



An analysis of factors causing failures and abandonment of construction projects in Kaduna state, Nigeria

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Abstract

The construction industry serves as one of the key players in a nation's economic growth. In this research, a study was carried out on the causes of construction project failures and abandonment in Kaduna state, Nigeria. The study's objective was to identify the possible causes of failure and abandonment of construction projects and evaluate the identified causes in their order of importance. To achieve this, a quantitative research approach using questionnaires as an instrument for data collection in Kaduna state was adopted, with one hundred professionals and workers in the construction industry. Analysis of the data acquired from the returned questionnaires was done using MS Excel 2016 to obtain the descriptive statistics and the Relative Importance Index (RII). The research revealed that although insecurity was a burning issue for the industry especially in the study area, its ranking showed that it was not considered a significant factor among the other factors. It was recommended among others that, the industry professionals engage in transparent processes at all stages of the project.

Keywords: Abandonment; construction; project failure; relative importance index (RII).

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1. INTRODUCTION

The reoccurrence of failed and abandoned projects in Nigeria has become an issue of concern as huge investments end up being wasted. (Cross & Abbas, 2019). Construction plays an essential role in the economic development of developing countries with an effect on people's lives both directly and indirectly in areas such as job creation, socio-economic growth, and provision of social amenities (Damoah et al., 2021). Construction projects are meant to provide new products and services to the community and promote the beauty of the environment (Alaezi et al., 2021; Atamewan, 2020). Therefore, its failure and abandonment does not only have detrimental effect on the lives of the populace, a nation's development and economy but also the environment.

Based on the criteria of performance concerning cost overrun, time overrun, quality, and functionality, a construction project can be adjudged to be successful, failed, or abandoned. A failed project is one that although completed, does not satisfy the end users (Ikediashi et al., 2014). An abandoned project is one for which there is a huge time lag between suspension and resumption of work so much so that there is a loss and weakening of materials (Tawo et al., 2017). The occurrence of construction failures and abandonment is a global issue dating back almost three (3) decades (Doraisamy et al., 2016). Its occurrence in developed countries has reduced, however, in developing nations such as Nigeria, the trend seems to be on the increase with successive administrations (Alao & Jagboro, 2017).

The history of construction project successes in Nigeria can only be said to be that of a modest achievement as a good number of projects across the country fail to attain 100 percent completion. Nigeria records about 60 percent failure owing to certain factors such as systemic failure, poor planning, and inefficient management (Nnabugwu, 2015). According to the Guardian of 02 July 2017 as reported by (Andah, 2020), the Akwa Ibom Integrity Group identified a total of over 300 abandoned projects by the Niger Delta Development Commission (NDDC) in the state involving 121 rural roads, 75 classroom blocks, 69 rural water schemes and 43 mini-electrification projects.

In a related development, the Water Resources Committee in the Nigerian Senate uncovered over 400 abandoned water (dam) projects responsible for acute water scarcity across the country. The report further states that some of the dams were not properly cited while most of them had no utilization downstream (Oyeyemi, 2021). In another development, the Senate Joint Committees on Health, Primary Health Care and Communicable Disease, Works and Housing were tasked to investigate the abandoned N400 billion-naira National Primary Health Centre Project. The projects were to be cited in each of the Local Governments of the Federation for which 100 percent of the project funds were already warehoused in one of the banks in the country (Adeyemi, 2022). This reiterates the fact that construction failure and abandonments affect all sectors.

Several studies to identify the causes of project failures and abandonment have been carried out and ways to reduce this menace have been recommended, suggesting that the discourse around this subject is not new. However, Nigeria is still grappling with the issue of failed and abandoned construction projects. This shows the need for the continuous evaluation of the subject matter as this issue is a complex social problem where causes and solutions are ever-changing and difficult to identify (Ebiega-Oselebe et al., 2021).

Kaduna, one of the northwestern states in Nigeria has been bedeviled with serious security problems (insurgency, banditry, and kidnapping). This has led to the crumbling of several economic activities in many parts of the state. According to reports, most developers abandoned their sites owing to this very challenge as experts expressed concerns over being adopted and ransoms requested (Essen, 2021).

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1.1. Purpose of study

This research seeks to explore this existing gap as well as contribute to the extant literature on project failure and abandonment using the perspectives of construction professionals in Kaduna State. This will identify these factors, rank and analyze them based on importance as well, and provide suggestions based on the findings that will help to reduce the occurrence of this menace.

1.2. Literature review

1.2.1. Construction Project Failure and Abandonment

Although the literature has attempted to define or explain what constitutes project failure over the years; nevertheless, a consensus is yet to be reached (Damoah et al., 2015; Zuofa & Ochieng, 2014). Most often, the failure of a construction project is essentially measured by its inability to achieve set goals in terms of time, cost, and quality. However, a project that cannot meet the aspirations of stakeholders and also benefits the society or project organization is considered a failed project (Zuofa & Ochieng, 2014). According to (Damoah et al., 2015), a failed project is unable to achieve projected time, cost, deliverables, stakeholder satisfaction, and contribution to its primary sector and national development.

An abandoned project is said to encounter so many challenges that it seems impossible to continue any further work (Doraisamy et al., 2015), one that is not ready or completed for use by its end users (Abdul-Rahman et al., 2013). This therefore suggests that no matter the timeliness and cost effectiveness, a project is still considered a failure if it does not meet or serve the intended purpose. Consequently, an abandoned project is a failed project, while a completed project does not necessarily infer that the project is successful.

1.2.2. Causes of Construction Project Failure and Abandonment in Nigeria

Construction projects are complex, take a long time, and consist of numerous participants hence, involve a high of uncertainty and risk. (Abdul-Rahman et al., 2016). It is an industry that includes intricate processes and several distinct parties such as the construction professionals, clients, artisans, manufacturers, local communities, consultants, and others (Ezenekwe & Uzonwanne, 2017; Na Ayudhyaa & Kunishima, 2017) Lack of execution of construction projects creates an impact on various entities in any country subsequently leading to underdevelopment in infrastructures (Ajayi & Chinda 2022). Consequently, the success of any construction project depends largely on the successful coordination of these participants and processes.

Owing to the difference in geographical location and organizational operation, the causes of construction project failures and abandonment differ from one region to another (Eja & Ramegowda, 2020; Hussain et al., 2018; Ihuah & Benebo, 2014). As stated by (Ghapanchi et al., 2012) and reported by (Ebiede-Oselebe et al., 2021), these factors are nebulous and differ from one company to another and one country to the other. According to the Nigerian Institution of Quantity Surveyors, NIQS, contract failure in Nigeria is due to poor cost estimation, non-involvement of experts, refusal to follow expert advice, corruption, award of contracts to political cronies, and lack of continuity due to transition of power (The Vanguard Editorial, 2022).

Ayodele & Alabi, (2011) research covering all the states in the southwestern geopolitical zone of Nigeria identified the significant causes of project abandonment to include inadequate planning; inadequate finance; inflation; bankruptcy of contractors; variation of project scope; political factors; death of client; delay in payment and incompetent project manager. Otunola & Olalusi, (2012) considered corruption, inadequate estimation, lack of proper planning, unavailability of skilled personnel, and communication gaps among personnel as the importance of skilled labor and proper interpretations

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emphasized by Alshahrani et al., (2023). According to Hanachor, (2012) choice of project site or location, embarking on projects without needs analysis, lack of social analysis of a project, project imposition, improper financial analysis, underbidding of projects, and lack of technical analysis were considered as the factors of community development project abandonment. Ihuah & Benebo, (2014) identified payment delays, inadequate allocation of funds, leadership instability, the demise of the investor/client/owner, inconsistent policies of the government, poor project planning and design, improper project estimates, land or legal disputes, unjustified project aim, change of investment purpose, natural disaster, community interference, climatic conditions, increased material costs as some of these project abandonment factors.

A study in Imo, Abia, and Rivers states revealed that non-comprehensive designs, ineffective monitoring, understanding of the project's mission, project manager's technical knowhow, managerial support, political risks, ineffective procurement process, inadequate financing by the client, ineffective communication and information management were some of the causes of failure and abandonment of public sector construction projects in Nigeria (Amade et al., 2015).

Findings from a case study of the Abuja-Lokoja road show that the most contributing factors and categories to delays and abandonment identified were deficient government policies, depreciation of Nigeria naira against other currencies, ineffective planning and scheduling, failure in making progress payments and ambiguities or mistakes in scope of work, specifications or drawings and difficulties in financing projects (Folorunso, 2016).

Alao & Jagboro (2017) a study of Nigerian tertiary institutions in Osun state identified forty (40) factors causing project failure and abandonment. Factors considered significant were those having a mean score ≥ 3.20 on a Likert scale of 5. These factors include delayed payments, bankruptcy of contractor, inflation, fund mismanagement, inadequate budgetary allocation, inadequacy of finance, contractor's incompetence, death of client, under-bidding of projects, community interference, consultant inexperience, inconsistent government policy, pre-qualification procedure, variation of project scope, project manager's incompetence, political factor, inadequate cost control, inaccuracy of estimate.

Igwesi et al. (2018) in their appraisal of the Nigerian Railway Corporation concluded that lack of financial and/or improper financial analysis, corruption, lack of accountability, funding, monitoring and evaluation, political reasons, and choice of the project site, underbidding of projects, and inexperienced project managers, inflation and inadequate supply of materials. Death of owner, lack of funds, natural disasters, and inconsistent government policies were also identified as project abandonment factors (Adigun et al., 2019; Ibrahim, 2019).

Housing project abandonment in Akwa Ibom and Cross Rivers states in Nigeria was evaluated using the Relative Importance Index. it was concluded that the major factors causing project failure and abandonment include finance, lack of trust/accountability, professional incompetence, political factors, and lack of stakeholders' involvement in project selection (Atamewan, 2020).

1.2.3. Causes of Project Failure and Abandonment in Other Countries

Construction project failures have not only been an issue of concern in Nigeria but researchers in other parts of the world also have been studying the causes of this subject. In Ghana, the results from a study showed that overall rankings for the causes of project abandonment in the order of importance were monitoring, corruption, political interference, change in government, bureaucracy, lack of continuity, fluctuation of prices, planning, delays in payments, and release of funds (Damoah et al., 2015).

In Vietnam, some of the causes of failure and abandonment of government projects were identified to include; information delays, lack of information exchange, incompetent owners, incompetent supervision

consultants, and incompetent contractors (Kim et al., 2015). A study on construction projects indicated these factors include poor project planning, inexperience in project execution, poor and frequent design changes, construction projects management, owner's financial capacity, contractor/subcontractor's poor performance, project and organizational management, corruption and bribery, payment delays, economic volatility and inflation, ineffective site management, ineffective communication, contractual terms and conditions, lack of transparency, market demand and trend, technology, government bureaucracies, disputes and conflicts, government policies and legal system and low ethics (Nguyen & Chileshe, 2015; Dixit, 2021).

In Pakistan, a study on construction projects revealed that incompetent contractor, procurement delays, payment delays, poor cost estimates, inaccurate project schedule, incompetent project team, project planning, incompetent project manager, delay in providing site access to contractors were some of the factors causing project abandonment (Wasim & Khalidi, 2018), while a housing project evaluation identified proliferation of illegal housing developments, land use revisions, poor property transaction mechanism, poor project auditing constituted some of the major causes of real estate project abandonment (Malik et al., 2020).

A study on construction projects in South India, (Jaihan & Suman, 2021), identified ineffectiveness in scheduling, planning, execution, and monitoring, payment delays, low-profit margin due to competition, improper resource allocation and utilization, fraud and briberies, inadequate financing by client, contractor's financial difficulties.

In Saudi Arabia, (Ikediashi et al., 2014) classified failure factors using factor analysis based on the perspectives of clients, contractors, and consultants. Poor risk management, budget overruns, poor communication management, schedule delays, poor estimation, difficulties in cash flow, discrepancies in design, inefficient change management, inadequate project structure, and lack of teamwork were identified as the ten most highly ranked factors.

Factors identified as contributing to international development project failure in Afghanistan were security issues and conflicts, corruption, political interference, ineffective monitoring, inappropriate selection of PM, poor project team formation, weak feasibility studies, inadequate project planning, poor recruitment, and low capacity (Shafiei & Puttanna, 2021).

According to while (Adil et al., 2019), the causes of project failure and abandonment in Iraq include financial corruption, assignment of work to companies that have no experience in that field, and incompetent contractors. Another research identifies inappropriate project management, delay in decision making, poor scheduling, challenging security conditions, delay due to lack of materials, financial corruption, unforeseen poor economic conditions, and the owner facing financial difficulties, among others as the factors of construction project failure in Iraq. (Khudhaire & Naji, 2021).

(Adnan et al., 2014) concluded in a study using the perception of contractors that site limitation and location, project size, adequacy of funding, technical approval authorities, pioneering status, constructability, economic risks, political risks, and impact on the public were critical to the success of the projects. Additionally, the contractual arrangements, formal dispute resolution process, adequacy of plans and specifications, realistic obligations and clear objectives, motivation and incentives, risk identification and allocation. An assessment of housing projects in Malaysia (Ariffin et al., 2018b), identified inappropriate building prices, the high price of raw materials, high interest charges, payment delays, payment modality, financial difficulties faced by the contractor, poor marketing strategy, mismanagement as factors responsible for housing project failures and abandonment.

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The review of related literature depicts that studies unarguably support the already facts that, failure and abandonment of construction projects is one menace that has affected all project types ranging from buildings, roads, and many other construction projects embarked upon by either the government or private investors in different parts of the world, with the causes and severity depending on the policies, geographical location, regulations etc.

2. METHOD AND MATERIALS

2.1. Data collection tools

The data employed in this study was obtained using a questionnaire survey. The structured questionnaire which contained questions designed using a four-point Likert scale (i.e., ratings from 1 to 4) was meant to collect information about factors that cause construction project failures and abandonment from the perspective of construction professionals on construction projects within Kaduna, a state in the Northwestern region of Nigeria. Based on related research, the survey considered 10 factors. The questionnaire consisted of three parts. The first part was for general information about the respondents (age, gender, profession, years of experience). The second part sought to know the respondent's knowledge about construction project failure and abandonment. The third part was for the information concerning the factors causing construction project failure and abandonment in the study area. The choice of a four-point Likert scale basically, was to eliminate the option of neutrality such that each respondent gave a specific opinion.

2.2. Participants

A total of one hundred (100) professionals with different backgrounds including architects, surveyors, engineers, builders, etc were targeted. The sample size was a section of the targeted population that responded to the questionnaire. The random sampling technique was used to target experienced construction professionals in the study area. To obtain an appropriate sample size the Taro Yamane formula (Yamane, 1973) was used. It is expressed as:

$$n = \frac{N}{1+Ne^2} \quad (1)$$

Where:

n = sample size

N = population size

e = limit of error (determined from the confidence limit)

For this research, the confidence limit of 95% is adopted, and an error limit of 10%, $e = 0.1$

The required sample size based on equation (1) above is therefore

$$n = \frac{100}{(1+100(0.1)^2)}$$

$$n = \frac{100}{2}$$

The required sample size is therefore fifty (50).

2.3. Data Analysis

Descriptive analysis of data (the frequency mean, mode, median, and standard deviation) obtained from the returned questionnaires was done using the Microsoft Excel (MS Excel) package version 16. Out

of the One Hundred (100) questionnaires, distributed, ninety-one (91) were returned. A Likert scale rating from 1 to 4 was adopted, where 1 stands for “strongly disagree”, 2 for “disagree”, 3 for “agree” and 4 for “strongly agree”.

2.3.1. The Relative Importance Index (RII)

The Relative importance index (RII) was used to rank the factors causing construction project failures and abandonment according to their significance. This method has been used by several researchers in construction to rank different variables such as project delay factors, (Gündüz et al., 2013), risk assessment (Vasishta et al., 2018), labor productivity, (Adagba et al., 2021; Akomah et al., 2020), factors of abandoned projects (Ariffin et al., 2018a). For each factor, the RII (expressed in percentage) was calculated using the equation below

$$RII (\%) = \frac{4n_4 + 3n_3 + 2n_2 + 1n_1}{4[n_4 + n_3 + n_2 + n_1]} \times 100 \quad (2)$$

Were,

n_4 = Frequency of the “strongly agree” responses

n_3 = frequency of the “agree” responses

n_2 = frequency of the “disagree” responses

n_1 = frequency of the “strongly disagree” responses

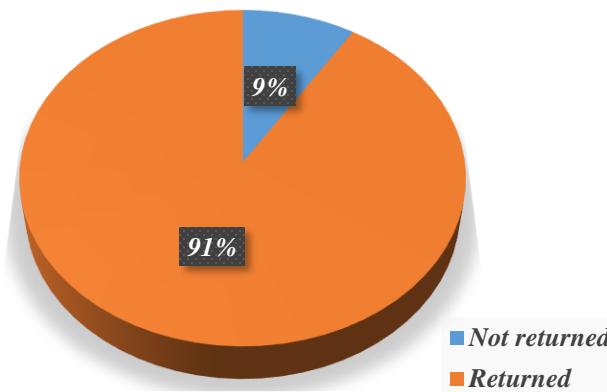
3. RESULTS

3.1. Questionnaire Response

To obtain the data for this research, one hundred (100) Questionnaires were distributed by hand in Kaduna, for which ninety-one (91) of them were successfully filled and collected. This shows a high response rate of 91% and 9% of the questionnaire was not returned which indicates that the sample study has interest in this subject. The questionnaire return rate is presented in Figure 1.

Figure 1

The return rate of the questionnaire



3.2. Respondents' Profile

The demographic profile of respondents included gender, age, years of experience, professional background, etc. The profile indicates that 85% of the respondents are male, while 15% are female, 17% of the respondents are architects, 29% are builders and 17% are civil engineers. In terms of the respondent's experience, 48% of the respondents had between 0 to 9 years of experience, 26% had between 10 to 19 years of experience, 17% had between 20 to 29 years of experience while 2% had 30 and more years of experience (Table 2).

Table 2

Profile of the respondents

<i>Demographic</i>	<i>Characteristic</i>	<i>Frequency</i>	<i>Percentage</i>
Gender	Male	75	85
	Female	14	15
	Total	91	100
Age Classification	18-24	8	9
	25-35	35	38
	36-45	19	21
	46-55	14	15
	Unknown	15	17
	Total	91	100
Profession	Architect	15	17
	Project manager	3	4
	Contractor	6	6
	Builder	27	29
	Civil Engineer	16	17
	Others	24	27
Experience	Total	91	100
	0-9	43	48
	10-19	23	26
	20-29	16	17
	30-39	2	2
	Unknown	7	7
	Total	91	100

3.3 Respondents Knowledge

The survey sought to know the respondents' knowledge about construction project abandonment and as such introduce into the questionnaire a section for this purpose. Among the ninety-one (91) responses received, seventy-two (72) had managed a construction project before, seventy (70) were involved in a project that was delayed while fifty-three (53) indicated that they had been involved in projects which finally ended up abandoned (Table 3)

Table 3

Respondents' knowledge about construction project failures and abandonment.

<i>Questions</i>	<i>Response</i>	<i>Frequency</i>	<i>Percentage</i>
Have you managed a construction project before?	Yes	72	80
	No	19	20
	Total	91	100
Have you been involved in a construction project that had a delayed completion?	Yes	70	77
	No	21	23
	Total	91	100

Have you been involved in an abandoned project?	Yes	53	59
	No	37	41
	Total	90	100

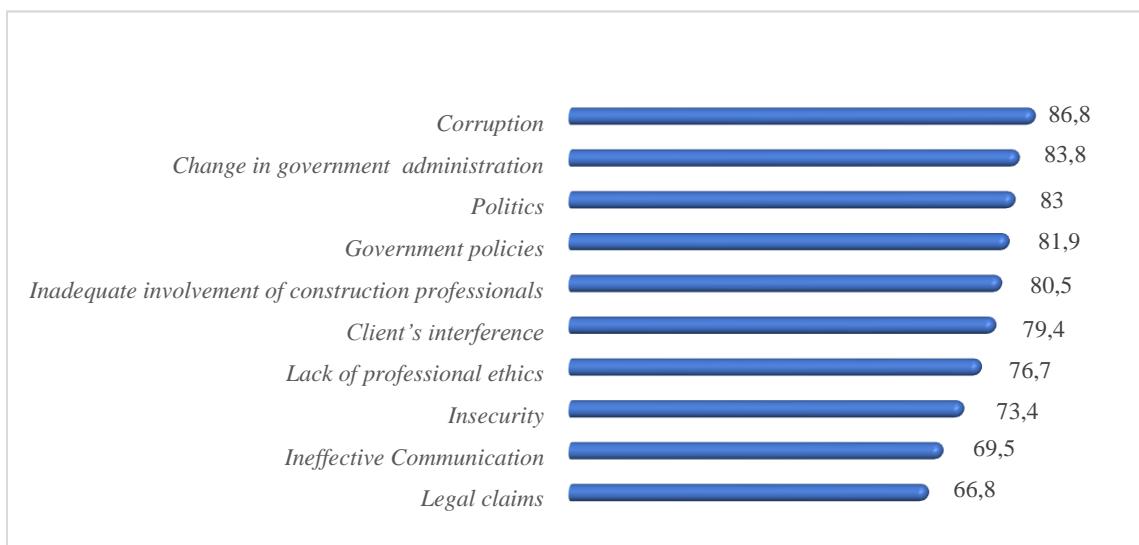
3.4 Analysis of Factors using Descriptive Statistics and the Relative Importance Index (RII)

The analysis of the factors causing construction project failures and abandonment was done using descriptive statistics and the relative importance index (RII) as shown in Table 4. Figure 2 displays the RII (%) of the causes of project failure and abandonment in Kaduna State

Table 4
Descriptive statistics

Factors	Frequency of importance by respondents				N	Mean	Median	Mode	St. Dev.	RII (%)
	4	3	2	1						
Corruption	47	40	4	0	91	3.47	4	4	0.584	86.8
Change in government administration	43	37	11	0	91	3.35	3	4	0.689	83.8
Politics	40	42	7	2	91	3.32	3	3	0.713	83.0
Government policies	35	47	8	1	91	3.28	3	3	0.668	81.9
Inadequate involvement of construction professionals	26	59	6	0	91	3.22	3	3	0.554	80.5
Client's interference	28	52	10	1	91	3.18	3	3	0.660	79.4
Lack of professional ethics	22	53	16	0	91	3.07	3	3	0.646	76.7
Insecurity	26	35	28	2	91	2.93	3	3	0.827	73.4
Ineffective Communication	12	51	24	4	91	2.78	3	3	0.727	69.5
Legal claims	9	45	35	2	91	2.67	3	3	0.684	66.8

Figure 2
The RII (%) of the causes of project failure and abandonment in Kaduna State



4. DISCUSSION

Corruption ranked first with a Relative Importance Index (RII) of 86.8%. The descriptive statistics show the mean and standard deviation to be 3.47 and 0.584 respectively. Corruption is one of the most widely discussed topics in the construction industry today (Damoah et al., 2015, 2018; Ewa, 2013; Nguyen & Chileshe, 2015; Nweze, 2016; Shafiee & Puttanna, 2021). It takes the form of “kickbacks”, bribery, fraud, and so on (Lyra et al., 2022). Corruption may be triggered by project complexity, project size and uniqueness, contractual links, and government interference, and even though regulations have been put in place, weak regulatory systems and non-competitive and inequitable bidding practices contribute to the inability to eliminate corruption in the construction industry (Kiyabo, 2021).

The second-ranking factor was *Change in government administration* with an RII of 83.8% a mean of 3.35 and a standard deviation of 0.689. Government is a continuum and so it is only expected that projects started by a preceding government should be completed by the administration succeeding it except in cases where the projects are not properly cited or where the project does not have an impact on the masses. The change in government administration is one of the several factors leading to project failure and abandonment (Damoah et al., 2015). Interestingly, this also affects some private developers as most of them have their source of funding from their cronies in government. The abandonment of projects from previous governments may not be unconnected to the desire of each successive government to credit itself for starting its projects, even though the completion of projects embarked upon by the preceding administration will have much impact on the masses. This is made worse if the incoming administration is not of the same political party as the outgoing administration.

Politics ranked third with a mean of 3.32, standard deviation of 0.713, and RII of 83.0%. Political influence on construction projects usually occurs in the form of political decisions that impact the management and administration of such projects. This includes areas such as the allocation of funds, planning, and organization. The findings from this study are in agreement with the findings of Damoah et al., (2015), and Shafiee & Puttanna (2021) in which political interference was also ranked third. Other studies (Ayodele & Alabi, 2011) ranked political interference as the sixth most significant factor while Alao & Jagboro, (2017) in their study did not consider this factor significant enough to cause the failure and abandonment of projects in tertiary institutions.

Government policies ranked fourth with a mean of 3.28, standard deviation of 0.668, and RII of 81.9%. Government policies that affect construction projects may include financial, legal, or physical policies. Financial policies could involve changes in monetary policy which can affect loans borrowed as interest rates may go up suddenly as well as unwillingness on the part of the lending agencies to extend credit lines etc. The current financial policy of the Central Bank of Nigeria to carry out a currency redesign and the desire to operate a cashless economy which has caused untold hardship for Nigerians is one very good example of a laudable policy that has not been properly implemented as the time frame for its implementation has been relatively short. Similar studies by other researchers ranked unfavorable government policies second (Folorunso, 2016), (Ihuah & Benebo, 2014) ranked it fifth, (Tijani & Ajagbe, 2016) ranked government policies sixth, while (Alao & Jagboro, 2017) ranked government policies eleventh and considered significant enough to cause project failure and abandonment.

The *Inadequate involvement of construction professionals* in construction projects was also identified as a cause of project failure in the study area. It was ranked fifth. The descriptive statistics showed a mean of 3.22, a standard deviation of 0.554, and a Relative Importance Index (RII) of 80.5.

Client interference ranked sixth with a mean of 3.18, a standard deviation of 0.660, and an RII of 79.4%. Client interference in construction projects refers to actions or inactions carried out by the client or his

design team that may hurt the project. Some of these include having unreasonable expectations, delays by the client's team, cutting costs arbitrarily, removal of essential items from the project, etc. It is therefore necessary that Clients understand the consequences of this interference on their projects.

Ethical behavior as relating to construction professionals infers honesty, fairness, and non-compromise of safety or quality (Rashidi Nasab et al., 2023). Safety involves handling machinery, good working environment and conditions, and good safety clothing and apparatus (Eom & Lee 2020). Some of these unethical behaviors include a lack of safety ethics, unfair treatment of professionals, overstatement of capabilities and qualifications, etc. *Lack of professional ethics* ranked seventh with a Relative Important Index (RII) of 76.7%. The mean and standard deviation were 3.07 and 0.646 respectively. Engaging in unethical practices can lead to contract disputes, safety incidences, higher costs and lower profits, reworks, loss of reputation, etc.

Insecurity ranked eight with a Relative Important Index (RII) of 73.4%. The mean and standard deviation were 2.93 and 0.827 respectively. Insecurity in Nigeria has adversely affected construction project progress as kidnappers and insurgents have caused many construction firms with the technological know-how unwilling to undergo construction work, as activities have been put on hold due to unending attacks in the study area. This is however in contrast with the findings of Shafiei & Puttanna (2021), in Afghanistan where insecurity was ranked first. The low ranking of insecurity suggests that other causes of project abandonment have been encountered in the industry over time, hence the effect of insecurity as compared to the other factors in the study area is perceived by construction professionals to be low.

Ineffective Communication ranked ninth with a Relative Important Index (RII) of 69.5%, a mean and standard deviation of 2.78 and 0.727 respectively. Communication is key in project development and management. In any profession, communication is vital, especially in cases where delegation of work is inevitable. Hence, without clear and efficient communication of the progress and tasks ahead, various parties may remain unaware of the next activity (Lee & Ghosh 2020). Ineffective communication has also been identified by several researchers as a factor of project abandonment (Ewa, 2013; Ikediashi et al., 2014; Kim et al., 2015; Nweze, 2016; Wasim & Khalidi, 2018).

Legal claims ranked tenth with a Relative Important Index (RII) of 66.8%, and a mean and standard deviation of 2.67 and 0.684 respectively. Claims in the construction industry may be due to delays, changes in work orders, site conditions, variations, damage, etc. Several other studies have also identified legal claims as a factor causing project abandonment. (Adigun et al., 2019; Tijani & Ajagbe, 2016). The low perception of legal claims about the other factors by construction professionals as a factor of project failure and abandonment in the study suggests that, parties involved in the construction of projects now seek other considerate means such as early settlements and/or mediation. This helps to forestall project delays, cost overruns, and abandonment as it provides a means for both parties involved to come to a compromise quickly.

5. CONCLUSION

This paper studied failed and abandoned projects and the related factors in Kaduna State, Nigeria. A total of ten (10) crucial factors were identified and through a questionnaire survey, the perception of construction professionals was assessed. The identified factors were analyzed using the Relative Importance Index (RII) to determine their relative ranking. The ranking of these factors enabled the comparative assessment of the relative importance of the factors as perceived by 91 respondents. From the ranking, Corruption, change in government administration, Politics, Government policies, and

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Inadequate involvement of construction professionals were the five top most ranking causes of project failure and abandonment in the study area.

This study can educate professionals, policymakers, and the entire public on the causes of failed and abandoned projects in the construction industry while also serving as an additional resource for further research in the study area for other researchers.

6. RECOMMENDATIONS

Project failures and abandonment are still experienced in the construction industry as evidenced by the effects still visible today. To help curb this menace, the following measures have been suggested.

- Contractual processes leading to the award of contracts should be made as transparent and as simple as possible. Ambiguities, complexities, and contractual links should also be minimized. Humans are believed to be the agents of corruption; it is, therefore, necessary to employ the use of technology in areas where this can replace the involvement of humans in the bidding process as well as in project administration. Construction professionals should cooperate with regulatory agencies to allow for proper project monitoring and execution.
- Transparency, accountability, and strict adherence to professional ethics should be exhibited at all stages of the contract. Construction professionals should be involved in training to keep the professional abreast of the ethics and inventions in their profession.
- Regulation should be put in place to compel an incoming administration to complete projects that have commenced under the outgoing administration before embarking on new projects to curb the abandonment of projects resulting from the change in administration. It is worth noting that in 2019, the government of Ekiti State signed into law an act to prevent the abandonment of projects by new administrations (Olanrewaju, 2019). It is strongly advised that other state governments in Nigeria follow suit.
- To avoid the issue of legal claims, acquisition and compliance with all necessary documentation signifying ownership, agreements, bills, and other aspects of the construction project should be put in place before the commencement of new projects. Also, issues of entitlements should be handled efficiently.
- Clients should have a clear understanding of the scope of work they are giving contractors to bid on; this will help minimize unnecessary changes and variations in the design and construction stages of the project.
- Regulatory agencies should ensure that relevant and certified professionals with a proven track record of successful project completion are adequately involved in the execution of projects.
- Construction professionals should ensure the timely dissemination of information through effective communication. This will guarantee less waste of resources and manpower, which are critical for the success of any project.
- Before implementing policies, the government should thoroughly appraise such policies and put in place measures to cushion the effect of such a policy before its implementation.
- There is a great need for the government to excogitate new ways of tackling the issue of insecurity before it overwhelms the industry.

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