INFLUENCE OF FUNDING ON COMPLETION TIME OF CONSTRUCTION PROJECTS

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Abstract

Construction sector has recently seen an overabundance of white elephant projects, cost overruns, time overruns, the use of improper construction project financing methods, and delays in construction project execution. Thus, the focus of this research is on the project funding mechanisms that exist for construction projects, the variables that influence project funding and completion time, the factors that influence project funding, and ultimately the influence of funding on project completion time in Ogun state. Data for the study was gathered through the distribution of 80 questionnaires from a population of 100 construction professionals, of which 20 construction firms were chosen based on information obtained from the Ministry of Works, Ogun State, and each of which includes 4 construction professionals: architects, builders, engineers, and quantity surveyors. This survey included 66 construction professionals from Ogun State. This survey used a survey research design with a self-administered questionnaire instrument. The collected data was evaluated using frequencies, percentages, means, the relative agreement index (RAI), rank, and analysis of variance (ANOVA). According to the findings, company shares are the most commonly used project funding system on construction projects in Ogun State, followed closely by construction banks, the availability of materials on site has a significant impact on project funding on construction sites in Ogun State, and time overruns affect the completion time of construction projects. According to the findings of this study, construction materials should be made available at various stages of the construction process, and idle time should be avoided. Changes must be made promptly to eliminate all forms of waste on-site in order to promote lean construction, and adequate funds must be set aside. The appropriate procurement method for the type of construction project must be used, and adequate funds must be made available at each stage of

the construction process. Finally, proper planning of the various construction phases must be carried out at the allotted time and a look ahead schedule must be used in place. Finally, proper scheduling of the various building phases must be implemented on time and with a look ahead schedule in place. and construction projects must be funded appropriately.

Keywords: Finance, Construction, Funding, Time

1.0 INTRODUCTION:

The Construction Industry:

The construction sector is enormous all across the world. In general, the building sector is seen as an economic component. The industry is critical to the country's monetary development, but it is currently confronted with a rush of developments that threaten to derail project goals and the economy's long-term progress (Aibunu and Jagboro, 2012). Among the high-risk activities in the construction sector include designing, constructing, renovating, maintaining, restoring, and eventually obliterating structures, as well as structural design work, mechanical and electrical design work, as well as a wide range of other duties. Construction is a broad term that relates to the art and science of putting together things such as buildings, bridges, and other structures. It is a demonstration of construction, or the method by which something is put together, or the notion behind the construction of something (Roumeliotis, 2011). A construction project is defined as the process of bringing a building, program, or new office space to completion as well as the operations that support them. Construction typically begins with preparation, funding, and planning and continues until the resource is fabricated and ready for use; maintenance and support work, as well as any attempts to extend, broaden, or upgrade the resource, as well as the resource's potential demolition, destruction, or decommissioning, are all part of the process (Chitkara, 1998).

More than 273 million people are employed in the construction industry, which accounts for around 7% of the worldwide labour force and accounting for more than 10% of global GDP (6-9 percent in developed countries). In 2017, the worldwide construction industry generated revenue of over $10.8 trillion, according to estimates. The construction industry possesses qualities that are shared by a range of enterprises, but which are only visible in construction when they are coupled with other traits (Aibunu and Jagboro, 2012). According to data from the National Bureau of Statistics ,(2016), the entire market size of the Nigerian construction sector is estimated to reach roughly N11.64 trillion by the year 2020.

Throughout the world, the construction industry is constantly changing. The construction industry, in both developed and developing countries, can be regarded as the sector of the economy that transforms numerous assets into built offices through planning, expansion, maintenance, and repair (Isa et al 2013). Structure design and big infrastructure arrangements (streets, highways, rail lines, and so on) are the primary concerns of this profession, which also includes the upkeep of residential and commercial property maintenance. Thus, the dynamism of growth and the requirement to adapt long-term social and structural changes can both be attributed to the persistence of architecture in the face of time. Development in the region is being driven by factors such as urbanization and migration, a growing working class with

demands for better day-to-day settings (better housing, better transportation networks), and community demands for social infrastructure. In Nigeria, organized construction began in the mid-1940s with a couple of foreign groups that were unfamiliar with the country (Omoregie and Radford, 2016). In accordance with the corporate digest of Access Bank Nigeria, (2021), construction services are demanded by both the government and private individuals, with the government continuing to be the primary driver of demand as it attempts to close the infrastructure deficit, which currently accounts for 40% of GDP, in order to meet the international benchmark of 70% of GDP by 2025. After independence, the country experienced a spike in growth and interest in development administrations as a result of the country's opening up to new and surrounding projects at the time, as well as the apparent necessity for a base from which to push financial development forward. Unknown corporations have dominated the market since the 1960s and 1970s, delivering income to the government while also providing employment opportunities to members of the general public. The disadvantages of this approach include the fact that these organizations have been known to import assets, such as brilliant employees, rather than employing locally developed assets and supporting local content (as is the case with many other organizations). In recent years, the construction industry has grown as a result of an increase in demand for land and lodging, as well as the necessity of setting up infrastructure to serve an expanding population, as well as the necessity of establishing networks between state and local trade and economic development (Olarenwaju and Khairuddin, 2017). It allowed even small enterprises to engage in the market for business building and administration, particularly in the construction of commercial and non-commercial real estate, as a result of this liberalization.

On an annual basis, the construction sector in Nigeria contributes approximately 2% to the country's gross domestic product (GDP) (Federal Office of Statistics, 2007). It is estimated that over 8 million individuals work in the Nigerian construction industry, which services a population of approximately 140 million people. This corresponds to around one-fifth of Nigeria's total population (National Bureau of Statistics, 2016). This also demonstrates the importance of the Nigerian building industry in the country's economic development. Business Monitor International Group estimates that the Nigerian construction industry grew at a pace of 20% per year in 2007. (BMI, 2017). Some analysts may argue that the success of the business is influenced by Nigeria's socioeconomic development; yet, the industry can still perform significantly better in the current environment. The construction industry is currently ranked among the least efficient in the world in terms of efficiency. "The prosperity of the building sector has been obscured by the success of the manufacturing industry," writes Egan (2008), a destiny shared by construction industries around the world. In addition to essential infrastructure such as housing, power, water, and well-maintained highways, Nigeria suffers from a shortage of basic services such as health care and education. It is dependent on the administration of the construction sector to offer these facilities. The building sector, particularly in emerging countries, sets the path for global advancement and development. With the right policies in place, Nigeria's construction industry might become the world's largest and fastest-growing on the planet, not to mention the largest on the continent (Infrastructure Report, 2018).

By 2024, the Nigerian building construction sector is predicted to increase at a compound annual growth rate (CAGR) of 13.9%, with total revenues reaching NGN 10,671.3 billion, according to estimates. Between 2015 and 2019, the residential construction industry experienced a compound annual growth rate (CAGR) of 4.2% in terms of value. During the projected period, the commercial building construction market is estimated to increase at a compound annual growth rate (CAGR) of 12.5 percent in terms of revenue (Inuwa et al, 2020).

2.0 Review of Relevant Concepts:
2.1 Sources of Funding in the Construction Industry:
Countries with emerging economies need to find a way to raise money for construction projects, or else much development will be impossible. Finance for construction projects can be described as the capital required for project implementation and execution, and the most common method of obtaining this cash is through borrowing from banks or other financial organizations (I. C. Osuizugbo, 2020). A building project, on the other hand, will not be able to proceed unless the appropriate financial framework is in place. When it comes to obtaining enough funding, the costs can be high. There are a range of common funding sources available to those working in the construction industry. The following are some of the funding options accessible to those working in the construction industry:

2.2 Debentures:
As defined by the accounting vocabulary maintained by Debitoor, a debenture is a medium to long-term debt structure that is utilized by major corporations to borrow money. Generally, it is a sort of bond or other financial instrument that is not secured by collateral and has a duration of more than ten years in length (James Chen, 2021). The largest and most creditworthy of debt issuers, whose ability to repay is unquestionable, are typically the only ones to offer debentures to the public (Accounting Tools, 2021). A debenture issued by a company is an acknowledgement that the firm has borrowed a certain amount of money from the general public, which the company commits to repay at a later date in exchange for a certain amount of money.

2.3 Bretton Woods Institutions:
The Bretton Woods Institutions are comprised of the World Bank and the International Monetary Fund, among other organizations (Bretton Woods project, 2019). The World Bank focuses on long-term investment projects, institution-building, as well as social, environmental, and poverty-reduction challenges in developing countries (IMF, 2002). Projects that aim to be world-class building, financial, and private sector development can get loans, credits, and grants from the World Bank

2.4 Loan from Commercial banks:
According to a study conducted by I. C. Osuizugbo for the Journal of Engineering Research and Reports (2020), syndication loans are used when a contract is so vast that a single bank cannot undertake it and a pool of banks is formed to provide funds (loans) towards the contract. (For example, the construction of a dam, an airport, an ultramodern market, etc. Due to

regulatory restrictions, banks are only permitted to take funded exposure on a single borrower up to 15 percent of their total capital and non-funded exposure up to 20 percent of their total capital on a single borrower (Prime Bank Limited. Project Finance & Loan Syndications: Theories, Procedures & Techniques, 2019.

2.5 Grants:

In accordance with the United Nations Economic and Social Commission for Asia and the Pacific (no date), government grants can be made available in order to make public-private partnership (PPP) projects commercially viable, to reduce the financial risks borne by private investors, and to achieve socially desirable goals such as stimulating economic growth in underdeveloped or disadvantaged areas, among other things, to name a few. In a considerable number of nations, legislative frameworks for awarding funds to public-private partnership (PPP) projects have been established. The availability of grants varies depending on the conditions, and they can cover anywhere between 10% and 40% of the overall project investment, depending on the government policy in place at the time (United Nations ESCAP, 2008)

2.6 Funding System in the Construction Industry:

Dangers lurk in every corner of the construction sector. It is estimated that between 1987 and 2020, the failure rate of construction enterprises with positive employment will be higher than the combined failure rate of all African business sectors (Shaoul, 2005). In order to mitigate the risk of failure, a special funding mechanism has been established for construction companies. This system contributes to the mitigation of some of these dangers. For example, in the construction business, project financing is defined as the provision of a target loan, which necessitates the mobilization of cash from various sources (Bartel, 2016). When a project is funded, the investment resources (assets, credits, loans and liens) necessary to complete the project are provided to the project in exchange for a return on the investments and interest on the usage of the investment resources. If monetary assets are required to be provided for a task, the process should be constructed in such a way that expenditures associated with each stage of the project's execution are covered by monetary assets; in other words, timely completion of the project is vital to its success (Khmel and Zhao, 2016). When finance is organized, it is anticipated to find the ideal balance between owned and purchased assets in order to reduce risks to the greatest extent possible. When using a project finance structure in Nigeria, the most significant risk is the change in the value of the local currency (Ayodeji Emmanuel, 2017). When a new project begins, the contractor is responsible for securing access to the site, acquiring equipment, building site workstations, and providing materials and personnel for the project's execution up to the underlying phase of installation, among other responsibilities.

3.0 Research Methodology

3.1 Research Design

According to Sekaran (2000) and Burn (1994), research is an organized and orchestrated effort to examine a given problem to fix it. The results lead to new knowledge, the advancement of theories, and the collection of data from various sources (Sekaran, 2000). Research design aims

to build the most stable and appropriate study framework possible (Kassu, 2019). The design, according to Yin (2002), is the philosophical chain that links empirical facts, study challenges, and conclusions. The study design should provide the project with an overarching framework and direction, as well as a system for data collection and analysis (Bryman & Bell, 2007). For this research, the survey research design is the best. A survey is the most efficient tool for collecting data to reflect a demographic size that is considered too large to be analyzed directly. A survey is often a systematic method of collecting and analyzing data from individuals to develop reliable descriptors of the features of the larger population to which the groups belong (Arevik 2014). Survey research, on the other hand, is widely used to determine simple social traits as well as to evaluate groups' perceptions (Fraenkel & Wallen, 2003) and viewpoints on particular issues (Ary et al., 2002). According to Dr. Kelly Bradley (no date), survey research design may be classified according to purposes, time, and data collection approaches. According to purpose, it may be further classified into descriptive research design, exploratory research design, and explanatory research design. As a result, for this research analysis, descriptive research design and cross-sectional study design were used to describe the perspectives, behaviors, and perceptions of various construction professions at one or more points in time. The descriptive research design was chosen such that the researcher could collect more specific descriptions of the variables of interest. A cross-sectional sample design necessitates data collection from a survey chosen to represent a larger population at a certain point in time.

3.2 Data Collection Instrument:

Standardized questionnaires designed in likert scale 1-5 was used to collect data. The questionnaire was created after a thorough review of the literature.

3.3 Research Population:

The population of the study constitutes construction firms operating in Ogun state, Nigeria. The population of this study is 100 construction professionals in which 20 construction firms was selected based on the information obtained from the Ministry of works, Ogun state which cuts across 4 construction professionals each which includes; Architects, Builders, Engineers and Quantity Surveyor. This is further illustrated in Table 3.1

3.4 Sample Size:

According to Bhardwaj (2019), sampling is a form of choosing individuals or a wide community of people for a particular study reason. Sample size selection refers to the method of deciding the number of samples or replicates to use in a statistical survey (Sarmah, 2012). However, it is critical to recognize that sample size is an integral aspect of research study since it allows researchers to draw logical conclusions about the population they have chosen from a sample (Hazarika, 2012). The sample size of this study is 80 construction professionals. The corresponding sample size was obtained using Table 3.2 to determine the sample size from a given population. A total of 80 questionnaires were distributed in this review. The main respondents were practicing professionals in the Ministry of Works such as Architects, Builders, Quantity Surveyors and Engineers.

3.5 Administration of Questionnaire:

The administration of the questionnaire was self-administered. A total of 80 questionnaires was administered. Statistical Analysis makes it easier to interpret the consequences of past incidents by incorporating statistical details in the sense of dashboards. Statistical research often includes data collection, report, explanation, presentation, and simulation. It explores a collection of data or a subset of data. For the purpose of this study the following tools was used for the research: Chi-square, Mean, Spearman-Ranking, Relative Agreement index (RAI), Simple Percentage and ANOVA (Analysis of Variance). The most substantial hurdle to administering questionnaires for this study would be the general public's stance toward research. Most of them would claim they were overworked and have no time to complete the questionnaires.

4.0 RESULT PRESENTATION AND ANALYSIS

The respondents'information to the randomly distributed instruments provided the data for these findings (the survey questionnaire). A tabular representation of the data was used for the primary data analysis, which included the use of Frequency, Percentage Distribution, and the Relative Agreement Index (RAI) as well as standard application software. This includes Statistical Package for Social Sciences (SPSS) and Microsoft word 2019. SPSS is statistical software that provides a graphical environment for powerful statistical analysis and data management, as well as the investigation of multiple statistical elements embedded in a collection of data that may be displayed in a variety of graphical formats. The word package was used in the table drawing.

The data below is based on the returned questionnaires from construction sites in Ogun state. The data is represented in tables showing the frequency, percentage and ranks of the existing project funding system on construction projects, factors influencing project funding on construction sites, analysis of cost variation effect on construction projects, analysis of time variation effect on construction projects, the variables that influence project funding of the construction project and the variables that influence completion time of the construction project from the Architect, Builder, Engineer and the Quantity Surveyor's point of view in Ogun state. Out of the 80 questionnaires issued, 66 were returned, reflecting an 82.5 percent response rate. As a consequence, the questionnaires that were returned were appropriate for future examination. The following subheadings go into additional detail about the findings and their interpretation.

4.1 RESPONDENT'S GENDER
Table 1 Results of respondent's gender

PARTICULAR	FREQUENCY	PERCENTAGE(%)
Male	66	100
Female	0	0
Total	66	100

Source: Field Survey (2021)

Table 1 shows that (66) 100% of the respondents are male and (0) 0% are female, implying that all of the respondents are male.

4.2 RESPONDENT'S AGE
Table 2 Results of respondent's age

PARTICULAR	FREQUENCY	PERCENTAGE(%)
21-25 Years	1	1.52
26-30 Years	5	7.58
31-35 Years	5	7.58
36-40 Years	22	33.33
Above 40	33	50.00
Total	66	100

Source: Field Survey (2022)

Table 2 shows that (1) 1.52 percent of respondents are between the ages of 21 and 25, (5) 7.58 percent of respondents are between the ages of 26 and 30, and 31 and 35 years, respectively, (22) 33.33 percent of respondents are between the ages of 36 and 40, and (33) 50.00 percent of respondents are over 40 years old.

4.3 MARITAL STATUS
Table 3 Results of respondent's marital status

PARTICULAR	FREQUENCY	PERCENTAGE(%)
Single	32	48.48
Married	34	51.52
Total	66	100

Source: Field Survey (2022)

Table 3 shows that (32) 48.48% of the respondents are single and (34) 51.52% of the respondents are married.

4.4 RESPONDENT'S EDUCATIONAL QUALIFICATION
Table 5 Results of respondents' educational qualification

PARTICULAR	FREQUENCY	PERCENTAGE(%)
W.A.S.C.E	13	19.70
OND/NCE	8	12.12

B.Sc.	42	63.64
M.Sc.	1	1.52
Others	2	3.03
Total	66	100

Source: Field Survey (2022)

Table 5 reveals that (13) 19.70% of respondents have W.A.S.C.E, (8) 12.12 percent have an OND/NCE, (42) 63.64 percent have a B.Sc., (1) 1.52 percent have an M.Sc., and (2) 3.03 percent have no qualifications.

4.5 RESPONDENT'S PROFESSION
Table 6 Results of profession of respondents

PARTICULAR	FREQUENCY	PERCENTAGE(%)
Architect	3	4.55
Builder	15	22.73
Engineer	34	51.52
Quantity Surveyor	6	9.09
Others	8	12.12
Total	66	100

Source: Field Survey (2022)

Purposive sampling was employed to choose the respondents in this study; 80 construction industry experts were chosen, and sixty-six (66) of those chosen were able to complete the questionnaire. Based on the response obtained from Table 4.2, (3) 4.55% of the respondents are Architects, (15) 22.73% are Builders, (34) 51.52% are Engineers, (6) 9.09% are Quantity Surveyors while (8) 12.12% of the respondents fall on others.
According to the results of the analysis above, the Engineer has the highest percentage (51.52%) among the respondents, while the Architect has the lowest (4.55 %)

4.7 RESPONDENT'S YEARS OF WORKING EXPERIENCE
Table 7 Results of respondent's years of working experience

PARTICULAR	FREQUENCY	PERCENTAGE(%)
1-5 years	5	7.58
6-10 years	46	69.70

Above 10 years	15	22.73
Total	66	100

Source: Field Survey (2022)

According to Table 7, (5) 7.58% of respondents have 1-5 years of working experience, (46) 69.70% have 6-10 years of working experience, and (15) 22.73% have more than 10 years of working experience.

4.8 RESPONDENT'S GRADE LEVEL PER MONTH
Table 8 Results of respondent's grade level per month

PARTICULAR	FREQUENCY	PERCENTAGE(%)
N15000 - N20000	1	1.52
N21000 - N25000	0	0
N26000 - N30000	6	9.09
N30000 and above	59	89.39
Total	66	100

Source: Field Survey (2022)

Table 8 shows that (1) 1.52% earn N15000 - N20000 per month, (0) 0% earn N21000 - N25000 per month, (6) 9.09% earn N26000 - N30000 per month while (59) 89.39% earn N30000 and above.

TABLE 9: EXISTING PROJECT FUNDING SYSTEM ON CONSTRUCTION PROJECTS

No.	Funding systems	Mean	RAI	Rank
1	Company Shares	4.95	0.99	1st
2	Construction Banks	4.70	0.94	2nd
3	Debentures	4.60	0.92	3rd
4	Personal Contribution	4.55	0.91	4th
5	Government Funds	4.48	0.895	5th
6	Real Estate Investment trusts	4.05	0.81	6th
7	Loan from Commercial banks	3.95	0.79	7th
8	Mortgage banking companies	3.65	0.73	8th

| 9 | Grants | 3.6 | 0.72 | 9th |
| 10 | Bretton woods Institutions | 3.35 | 0.67 | 10th |

Source: Field Survey (2022)

Existing project funding method on construction projects is shown in Table 9, Company Shares with a Relative Agreement Index (RAI) value of 0.99 is indicated as the most desirable funding system on construction projects. This is closely followed by Construction Banks with Relative Agreement Index (RAI) value of 0.94, and then Debentures having RAI value of 0.92. Furthermore, Personal Contribution having RAI value of 0.91 is rated 4th, Government Funds having RAI value of 0.895 is ranked 5th, Real Estate Investment trusts having RAI value of 0.81 is ranked 6th, Loan from Commercial banks having RAI value of 0.79 is ranked 7th, Mortgage banking companies having RAI value of 0.73 is ranked 8th, Grants with RAI value of 0.72 is ranked 9th and finally, Bretton woods Institutions having the least RAI value of 0.67 is ranked 10th. Bid bond: A bid bond, also known as construction bonds or contract bonds, is a type of security bond that provides financial assurance that the bills associated with a building project will be paid in the event of default (Crawford C, 2019). A construction bond must be signed by all project parties, including the surety, and then handed over to the project owner in order for it to be enforceable and effective, according to Boswall RG (2019). If the project owner does not obtain the signed bond for any reason, the project owner will have no right to make a claim against the bond. In accordance with, a bid bond is a security instrument that guarantees that the contractor selected by a tendering expert witness will engage into the construction contract with the owner after the tendering process is completed (Khmel, and Zhao 2016, Akinbo, Fagbenle, Amusan 2023, Kawu 2008).

TABLE 10: FACTORS INFLUENCING PROJECT FUNDING ON CONSTRUCTION SITES

No.	Factors	Mean	RAI	Rank
1	Availability of materials on site	4.95	0.99	1st
2	Fluctuation in the prices of various construction materials	4.90	0.98	2nd
3	Cost of construction materials	4.75	0.95	3rd
4	Sequence of project activities	4.5	0.90	4th
5	Ineffective Project budget disbursement schedule	4.30	0.86	5th
6	Variation orders	4.30	0.86	5th
7	Government's policies	3.85	0.77	7th
8	Environmental conditions	3.75	0.75	8th

| 9 | Financial inadequacy | 3.35 | 0.67 | 9th |
| 10 | Poor Contractor's performance | 2.90 | 0.58 | 10th |

Source: Field Survey (2022)

Factors influencing project funding on construction sites is presented in Table 10. Availability of materials on site with a Relative Agreement Index (RAI) value of 0.99 ranked 1st while Fluctuation in the prices of various construction materials ranked 2nd with a Relative Agreement Index (RAI) value of 0.98, Cost of construction materials with RAI value of 0.95 ranked 3rd, The sequence of project activities ranked 4th with a relative agreement index of 0.90. However, Ineffective Project budget disbursement schedule and Variation orders with the same RAI value of 0.86 ranked 5th simultaneously. This is closely followed by Government's policies having RAI value of 0.77 and ranked 7th, Environmental conditions with RAI value of 0.75 ranked 8th, Financial inadequacy with RAI value of 0.67 ranked 9th and Poor Contractor's performance has the least RAI value of 0.58 and is ranked 10th. This is corroborated by submissions in Kaming(1997),Kadiri and Odusanmi, (2003), International Monetary Fund (2002) and Obaju, Fagbenle, Amusan, Musa (2022).

TABLE 11: ANALYSIS OF COST VARIATION EFFECT ON CONSTRUCTION PROJECTS

No.	Effects	Mean	RAI	Rank
1	Choice of Procurement method	4.60	0.92	1st
2	Cost overruns	4.40	0.88	2nd
3	Choice materials not readily available	4.35	0.87	3rd
4	Increase in the construction cost	4.30	0.86	4th
5	Underestimation of project costs	4.25	0.85	5th
6	Availability of funds at that present stage	4.15	0.83	6th
7	Approval from statutory authorities	4.10	0.82	7th
8	Improper planning	4.05	0.81	8th
9	Mode of financing and payment for completed work	3.90	0.78	9th
10	Transportation of materials and plant to site	3.20	0.64	10th

Source: Field Survey (2022)

Analysis of cost variation effect on construction projects is shown in Table 11. Choice of Procurement method having the highest Relative Agreement index (RAI) value of 0.92 is ranked 1th while Cost overruns with RAI value of 0.88 is ranked 2nd. Furthermore, Choice

materials not readily available having RAI value of 0.87 is ranked 3rd, Increase in the construction cost ranked 4th with a Relative Agreement Index value of 0.86, Underestimation of project costs with RAI value of 0.85 ranked 5th also, Availability of funds at that present stage ranked 6th with RAI value of 0.83, Approval from statutory authorities having RAI value of 0.82 ranked 7th, Improper planning ranked 8th with RAI value of 0.81, Mode of financing and payment for completed work having RAI value of 0.78 ranked 9th and Transportation of materials and plant to site had the least RAI value of 0.64 and ranked 10th. The variation effect can be further found in Inuwa, Wanyona and Diang (2020), International Monetary Fund (2002), James Chen (2021), Jackson and Steven(2000) and Greenhalgh(2007).

TABLE 12: ANALYSIS OF TIME VARIATION EFFECT ON CONSTRUCTION PROJECTS

No.	Effects	Mean	RAI	Rank
1	Time overruns	4.80	0.96	1st
2	Non - availability of funds	4.65	0.93	2nd
3	Underestimation of time for projects	4.65	0.93	2nd
4	Choice materials not readily available	4.65	0.93	2nd
5	Improper planning	4.65	0.93	2nd
6	Supervision Delays	4.65	0.93	2nd
7	Approval from statutory authorities	4.65	0.93	2nd
8	Mode of financing and payment for completed work	4.60	0.92	8th
9	Transportation of materials and plant to site	4.60	0.92	8th
10	Physical site conditions	4.60	0.92	8th

Source: Field Survey (2022)

Analysis of time variation effect on construction projects from Table 12, Time overruns has the highest RAI value 0.96 and ranked 1st, Availability of funds at that present stage, Underestimation of time for projects, Choice materials not readily available, Improper planning, Supervision Delays and Approval from statutory authorities all share the second highest RAI value of 0.93 and ranked 2nd respectively, Mode of financing and payment for completed work, Transportation of materials and plant to site and Physical site conditions all share the same traits as supported in Amusan, Aigbavboa, Obiakor, Aigbe, Adelakun (2021), , (2019), Hendrickson(1998), Elinwa, and Buba (2003),Federal Office of Statistics (2007),Fisk (2013),Franks (1992) and Ghouma(2017).

TABLE 13: COMPARATIVE ANALYSIS OF COST AND TIME VARIATION ON CONSTRUCTION PROJECTS IN OGUN STATE

No	Cost	Time
1	Choice of Procurement method	Time overruns
2	Cost overruns	Non - availability of funds
3	Choice materials not readily available	Underestimation of time for projects
4	Increase in the construction cost	Materials of high quality are in limited supply
5	Underestimation of project costs	Improper planning

Source: Field Survey (2022)

Table 13 Shows the summary of the Comparative Analysis of Cost And Time Variation on Construction Projects in Ogun State from the table above, the main cost and time variation on construction projects in Ogun state are: Choice of Procurement method, Cost overruns, Choice materials not readily available, Increase in the construction cost, Underestimation of project costs, Time overruns, Non - availability of funds, Underestimation of time for projects, Materials of high quality are in limited supply and Improper planning (Hendrickson 1998, Hendrickson 1998, Elinwa, and Buba 2003,Federal Office of Statistics2007,Fisk 2013,Franks1992,Franks1992 and Ghouma2017).

TABLE 14: THE VARIABLES THAT INFLUENCE PROJECT FUNDING ON CONSTRUCTION PROJECTS

No.	Variables	Mean	RAI	Rank
1	Improper planning	4.45	0.89	1st
2	Late Preparation and approval of variation orders	4.40	0.88	2nd
3	Unavailability of master program	4.35	0.87	3rd
4	Government policy	4.30	0.86	4th
5	Changing construction techniques	4.30	0.86	4th
6	Errors and Mistakes during construction	4.25	0.85	6th
7	Financial Inadequacy	4.20	0.84	7th
8	Inappropriate Funding method used for the construction project	4.15	0.83	8th
9	Overrun Contract period	4.10	0.82	9th
10	Selection of wrong procurement method	3.80	0.76	10th

Source: Field Survey (2022)

The variables that influence project funding on construction projects from Table 15, Improper planning ranked 1st having Relative Agreement Index (RAI) value of 0.89, while Late Preparation and approval of variation orders having RAI value of 0.88 and ranked 2nd, Unavailability of master program with RAI value of 0.87 and ranked 3rd, Government policy and Changing construction techniques both share the 4th highest RAI value of 0.86 while Errors and Mistakes during construction ranked 6th having RAI value of 0.85, Financial Inadequacy ranked 7th with RAI value of 0.84 also from the table above, Inappropriate Funding method used for the construction project ranked 8th having RAI value of 0.83, Overrun Contract period occupies the 9th place having RAI value of 0.82 and Selection of wrong procurement method ranked 10th with the least RAI value of 0.76 (Hendrickson 1998, Hendrickson 1998, Elinwa, and Buba 2003,Federal Office of Statistics2007,Fisk 2013,Franks1992,Franks1992 and Ghouma2017).

TABLE16 THE VARIABLES THAT INFLUENCE COMPLETION OF THE CONSTRUCTION PROJECTS

No.	Variables	Mean	RAI	Rank
1	Lack of proper planning	4.15	0.83	1st
2	Project complexity	3.85	0.77	2nd
3	Inaccurate project Estimate	3.75	0.75	3rd
4	Impropriate Project Schedule	3.65	0.73	4th
5	Inefficient Material and Equipment Management	3.45	0.69	5th
6	Extension of contract duration	3.40	0.68	6th
7	Change in Project Scope	3.35	0.67	7th
8	Improper Procurement plan	3.10	0.62	8th
9	Design Variation	3.05	0.61	9th
10	Improper Post Execution Phase Management	1.90	0.38	10th

Source: Field Survey (2022)

The variables that influence completion of the construction projects presented in Table 16, Lack of proper planning having Relative Agreement Index value of 0.83 is suggested as the most preferred variable that influences completion time of construction projects. However, Project complexity holds the 2nd highest RAI value of 0.77, Ranked 3rd is Inaccurate project Estimate with RAI value of 0.75, this is closely followed by inappropriate Project Schedule having RAI value of 0.73 and ranked 4th. Furthermore, Inefficient Material and Equipment Management ranked 5th with RAI value of 0.69, Extension of contract duration with RAI value

of 0.68 ranked 6th. Change in Project Scope can influence the completion time of the construction project this variable ranked 7th having RAI value of 0.67 while the variable improper procurement plan ranked 8th with RAI value of 0.62, Design variation having RAI value of 0.61 ranked 9th and improper Post Execution Phase Management has the least RAI value of 0.38 and ranked 10th (Hendrickson 1998, Hendrickson 1998, Elinwa, and Buba 2003,Federal Office of Statistics 2007,Fisk 2013,Franks1992,Franks1992 and Ghouma2017).

CONCLUSION

According to the findings of this study, the building sector will profit greatly as a result of the information provided to developers, planners, clients, builders, and other stakeholders as a result of the findings. The vast majority of those who answered the survey questions are actively employed in the construction sector, with an average of 6-10 years of experience in the field. This definitely supports the findings of the data analysis conducted on the questionnaires distributed. Profession of the respondents presented were the engineers with the highest frequency and percentage of 34 and 51.52% respectively, followed by the builders having 22.73%, other respondents having 12.12%, the Quantity Surveyors having 9.09% then the architects having the least percentage of 4.55%.

According to the findings of this study, the existing project funding systems for building projects in Ogun State were narrowed down to only ten project funding systems, which were then ranked according to the Mean and Relative Agreement Index (RAI). The project funding systems include: Company Shares, Construction Banks, Debentures, Personal Contribution, Government Funds, Real Estate, Investment trusts, Loan from Commercial banks, Mortgage banking companies, Grants and Bretton woods Institutions.

From the data analysis and result obtained, the factors influencing project funding on construction sites in Ogun state are limited 10 factors and they were ranked according to the Mean and Relative Agreement Index (RAI). The factors include: availability of materials, fluctuation in the prices of various construction materials, cost of construction materials and the sequence of project activities also, ineffective project budget disbursement schedule, variation orders in the construction drawings and construction processes, while this is closely followed by government's policies, environmental conditions, financial inadequacy and poor contractor's performance.

For the purpose of this study, the analysis of cost variation effect on construction projects in Ogun state are limited to 10 effects on construction projects in Ogun state and they were ranked according to the Mean and Relative Agreement Index (RAI). The cost variation effects include: choice of Procurement method, this is followed closely cost overruns, choice materials not readily available, increase in the construction cost, underestimation of project costs, availability of funds at that present stage, approval from statutory authorities, improper planning, mode of financing and payment for completed work, transportation of materials and plant to site.

The analysis of time variation effect on construction projects in Ogun state were limited to 10 effects on construction projects in Ogun state for the purpose of the study and they were ranked according to the Mean and Relative Agreement Index (RAI). The time variation effects include: time overruns, availability of funds at that present stage, underestimation of time for projects, choice materials not readily available, improper planning, supervision delays, approval from statutory authorities, mode of financing, payment for completed work, transportation of materials and plant to site and physical site conditions.

According to the outcome of the data analysis and result obtained, identification of variables that influence the completion time of construction projects in Ogun are limited to 10 variables and they were ranked according to the Mean and Relative Agreement Index (RAI). The variables include: lack of proper planning, project complexity, inaccurate project estimate, impropriate project schedule, inefficient material and equipment management, extension of contract duration, change in project scope, improper procurement plan, design variation and improper post execution phase management.

RECOMMENDATION

Despite the fact that the objectives of this study have been met, some recommendations from the respondents should be taken into consideration. These recommendations could aid in preventing project abandonment on construction sites and ensuring that the project completion deadline is met with adequate funds.

From the outcome of the result obtained and data analysis, the existing project funding systems on construction projects identified in Ogun state, it is further inferred that the adoption of company shares as a project funding system on construction projects in Ogun state is mostly adopted.

It is recommended that construction materials must be made available at various phases of the construction process and idle time must be avoided. The sequence of the construction project activities must be adequately planned with the construction team and other stake holders as this helps in meeting the slated project completion time. The Project budget disbursement schedule must be very effective in order to reduce occurrence of cost overruns and time overruns. Changes must be made in time in order to reduce all forms of wastages on site in order to promote lean construction and adequate funds must be put in place based on the budget and provision for contingencies must be adequately considered as this will help reduce the occurrence of white elephant projects.

According to the outcome of the result obtained and data analysis, the right procurement method that suite the type of construction project must be adopted, the contractor must ensure that the construction cost is properly estimated putting in place various factors and taking into consideration inflation in the prices of construction materials. Adequate funds must be made available at every stage of the construction process as wastage of time leads to wastage of

resources and time overruns. The proper approval from statutory authorities must be timely as this reduces all forms of delays on construction sites. Proper planning of the various construction phases must be carried out at the allotted time and a look ahead schedule must be used in place.

It is also recommended that funds must be available at various phases of construction, proper estimate of construction project time must be done as this prevents the occurrence of time overruns, proper site supervision must be carried out and all forms of supervision delays must be avoided as strict penalties must be attached.

According to the outcome of the result obtained and data analysis, with respect to the variables that influence project funding of the construction project, it is recommended that preparation and approval of variation orders must be carried out in time as this will reduce the occurrence of white elephant projects. Master program for the construction project must be put in place. Errors and Mistakes during construction process must be completely avoided or reduced to the barest minimum. The appropriate funding method must be used for the construction projects on construction sites.

Proper planning of construction process must be put in place before the commencement of the construction work. The appropriate project schedule must be properly drafted as this reduces occurrence of time overruns and each work package and milestone are met.

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