	312
11.	*Financial institutions loss confidence in the state*	138	89	30	33	22	312
12.	*Loss of revenue by citizens*	191	105	12	1	3	312
13.	*Denial of citizens basic rights*	50	121	77	41	23	312
14.	*Accidents and deaths*	50	121	77	41	23	312

Source: Research Survey, 2020

Table 11: Mitigating Actions in Minimising Abandoned Projects

S/N	FACTORS	5	4	3	2	1	TOTAL
1.	*Effective Monitoring*	162	98	49	2	1	312
2.	*Check Corruption*	191	105	12	1	3	312

3.	*Avoid Political Interference*	138	89	30	33	22	312
4.	*Create a flexibility to avoid Bureaucracy*	162	98	49	2	1	312
5.	*Exhibit the Habit of Continuity of Project by new governments*	202	98	9	2	1	312
6.	*Fluctuation of Prices*	50	121	77	41	23	312
7.	*Effective Planning*	162	98	49	2	1	312
8.	*Prompt Payment of contractors*	191	105	12	1	3	312
9.	*Prompt Release of Funds by Donors*	138	89	30	33	22	312

Source: Research Survey, 2020

Table 12: Ranking by stakeholders of project failure from (1 to 5) with 1 being least affected and 5 the most affected.

S/N	STAKEHOLDERS	5	4	3	2	1	RANK
1.	Citizens/general public	162	98	49	2	1	
2.	Contractors	191	105	12	1	3	
3.	Consultants	138	89	30	33	22	
4.	Financial institutions	162	98	49	2	1	
5.	Local business	202	98	9	2	1	
6.	Donor agencies	50	121	77	41	23	

Source: Research Survey, 2020

4.1 Frequency distribution of Items

Data were collected from 312respondents. Table 13, below displays the result of the frequency distribution. As evident in the result, 15.7% of the participants were enterprises/ Sole Proprietorships,20.8% were in Partnership/ Joint ventureship, 20.2% were in Private Limited Company whilst 43.3% were in GOG category. The result shows that 5.8% of the participants were operating into Retail/Wholesale Manufacturing, 25% were into Building and Road Construction,17.3% were into services, 40.7% were in agriculture whilst 11.2% were in the mining activities sector. The analysis suggests that, 16.7% of the participants were contractors, 20.5% were Project management practitioners, 21.2% were stakeholders whilst 41.7% were engineers.As evident in Table 13, 2.2 % of the participants have been in the construction project

for less than 5 years, 31.1% have been involved in the construction project between 6-10 years, 19.6% ,11-20 years whilst 47.1% have over 20 years' experience in construction activities. According to the participants as indicated in the results, 85.6% of them indicated that financial distress is the main factor that contributes significantly to the delays of projects as against 14.4% who indicated otherwise. It was realized that 46.8% were of the view that their source of funding of project by the GOG, 26% indicated Donors, 14.4% financial institutions, 11.2% IGF whilst 1.65% grants. As indicated in the table, 13, 69.2% of the participants indicated that at the evaluation stage of the project life cycle, projects are usually abandoned, 19.6% indicated initial stage, 6.1% at the planning stage, 3.8% execution and control stage whilst 1.3% at the completion stage. Also, it could be observed that 45.8% indicated that at the evaluation stage, contracts are usually halted, 22.1% indicated at the initial stage, 19.2% at the planning stage, 11.2% at the execution and control stage whilst 1.6% indicted the completion stage. From the result obtained as shown in the Table 13, 8.3% indicated that 1-100 employees were recruited to work on site, 25.6% indicated between 101-200 employees, 25.3% indicated 201-300 employees, 32.4% 301-400. employees whilst 8.3% indicated at least 400 employees were recruited to work on site.

Table 13 Frequency Distribution of Items

Item	*N=381*	*%*
Which of the following ownership structures do you operate?		
Enterprise/Sole Proprietorship	49	15.7
Partnership/ Joint venture	65	20.8
Private Limited Company	63	20.2
GOG	135	43.3
Which industry does your company operate in?		
Retail/Wholesale Manufacturing	18	5.8
Building and Road Construction	78	25.0
Service	54	17.3
Agriculture	127	40.7
Mining	35	11.2

Which of these categories best describe you?

Contractor	52	16.7
Project management practitioner	64	20.5
Stakeholder	66	21.2
Engineer	130	41.7

How long have you been involved in construction projects in Ghana?

≤5 years	7	2.2
6 – 10 years	97	31.1
11 - 20 years	61	19.6
over 20 years	147	47.1

In your opinion do you think financial distress related (FDR) factors contribute significantly to project delay?

Yes	267	85.6
No	45	14.4

What is the source of funding of your project?

GOG	146	46.8
Donors	81	26.0
Financial Institutions	45	14.4
IGF	35	11.2
Grants	5	1.6

In which project life cycle are project often abandoned in Ghana?

Evaluation stage	216	69.2
Initial stage	61	19.6
Planning stage	19	6.1

Execution and control stage	12	3.8
Completion stage	4	1.3
At what stage was the contract you were executing got to a halt?		
Evaluation stage	143	45.8
Initial stage	69	22.1
Planning stage	60	19.2
Execution and control stage	35	11.2
Completion stage	5	1.6
Between 1-100 employees	26	8.3
Between 101-200 employees	80	25.6
Between 201-300 employees	79	25.3
Between 301-400 employees	101	32.4
More than 400 employees	26	8.3

Source: Research Survey, 2020

4.2 Descriptive statistics and reliability analysis

Table 14, provides the descriptive statistics using mean and standard and reliability diagnostics of the study items indicated in the result the mean and deviations of the items under causes of abandoned projects ranged from (Mean=4.30 to 4.86; SD=0.44 to 1.02); Impacts of abandoned projects ranged from (Mean=3.03 to 4.85; SD=0.44 to 1.10); whist Mitigating actions have estimated values ranging from (Mean=2.88 to 4.31; SD=0.76 to 1.42). This response from participants indicate that their views were rated above average. Also, the internal reliability of the study items was measured using the Cronbach alpha(α). According to (George & Mallery,2010)and item or construct must have reliability value of at least 0.70 to be considered acceptable for internal consistency. The result as obtained in Table 14, shows that all items have alpha values ranging from 0.73 to 0.89 and overall construct's reliability taking values from 0.77 to 0.88, suggesting that there is high level of internal consistency in the responses provided

which shows that internal consistency is satisfactory and acceptable for appraising the study items by the respondents.

Table 14: Descriptive statistics and reliability analysis

Items	M	SD	Item (α)	Overall(α)
Causes of Abandoned Projects				
Lack of Monitoring	4.73	0.60	0.88	0.88
Corruption	4.84	0.47	0.87	
Political Interference	4.30	1.02	0.89	
Lack of supervision	4.74	0.66	0.88	
Change in Government	4.82	0.50	0.87	
Bureaucracy	4.71	0.74	0.88	
Lack of Continuity	4.68	0.71	0.87	
Change of leadership	4.75	0.59	0.86	
Fluctuation of Prices	4.75	0.62	0.87	
Lack of proper Planning	4.74	0.66	0.88	
Bad management practice	4.83	0.51	0.87	
Delays in Payment	4.79	0.62	0.87	
Release of Funds	4.86	0.44	0.87	
Procurement processes	4.74	0.60	0.87	
Commitment to project	4.82	0.47	0.87	
Impacts of abandoned projects				
It slows down economic growth	4.85	0.44	0.82	0.82
Loss of revenue by state	4.82	0.46	0.81	
Unemployment	4.55	0.88	0.81	
Cost escalation	4.59	0.85	0.80	

Bad image for government	4.64	0.76	0.80	
Collapse of local businesses	4.7	0.75	0.81	
Government sector underdevelopment	4.82	0.53	0.81	
Loss of foreign aid/grants	4.79	0.59	0.82	
Discourages investment	4.74	0.65	0.81	
Stricter donor regulations	3.33	1.07	0.81	
Loss of foreign aids /grants	3.21	1.02	0.81	
Financial institutions loss confidence in the state	3.33	1.10	0.80	
Loss of revenue by citizens	3.31	0.98	0.80	
Denial of citizens basic rights	3.03	1.02	0.79	
Accidents and deaths	3.09	1.10	0.80	
Mitigating actions in minimizing abandoned projects				
Effective Monitoring	3.31	1.18	0.73	0.77
Check Corruption	3.43	1.13	0.75	
Avoid Political Interference	2.88	0.76	0.76	
New Governments should continue ongoing projects	2.93	0.78	0.76	
Create a flexibility to avoid Bureaucracy	3.60	1.34	0.74	
Exhibit the Habit of Continuity of Project by new governments	3.95	1.24	0.74	
Fluctuation of Prices	4.31	1.36	0.76	
Effective Planning	4.29	1.42	0.75	
Prompt Payment of contractors	3.49	1.04	0.75	

Prompt Release of Funds by Donors	3.48	1.03	0.75	

Source: Research Survey, 2020

Ranking analysis for the study items

Table 15,shows the result of the relative importance index (RII) for the three main constructs; causes of abandoned projects, impacts of abandoned projects and mitigating actions. The items have been ranged from low to high level importance based on the ranking criteria recommended. To begin with the causes of abandoned projects, there are 15 items under the causes of abandoned projects, ranging from release of funds (CA1) through to "political interferences" (CA15). As evident in Table 15, release of funds was ranked as the highest priority among all the items under the causes of abandoned projects. The item had an RII score of 0.972.This indicates that it is the most important item that influences the cause of abandoned projects.

The second highest criterion was ranked as corruption with an estimated RII value of 0.969, which is quite close to the first item, this shows how important corruption could lead to abandoned of projects. The third is bad management practices with an estimated RII value of 0.967. The fourth most important item is commitment to project with an estimated RII value of 0.964 whist the fifth most important item representing change in government with an estimated RII value of 0.963.Asindicated in the Table 15, from the sixth item through to the last item were all ranked high having RII value of above 0.80 as recommended to indicate high importance.

Also, in the case of the impact of abandoned projects, 15 items were used for such purpose. The items ranged from IM1 through to IM15. As indicated in Table 1 under the impact of abandoned projects construct, the first most important item of the impact of abandoned projects is, it slows down economic growth with an estimated RII value of 0.970. The second most important item is the loss of revenue by the state with an estimated RII value of 0.964. The third most important item is government sector underdevelopment with an estimated RII value of 0.963. The fourth most important item is the loss of foreign aid / grants with RII value of 0.58.The fifth most important item of the impact of abandoned project is, it discourages investment with estimated RII value of 0.948. The result shows that item 1 through to 9 were ranked above 0.80 indicating highly important. Items 10(Financial institutions lose confidence in the state) through to item 15(Denial of citizens basic rights) have RII value ranging between 0.60 to 0.80 which suggest High-Medium importance.

The respondents were asked to rank mitigation actions that would help in minimizing abandoned projects in the construction industry and the result shows that out of the 10 items, avoiding

political interference was considered the most significant item with an estimated RII value of 0.870. The second is new governments should continue ongoing projects with an estimated RII value of 0.864. In item 3, (Prompt Payment of contractors) through to item 8, haveRII values ranging from 0.778 to 0.611) which shows high- medium importance whilst the items 9(effective planning) to item 10 (fluctuations of prices) were assigned RII values of 0.599 and 0.573 respectively indicating medium importance.

Table 15:Ranking criteria for the study constructs.

ID	Item	RII	Ranking	Importance level
	Causes of Abandoned Projects			
CA1	Release of Funds	0.972	1	High
CA2	Corruption	0.969	2	High
CA3	Bad management practice	0.967	3	High
CA4	Commitment to project	0.964	4	High
CA5	Change in Government	0.963	5	High
CA6	Delays in Payment	0.961	6	High
CA7	Change of leadership	0.951	7	High
CA8	Fluctuation of Prices	0.951	8	High
CA9	Lack of supervision	0.949	9	High
CA10	Procurement processes	0.949	10	High
CA11	Lack of proper Planning	0.947	11	High
CA12	Lack of Monitoring	0.946	12	High
CA13	Bureaucracy	0.942	13	High
CA14	Lack of Continuity	0.937	14	High
CA15	Political Interference	0.861	15	High
	Impacts Of Abandoned Projects			
IM1	It slows down economic growth	0.970	1	High
IM2	Loss of revenue by state	0.964	2	High

IM3	Government sector underdevelopment	0.963	3	High
IM4	Loss of foreign aid/grants	0.958	4	High
IM5	Discourages investment	0.948	5	High
IM6	Collapse of local businesses	0.939	6	High
IM7	Bad image for government	0.928	7	High
IM8	Cost escalation	0.917	8	High
IM9	Unemployment	0.911	9	High
IM10	Financial institutions loss confidence in the state	0.667	10	High-Medium
IM11	Loss of revenue by citizens	0.662	11	High-Medium
IM12	Loss of foreign aids /grants	0.641	12	High-Medium
IM13	Stricter donor regulations	0.640	13	High-Medium
IM14	Accidents and deaths	0.617	14	High-Medium
IM15	Denial of citizens basic rights	0.605	15	High-Medium
Mitigating Actions				
MA1	Avoid Political Interference	0.870	1	High
MA2	New Governments should continue ongoing projects	0.864	2	High
MA3	Prompt Payment of contractors	0.778	3	High-Medium
MA4	Prompt Release of Funds by Donors	0.778	4	High-Medium
MA5	Effective Monitoring	0.747	5	High-Medium
MA6	Check Corruption	0.744	6	High-Medium
MA7	Create a flexibility to avoid Bureaucracy	0.681	7	High-Medium
MA8	Exhibit the Habit of Continuity of Project by new governments	0.611	8	High-Medium
MA9	Effective Planning	0.599	9	Medium
MA10	Fluctuation of Prices	0.573	10	Medium

Source: Research Survey, 2020

Exploratory Factor Analysis

Factor analysis was used to examine the dimensions within the dataset. It is used to establish the structure and the inter-correlation that exist among a set of factors (Norusis, 1993). It helps in finding variations among group items in a model. although the factor analysis is not a technique for ranking items, it was used to establish and confirm the correlation that exist among the items. By so doing, related items were grouped together. Table 16 shows the factor structure for study constructs using Varimax rotation method. To begin with the causes of abandoned projects, the Kaiser–Myer–Olkin (Kaiser,1974) used to measure sample adequacy obtained a value of 0.85 and Bartlett's sphericity ($\chi^2 = 1366.38; p = 0.000$) which suggest significant impact. As the KMO is quite large, more than 0.5, it implies that the sample size used was suitable for the factor analysis(Kaiser,1974). As a result, 3 main components were extracted ,4 items correlate well with component 1, 3 items with component 2 and 3 items with component 3. In this result, component 1 explains approximately 27.12% of variance, component 2 explains 21.12% of variance whilst component 3 explains 21.07. Cumulatively, all three components account for 69.30 of variance in the model.

In the case of impacts of abandoned projects, the estimated KMO value was 0.732, with Bartlett's sphericity statistics supporting ($\chi^2 = 2311.12; = 0.000$). The rotation based on the varimax rotation extracted 5 main components. From the result, 3 items each correlate well with components 1,2 and 3 whilst 2 items each correlate well with component 4 and5, respectively. The amount of variance explained by each component is as follows; component 19.59%, component 218.57%, component 3 15.89%, component 4 13.92%, component 5 13.63% and cumulatively the five components explained about 81.59% of variance in the model.

The result as shown in the Table 16, suggests that, the KMO value of was 0.721, with Bartlett's sphericity statistics showing significant influence ($\chi^2 = 1110.597; = 0.000$).Three main components were extracted based on the rotation method. Four items correlate well with component 1, 2 items each correlate well with component 2 and component 3, respectively. The result shows that component 1 explains 30.672% of variance, component 2 explains 23.777% and component 3 accounting for 21.916% of variance explained in the model and cumulatively all three components account for 76.365% of variation in the model

Table 16: Exploratory Factor Analysis

Item	Component		
	1	*2*	*3*
Mitigating Actions			
Fluctuation of Prices	0.835		
Effective planning	0.789		
Prompt Payment of contractors	0.768		
Prompt Release of Funds by Donors	0.715		
Check corruption		0.913	
Effective monitoring		0.894	
Exhibit the Habit of Continuity of Project by new governments			0.866
Create a flexibility to avoid Bureaucracy			0.850
%	*2.454*	*1.902*	*1.753*
Variacne explained	*30.672*	*23.777*	*21.916*
Cummulative %	*30.672*	*54.449*	*76.365*
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	*0.721*		
Bartlett's Test of Sphericity: Approx. Chi-Square	*1110.597*		
Df	*28.000*		
Sig.	*0.000*		

Source: Research Survey, 2020

"Table 16, Continuation Factor structure for study constructs using Varimax rotation method.

Note: Items loading <0.60 were removed in the model

5.0 Findings, Conclusion and Recommendation

Findings

Hypothesis $H1_0$ Postulate. There were causes of abandonment of projects. From Table 15, results of the relative important index (RII) shows how some constructs cause abandonment of projects. The items were ranked from low to high level importance based on the ranking criteria recommended. Among the 15 items under the causes of abandoned projects, "release of funds" (CA1) was ranked as the highest priority among all the items under the causes of abandoned projects. The item had an RII score of 0.972. This indicates that it is the most important item that influenced the causes of abandonment of projects and therefore making Hypothesis $H1_0$ *There are causes of abandonment in projects* significant.

The second highest criterion ranked was corruption with an estimated RII value of 0.969, which is quite close to the first item, this shows how important corruption could lead to abandonment of projects. Third is bad management practices with an estimated RII value of 0.967. The fourth most important item is commitment to project with an estimated RII value of 0.964 whist the fifth most important item representing change in government has an estimated RII value of 0.963. As indicated in Table 15, from the sixth item (CA6) through to the last item (CA15) were all ranked high having RII value of above 0.80 as recommended to indicate high importance. This confirms Hypothesis $H1_0$ which states that; *There are causes of abandonment of projects*. The ranking of the items in Table 15, under Causes of abandoned projects (CA1) "release of funds" to (CA15) "Political Influence however", supports $H2_0$-*certain factors contribute to projects that are abandoned*.

The third Hypothesis $H3o$-*Projects that are abandoned impact other sectors of the economy*. Table 15, also shows the case of the impact of abandoned projects, where 15 items were used for such a purpose. The items ranged from(IM1) through to (IM15). As indicated in Table 15, under the impact of abandoned projects construct, the first most important item of the impact of abandoned projects is "*it slows down economic growth*" with an estimated RII value of 0.970. The second most important item is "the loss of revenue by the state" with an estimated RII value of 0.964. The third most important item is "government sector underdevelopment" with an estimated RII value of 0.963. The fourth most important item is the "loss of foreign aid / grants" with RII value of 0.958. The fifth most important item of the impact of abandoned project is "discourages investment" with an estimated RII value of 0.948.The result shows that item 1 through to 9 were ranked above 0.80 indicating highly important and also strongly supporting H3o. However, items (IM10) "Financial institutions loss confidence in the state" through to item

(IM15) "Denial of citizens basic rights" have RII value ranging between 0.60 to 0.80 which suggest High-Medium importance

The fourth Hypothesis *H4$_0$: Certain mitigating factors sustain projects to completion.* Clearly from Table 15, all the items ranked under Causes of abandoned of projects, impacts of abandoned projects and mitigations actions to limit abandonment were all ranked high indicating high responsiveness and Hypothesis *H4$_0$* significant. Again, from Table 16, the factor analysis was used to establish the structure and the inter-correlation that exists among the set of factors (Norusis, 1993). Also,to establish and confirm the correlation that exists among the items ,related items were grouped together. Table 16, shows the factor structure for study constructs and how they are related which means items that cause abandonment and impact on the economy when restrained can mitigate the completion of projects which clearly makes Hypothesis *H4$_0$*significant.

Conclusion

According to Weisbrod (1997), *Economic impacts are effects on the level of economic activity in a given area* (Emphasis mine).Examples of areas of the economy that can be impacted are job creation, job availability, income (individual and government), wealth etc. This study also examines economic effect in terms of the opportunity cost of abandoned projects. The overall effect is focused on the economic prosperity of the country in general. The paper raises such important questions as what are the ends we could have achieved as a nation if investment into the abandoned projects were directed into other areas? And what are the effects on economic prosperity following the failure and consequent nonexistence of the benefits that could have been derived on alternative investment? The fundamental assumption underlying this analysis is resources scarcity/limitation (scarce means) as against unlimited ends. The opportunity cost of government investment is the potential benefit(s) the country misses out on due to the investment choices made. For example, what else could have been achieved if investment made into the STX project was directed somewhere else? Potts (2008) has observed that, construction activities involve huge capital investment. Thus, in the face of limited resources, the cost of not obtaining the expected benefits from a project can be huge indeed.

Underpinning the desire and decision to undertake any project is the need for it. Implementation is also preceded by cost-benefit analysis and ultimate decision to proceed, is informed by the outcome of the cost-benefit analysis. If the project fails to complete, cost cannot be recouped in the form of benefits. This has ripple effect on the economy in a number of ways. For example, according to Asamoah (2019), this will negatively impact clients, contractors, consultants and on

the economy and society. Osemena (1987) has identified a number of effects of abandoned projects on the national economy: waste, under-utilization of human resources; reduction in employment; Increase in bankruptcy of firms and incidence of bad debt.

The second part of Table 15, contains fifteen (15) elements constituting the economic effects of abandoned projects in Ghana. The mean contribution (weight) of each item to the overall economic impact according to the perception of respondents (relative importance index) was computed using equation 1. The RIIs were ranked according to the order of magnitude in descending order, starting from 1 being the element with the highest weight, the next element in order of size is ranked 2 and so on. Weighing was done using Rensis Likert's allocation and dividing by the number of respondents. The overall quantitative indication from the data shows a regressive relationship between project abandonment and economic prosperity of the nation. The high reliability value from 0.73 to 0.89; significantly greater than the minimum 0.70 for all the constructs, hence communicating the existence of high internal consistency on the part of respondents which is satisfactory and acceptable for appraising the study items by the respondents. Sinha (2000) defines reliability as the ability of a scale to produce consistent results when repeated measurements are made. An alpha value that is greater than 0.70 indicates acceptable internal reliability, according to Nunnally (1978). Item number 9 on the table is consistent with the position of Asamoah (2019) who argues that, considering the fact that the construction industry is one of the largest employers in the country, project abandonment will lead to high number of layoffs and unemployment may result.

Recommendations

The study found out that abandoned projects are littered all over Ghana especially in the built environment and infrastructural sector of the economy which is a great loss to the country. Considering the number of housing projects that have been abandoned in the bush i.e. STX and Saglemi projects among others, suggest that it is not advisable for the government to undertake housing projects for public sector workers but rather to collaborate with the private developers and provide facilities to public sector workers through the financial institutions in the country Asamoah (2019).

Some of the findings in the study reveals that abandoned projects slow down economic growth with RII ranking of 0.970 and highest on the rankings. This obviously has a ripple effect on the economy which will cause serious unemployment leading to many social vices including crimes and reduction of purchasing power which in turn affects traders, banking businesses and hardship among the citizens because, construction workers are of the majority and once they are in

employment, cash flows in the system. To avert these situations, managers of projects must always be mindful of the mitigation factors suggested in the study at Table 15,namely effective planning, prompt payment of contractors, and release of funds promptly, check corruption and effective monitoring among others.

When projects are abandoned and construction activities are not going on, there is loss of revenue by the state in many ways. This again will slow down economic growth and the government sector will be underdeveloped since every government depends so much on revenue generated to fund activities and get state machinery running. If abandoned projects can lead to loss of revenue, then all efforts must be put in place to mitigate and prevent project abandonment by applying the measures outlined in table 15.

The fact that projects are abandoned everywhere in about six regions of Ghana will send wrong signal to foreign investors as well as providers of aid and grants like the World Bank and IMF to developing countries and they will be discouraged and reluctant to continue to support countries like Ghana through aid and grants.

References

Ahonen, J. J., Savolianen, P. (2010). Software engineering projects may fail before they are started: Post-mortem analysis of five cancelled projects. Journal of Systems and Software, 83, 2175–2187.

Ahsan, K., & Gunawan, I. (2010). "Analysis of cost and schedule performance of international development projects". *International Journal of Project Management*, *28*(1), 68-78.

Alagidede, P., Baah-Boateng, W., and Nketiah- Amponsah, E., 2013. The Ghanaian Economy: An Overview. Ghanaian Journal of Economics , 1, 4-34.

Amponsah, R. (2012). The real project failure factors and the effect of culture on project management in Ghana. ICBERF Research Report, (45/12), 8-45.

Amponsah, R. (2014). Critical Success Factors Influencing Projects in the Ghanaian Public Sector. The International Journal of Business and Management, 2(5), 120-132.

Amponsah, R., & Darmoe, J. (2014). A Study of the critical success factors influencing projects in the Ghana public sector. The International Journal of Business & Management, 2(5), 120.

Asay, M. (2008). The UK has wasted over \$4 billion on failed IT projects since 2000. Retrirved from: http://news.cnet.com/8301-13505_3-9840497-16.html- (Accessed: 28th August, 2018)

Aziz, R., 2013. Factors causing cost variation for constructing wastewater projects in Egypt. Alexandria Engineering Journal , 52 (1), 51–66.

Chan, D. W., & Kumaraswamy, M. M. (1997). A comparative study of causes of time overruns in Hong Kong construction projects. *International Journal of project management*, *15*(1), 55-63.

Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th Ed.). Thousand Oaks, London, UK: Sage publications. P 7.

Espiner, T. (2007), ''Seven in 10 governments IT projects fail'', available at: www.silicon.com/management/public-sector/2007/05/18/failed-seven-out-of-10- govit-projects-39167189/ (accessed 1 June 2013).

Fabian, C., and Amir, A (2011). The Chad- Cameroon Pipeline Project--Assessing the World Bank's Failed Experiment to Direct Oil Revenues towards the Poor. The Law and Development Review , 4 (1), 32-65.

Fallahnejad, M. H. (2013). Delay causes in Iran gas pipeline projects. International Journal of Project Management, 31(1), 136–146.

George, D., & Mallery, M. (2010). SPSS for Windows Step by Step: A Simple Guide and Reference, 17.0 update (10a ed.) Boston: Pearson

Iarossi, G., 2006. The power of survey design: a user's guide for managing surveys, interpreting results, and influencing respondents. World Bank, Washington, DC.

Kaiser, H.F., 1974. An index of factorial simplicity. Psychometrika 39 (1),31–36.

Kaliba, C., Muya, M., Mumba, K. (2009). Cost escalation and schedule delays in road construction projects in Zambia.International Journal of Project Management, 27(5), 522–531.

Kometa, S. T., Olomolaiye, P. O., & Harris, F. C. (1994). Attributes of UK construction clients influencing project consultants' performance. *Construction Management and economics*, *12*(5), 433-443.

Kumar, R., Best, M. L. (2006). Impact and sustainability of e-government services in developing countries: Lessons learned from Tamil Nadu, India. The Information Society, 22(1), 1–12.

Liu, J., Chen, H., Chen, C., and Sheu, T., 2011. Relationships among interpersonal conflict, requirements uncertainty, and software project performance. International Journal of Project Management , 29 (5), 547-556

Marzouk, M. M., El-Rasas, T. I. (2014). Analyzing delay causes in Egyptian construction projects. Journal of Advanced Research, 5(1), 49–55.

McManus, J. and Wood-Harper, T., 2008, "A study in project failure", BCS, Articles, Project Management

Meredith, Jack & Mantel, S.. (1996). Project Management: A Managerial Approach.

Norušis, M. J. (1993). SPSS for Windows, release 6.0.

Nunnally J.C(1978) *Psychometric Theory*: McGraw-Hill New York.

Olomolaiye, P. O., Wahab, K. A., & Price, A. D. F. (1987). Problems influencing craftsmen's productivity in Nigeria. *Building and environment*, *22*(4), 317-323.

Osemena, C.A. (1987): Abandonment of Construction Project, the Lagos Quantity Surveying Digest A magazine of the Ghana Institute of Quantity Surveying, Lagos Chapter. April, 1987.

Potts, K. (2008). *Construction Cost Management: Learning from Case Studies*. Taylor and Francis 2, Park Square, Milton Park, Abingdon, Oxon.

Saad M J.M, James P. (2002) A review of the progress towards the adoption of supply chain management (SCM) relationships in construction. European Journal of Purchasing & Supply Management, 8: 173–183.

Siegel, S., & Castellan, N. J. (1988). Nonparametric Statistics for the Behavioural Sciences, 2nd edn McGraw-Hill Book Company. *New York*, 144-151.

Sinha P, *Determination of Reliability of Estimations obtained with Every Research: A Method of Simulation,* International Journal of Marketing Research, 42(3), 311-18

Sweis, G., Hammad, A. A., Shboul, A. (2008). Delays in construction projects: The case of Jordan. International Journal of Project Management, 26(6), 665–674.

Weisbrod, B and G. Weisbrod (1997): Measuring economic impacts of projects and programs. Economic Development Research Group.