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Leveraging Capitalization for Enhanced Project Delivery in the Nigerian Construction Industry: A Sustainable Risk Management Approach

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ABSTRACT

The Nigerian construction industry grapples with challenges such as low profit margins, cost overruns, and project abandonment, necessitating robust risk management strategies. This study investigates the impact of capitalization on sustainable risk management within large construction firms in Nigeria. Data from 198 firms were collected via questionnaires, interviews, and secondary sources, revealing significant benefits of capitalization including increased turnover, risk reduction, and improved image. The findings underscore the importance of integrating risk management evaluation into construction procurement processes to optimize project delivery. This research contributes to the discourse on sustainable development in the construction sector by advocating for strategic capitalization as a means of mitigating risks and enhancing project outcomes.
Keywords: Capitalization, project delivery, risks, risk management, sustainability

INTRODUCTION

Risk management is one of the most critical project management practices to achieve project objectives in terms of time, cost, quality, safety, and sustainability. Risk has become inevitable in construction works due to project complexity, client demand, unstable climatic state, and so on to ensure successful project delivery. Managing risk is, therefore, an integral part of good management, and fundamental to achieving a successful project. Risk management thus provides a structured way of assessing and dealing with future uncertainty. Having ascertained the damage risks could do to construction projects; its proper management is essential to prevent the colossal failure of the projects which could subsequently affect the national economy adversely. The instability of Nigeria's construction sector makes it a threat-prone sector and difficult to predict. There is an inconsistency in the contribution of Nigeria's construction industry to the economy over the years [1]. Against this background, there is a need to examine the structure of contracting firms in Nigeria's industry which are dominated by small-scale operations. Poor record keeping, lack of effective management, lack of entrepreneurial skills, poor cash flow, lack of financial skills, poor annual turnover, weak staff strength, and low equipment capacity are among the factors affecting the indigenous firms' ability to ensure project sustainability and risk control in Nigeria. The aforementioned factors have made it a herculean task for these firms to compete with expatriate firms that have dominated the construction markets in Nigeria. There is a need therefore to assess capitalization as a sustainable means of controlling project risks to improve the industry's output.

LITERATURE REVIEW

Every project aims to meet the satisfaction of the client. Project execution signifies the assemblage of all materials, money, machines, manpower, and management geared towards the goal and desire of the developer, the investor, or the client. Projects' aim can be achieved by fulfilling the project's primary objectives of time, cost, quality, and sustainability [2]. Furthermore, a project has to meet the named objectives. These objectives are most commonly illustrated in the project triangle as shown in figure 1.

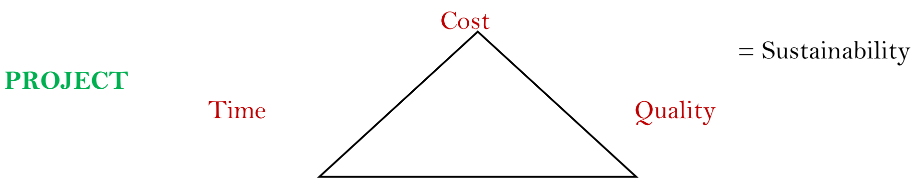

Fig. 1: Project Triangle (Source: [1])

Every project is time-bound. Projects are cost and quality bound also. The three objectives are connected to each other and thus give rise to sustainability, which is why none of elements should be ignored.

Performance of Construction Firms in Nigeria

All stakeholders in the construction industry must work together to overcome some difficulties. Because of the dispersion of supply chains and the transient connections between principal contractors, suppliers, and subcontractors, the sector is vulnerable to a variety of hazards [3]. The Nigeria Construction Industry on the other hand is characterized by large numbers of small contracting firms and relatively fewer numbers of large contracting firms that carry out a lot of construction work. Most of the work (totaling 235.51 billion USD) was awarded to foreign firms while a total of 68 billion USD, was awarded to local construction firms as stated by [4]. The Construction Industry in Nigeria has quite different characteristics in that they are typified by; a proliferation of small firms that form temporary alliances during the duration of that project; the separation of the design and construction activity; uncertainty due to variable demand, on site construction hampered by inclement weather and the lack of a standard project; fierce competition for work that creates low levels of commercial profitability; hundreds of stakeholders in any one project, many of whom may have conflicting business objectives; and display of considerable resistance to any change in working practices.

Economic Contribution to the national growth

The Construction sector's share of overall Gross Domestic Product (GDP) has been unstable over a decade.

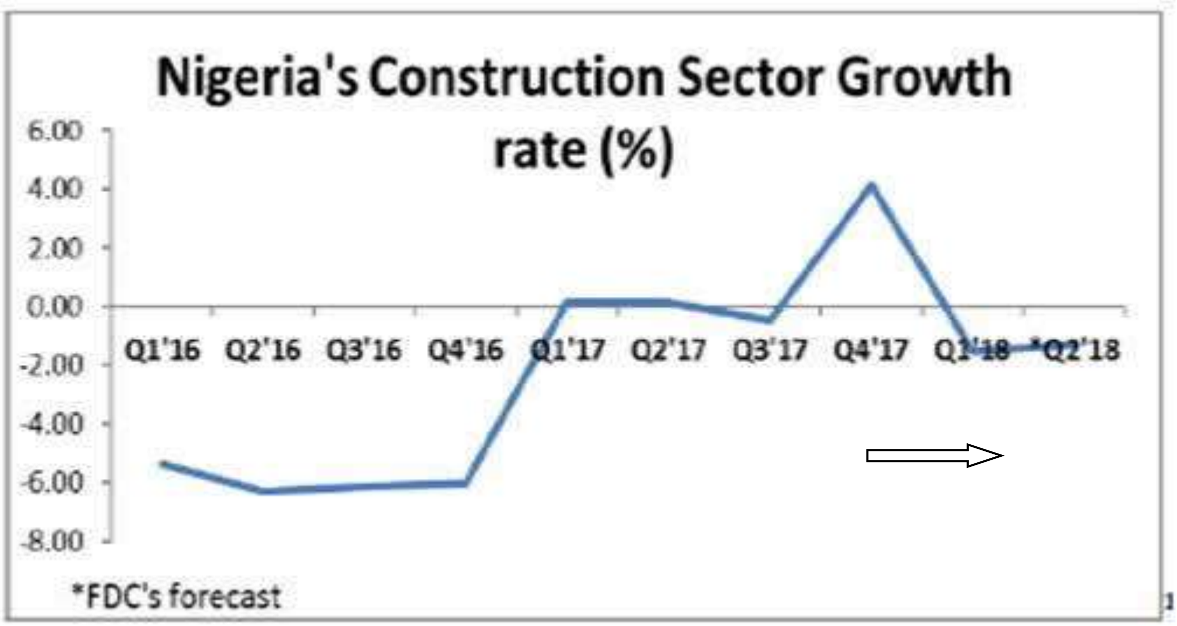

Fig. 2: Construction sector reflect (Source: [5]

The Construction sector as shown in fig 2 recorded a negative growth through-out 2016. A decline in global crude oil triggered a con-traction in government revenues, disposable income and aggregate output. Virtually all the sectors of the economy dipped and construction was not isolated. The sector started recovering in Q1'2017, posting a 1% growth the year. The contraction streak has resumed in Q1'18 and this is expected to persist in Q2. The second quarter (April-June), which introduces the rainy season, usually witnesses less construction activities. We are forecasting a -1.2% growth for the sector in the quarter.

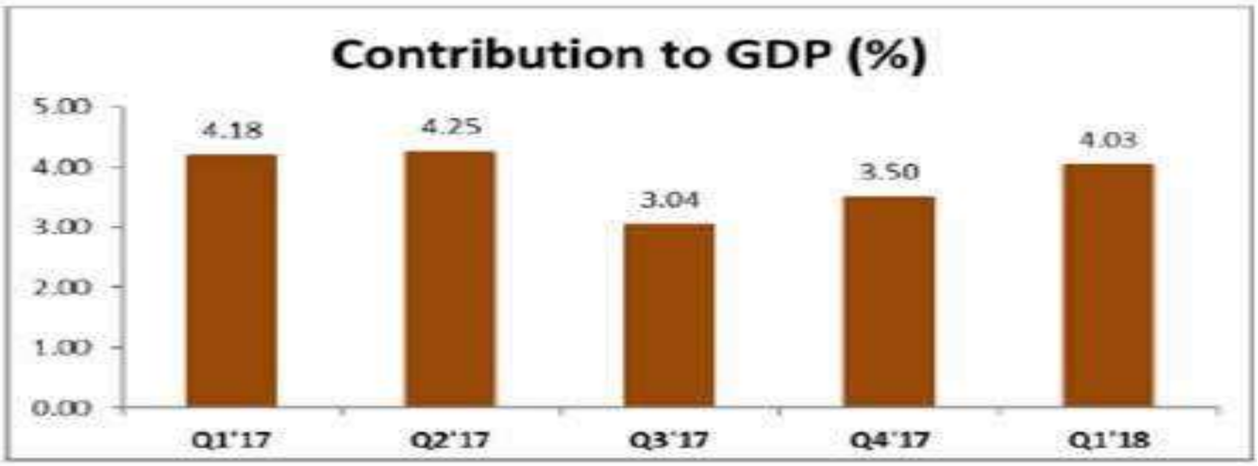

Fig. 3: Construction sector contribution to GDP (Source: [5])

The construction growth is unstable and inconsistent as clearly shown in fig.3 from adapted NBS figure, failure of Nigeria industry to improve will result to its automatic death. The situation is even getting worse yearly. Most of the ongoing federal and state construction works in Nigeria are undertaken by foreign companies. The uniqueness of every construction project, the turnover of contractors (particularly at large scale projects) and the long term nature of construction projects, clearly distinguishes it from other businesses. An understanding of working capital is thus crucial to understanding and analyzing the financial position of construction contractors. Simply put, the goal of working capital management is the process of making sure a business can continue operating and possesses sufficient capital on hand to shell out of impending operational bills along with maturing short-term debt [6]. [7] Surmised that working capital management is an important function of the financial manager. The indigenous contractor therefore needs competent financial manpower to take charge of the working capital management of the company. Merging and consolidation of firms if applied could be used as a means of successfully managing of risks in Nigeria construction industry. There is no doubt that Nigeria construction industry is facing huge challenges that requires urgent solution. To make the merger operational, some clarification is essential to put the actors in good perspective. A lack of risk management skills was one of the most visible deficiencies in risk management. Common risk management procedure demands that risks be dealt with as they appeared. The coming together of the "Main contractors' and the sub-contractors would reduce the worry or challenges related to risk, since the main contractor had more "professional" in their service. The subcontractor on the other hand becomes involved in risky activities unconsciously in the name of executing work. Nigeria as a nation is still at the infancy stage of infrastructural development where lots of construction activities are being carried out across the nation. Most construction activities being carried out by contracting firms, either local or international, whose structures affect the level of construction output. Meanwhile, the executions of most of these construction works are being carried out by the foreign construction firms. Due to new inventions and advancements in technology, construction operations are getting more sophisticated, sophisticated, and complex, thus businesses' equipment capacity needs to be enhanced. There is a considerable significant impact of firms' area of specialization on business structure. It was discovered that most construction firms in Nigeria do not have such capacity to produce independent project like finance projects prior to client financial contribution (they mostly rely on mobilization fee from the client) and have no capacity to go into long-term financing and partnership as asserted by [8]. Strong financial base or viability is the key to sustainability in successful project delivery in

Nigeria. There is the need therefore for capitalization and merger of companies with similar or cooperating style. Nigeria has a peculiar situation that promotes the weakening of the industry. The government in power controls the activities of the industry. This is not done through the policy formation and implementation alone but also through their direct involvement as the major financier of the industry.

Construction funding and capitalization

There are essentially, three modes of financing construction contracts namely; mobilization fees, bank loans and retained earnings. Most construction works in Nigeria are funded by the clients' personal funds, which provisions are made to contractors in form of mobilization fees. Contractors rarely get bank loans to fund projects and there is low level of savings among the firms from the previous projects to fund new projects. [8], is of the view that accessibility to loan facilities is a key factor for enhancing the structure of indigenous firms in order to compete successfully with the expatriates who have taken over most of the construction activities in Nigeria. He stated, 'It is therefore imperative to create an enabling environment and framework for small-medium enterprises (SMEs), such as indigenous contractors' accessibility to funds in Nigeria financial system. In addition, payment of mobilization fee to indigenous contractors is also essential as monetary security which shows that client has made a reasonable commitment towards his dream'. Though the view is good but it is not enough to ensure adequate sustainability and meeting risk management to successful project delivery in Nigeria.

Since it is an established fact that Nigerian construction industry is dominated by foreign companies and this is due to the deficiencies and incapability of the indigenous firms in the areas of financial effectiveness. The government and other clients/developers are taken risk management measures in their own way so as to avoid poor job execution, late delivery and cost overrun that characterize the indigenous firms due to poor funding and poor financial management. The financial institutions too wouldn't want to deal with firms with failed or unpredictable cash flow. There is need to operate with firms with adequate trust and confidence.

Consolidation has been internationally recognized all over the world to encourage solid financial base and financial risk reduction.

A merger may be defined as the coming together (i.e. fusion) of two or more existing companies or new companies using the evidence of exchange of shares. Meanwhile sizes of the bodies coming together in the consolidation are essential for the success to be recorded. Following from this, the stipulated fact is that the only legal modes of consolidation allowed are mergers and outright acquisition or takeovers. There is need for Nigerian Construction firms just like its banking sector counterpart to embrace consolidation to achieving the minimum capital base that would ensure more competency, reliability, performance and efficiency [9]. This means that, all construction firms that have other firms as subsidiaries or have common ownership or same mission could merge and thereby have the required financial strength. Consolidation is simply another way of saying survival of the fittest that would give birth to a bigger, more efficient, more reliable, more organized and more skilled industry. Generally, capital is required to support business. But the importance of adequate capital in construction sector cannot be overemphasized. It is an essential element which enhances confidence and permits a construction firm to engage in construction of complex projects and with huge financial outlay. "The more capital a company has the more losses it can sustain without going bankrupt. Capital thus provides the measure for the time it has to correct for lapses, internal weakness or negative developments as affirmed by [1]. The large sized and capital, the longer the time a firm has before losses completely erode its capital." Consolidation is not limited to amount the company operates with. It is a known fact in Nigeria that 'all' indigenous firms do fabricate or make up their company's profile in order to get the job tendered for. Qualified professionals as staff, equipment at the companies' disposal for the job, previous job executed are among the criteria of selecting a competent contractor. Many firms in Nigeria are default of this if these requirements are properly looked into. Consolidation of these firms would make it possible for these firms to meet the expectation. Consolidation is not a new system to a growing economy. Similar consolidation has taken place in many parts of the world like known big construction nations like Egypt, India, America etc. There is a strong conviction that since it works well in the countries mentioned above that have similar economic history with Nigeria; it would also be a success if practiced here. Consolidation would discourage the solely dependency on the project sponsored by the government which happens to be the biggest spender in the industry. Over dependence on government as the sole client is not helping the industry. These private developers seek consolation in the services rendered by the quack and unregistered contractors, which has brought nothing but challenge and dent upon professionalism in the countries. An example is the issue of collapse and abandoned structures at alarming rate in the country.

Capitalization in the industry apart from increasing the financial strength and offering protection against losses of the concerned companies, would also, strengthen firms' ability to attract funds at lower cost, ability to acquire required expertise for project execution, prospect of firm's expansion and operation beyond the owners and enhances a firm's liquidity position; enhance participation in foreign construction works; improve workers' welfares; ensure catalyst to innovation; ensure job security; Increase employment rate; decrease rate of abandoned projects; increases technical knowhow; encourage research activities and skill's improvement; tax incentives in the areas of capital allowances; reduction in transaction costs; enhance ability to purchase essential heavy and costly construction plants and equipment; it makes expansion easier and brings about improvement in turnover of the company.

The primary drivers of consolidation include technological advancements, financial services liberalization, and improved intermediation, a greater focus on shareholder value, privatization, and globalized conflict. [10]. The process of consolidation has been argued to enhance efficiency through cost reduction and revenue in the long run. It also reduces industry's risk by elimination of weaker firms and acquiring the smaller ones by bigger and stronger firms as well as more financial intermediation and diversification are made conceivable by it. There are two distinct approaches to look at the pattern of system consolidation among firms: market-driven consolidation and government-led consolidation. Notable organization that grew bigger and stronger includes Millstone Weber; AECOM and URS, ASCOT Africa Limited and Julius Berger. These organizations recorded much prospects after consolidation such as promoting confidence by the international community, development of technical knowhow, Increase in construction output and ensure strong capital base.

METHODOLOGY

Exploratory interviews conducted with the senior staff of corporate affairs commission whose duty includes the registration of companies (construction firms inclusive) were presented. The results were discussed from the view-point of construction stakeholders within which construction risks, its management and project delivery takes place. It allows for more financial intermediation and diversity. Market-driven consolidation and government-led consolidation are two different ways to examine the pattern of system consolidation across businesses. Respondents' opinions and suggestions on managing construction risks by the application of capitalization for sustainable project delivery in the industry were presented in the subsequent sections. Tables, figures and charts were extensively used for data presentations, analysis and interpretation of results.

DATA ANALYSIS

Take off of construction project

In between choosing contractor and the beginning of construction there are number of activities which need consideration. It is in the contractor's responsibility to apply for any type of necessary permits and licenses prior to construction works initiations. It is further used to plan employment and other resource utilities over time [11]. Mobilization or kickoff project on award contributes to the timely delivery or success of a project.

TABLE 1: FIVE (5) HIGHEST RANKING FOR SOURCE OF FUND FOR PROJECT TAKE-OFF

S/N	Identified Source	W	SA------------------------- ---SD 5	4	3	2	1	∑FX	$\bar{X}$	RANK
1	Mobilization from client	F WF	65 325	25 100	10 30	6 12	4 4	110 471	4.28	1ST
2	Loans/Financial institutions	F WF	55 275	20 80	10 30	10 20	15 15	110 420	3.81	2nd
3	Transfer from ongoing work	F WF	50 250	20 80	9 27	12 24	19 19	110 400	3.63	3rd
4	Project pools (capital base)	F WF	48 240	18 72	11 33	10 20	23 23	110 388	3.52	4th
5	Profit made from previous work	F WF	40 200	22 88	10 30	15 30	23 23	110 371	3.37	5th
	Grand Mean								3.72	

Where,
F = Frequency
WF = Weighted Frequency

Table 1shown the financial sources of starting construction projects. Based on the tabular query, it can be clearly seen that mobilization from client ranked 1st with mean score of 4.28, loans/financial institutions, transfer from ongoing work, project pools(capital base) and profit made from previous work ranked 2nd 3rd 4th and 5th respectively with RII of 3.81, 3.63, 3.52 and 3.37 respectively.

Form of capitalization recommended

[11] opines that a merger is the merger of two or more independent companies to form a single business. The company that emerges from the process may adopt a new identity or become the acquirer target. On the other hand, an acquisition occurs when a company acquires control of a competitor's ownership. Upon completing of the procedure, two distinct entities or companies are frequently present. The target business joins the acquisition company as a division or subsidiary [12].

TABLE 2: TYPE OF CAPITALIZATION RECOMMENDED

Opinion	Frequency	Percent	Cumulative percent
Merger of relevant firms	61	55.5	55.5
Acquisition of weaker firms by strong firms	28	25.5	81
Consolidation of firms' capital base	21	19.0	100
Total	**110**	**100**	

Table 2 shown that 61(55.5%) recommended the adoption of strategy of merger of similar/relevant firms, 28(25.5%) supported acquisition of the weaker firms by strong ones while 21(19.0%) recommended the consolidation of firms' capital base. Hence; majority of the respondents recommend the merger of similar/relevant firms. The finding indicated that most capitalization process that has succeeded emanated from the merger of two or more firms that have similar or relevant operations.

Benefits of merger

It is essential to find out the benefits of merger which is a form of capitalization to the Nigerian construction industry. The respondents indicated their appropriate opinion on what they derive from merger.

TABLE 3: BENEFITS OF MERGER

Benefits	Frequency	Percent	Valid percent	Cumulative percent
Increase turnover	27	21.8	24.5	24.5
Risk reduction	22	17.7	20	44.5
Business expansion	19	15.3	17.3	61.8
Image improvement	27	21.8	24.5	86.3
Geographical spread	15	12.1	13.7	100
Total	**110**	**100**	**100**	

In carrying out the merger benefit analysis, it can be seen in table 3 that 27(24.5%) of the respondents supported the notion that increase in turnover is a benefit of merger, 22(20%) perceived risk reduction as their benefit, 19(17.3%) perceived business expansion as another benefit, 27(24.5%) assert that Improvement/Client is what they perceive as the benefit of merger and finally 15 respondents corresponding to 13.6% of the respondents perceive their benefit of merger as geographical spread. Adequate capitalized firms that are well managed are better able to withstand losses and prevent incessant cases of 'stood off' throughout the business cycle including during downturns i.e. low construction peak (raining session). Adequate capital therefore, helps to promote confidence in the system.

Significant impact of capitalization on construction firms

H_0: There is no significant impact of capitalization of construction firms in achieving project delivery in Nigerian construction industry.

TABLE 4: SIGNIFICANT IMPACT OF CAPITALIZATION OF CONSTRUCTION FIRMS IN ACHIEVING PROJECT DELIVERY

Dependent Variable: D(CF)
Method: Least Squares
Included observations: 6 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.046978	0.010864	4.324319	0.0002
CAP	0.086744	0.162976	0.532253	0.0085

R-squared	0.136660	Mean dependent var	0.045552
Adjusted R-squared	-0.007230	S.D. dependent var	0.036386
S.E. of regression	0.036517	Akaike info criterion	-3.631047
Sum squared resid	0.040005	Schwarz criterion	-3.367127
Log likelihood	71.35885	Hannan-Quinn criter.	-3.538932
F-statistic	0.949754	Durbin-Watson stat	1.199124
Prob(F-statistic)	0.463722		

Where,
CF = construction firms
CAP= Capitalization

Decision Rule

If the probability (or significant) of the t-calculated is less than 0.05, we reject the null hypothesis but if otherwise, we do not reject the null hypotheses.

Analysis: The result of the estimated parameters from the computed Eviews result shows that the probability value (0.0085) is less than 0.05 level of significance, thereby justify the need to reject the null hypotheses. Therefore we accept the alternate hypothesis (H_1) and conclude that there is significant impact of capitalization of construction of firms in achieving project delivery in Nigeria construction industry. Hence there is need to apply capitalization as risk management means so as to ensure sustainability in project delivery in Nigeria.

CONCLUSION

Investigation reveals that the construction firms in Nigeria are financially incapable to start off project unless they are mobilized by the client (s). Information gathered asserts that construction firms globally are merging to expand their business. Apart from improving the firm's image, merger of firms or consolidation assist these firms to manage risks in the industry effectively. It was discovered that most of the firms merge with those that operate similar trade/business. The data analysis deduced also that most of the stakeholders in Nigeria if given the chance would love to merge with other organizations for efficiency. It confirms the opinion that the larger the firms the more situation could be accommodated. Hence, capitalization has increased the level of their operation; establish more confidence and working relationship with clients. Merger and acquisition of firms are therefore recommended as a sustainable risk management practice to save Nigeria construction industry.

REFERENCES

1. Nnadi, EOE (2015) Risk Management for Sustainable Project Delivery in Nigeria Construction Industry; a PhD Thesis Submitted To Faculty of Engineering, University Of Nigeria, Nsukka.
2. Nnadi, E.O.E., and O.O. Ugwu (2014); managing construction risks in Nigeria through capitalization of construction firms. Paper Presented at Int'l Conference on Artificial Intelligence, Energy and Manufacturing Engineering (ICAEME'2014), June 9-10, Kuala Lumpur, Malaysia.
3. Al-Musleh, Ahmed Mohammed. "Development of a Framework for Total Quality Management Principles in the Construction Companies with Special Reference to the Construction Companies in the State of Qatar." 2011, https://core.ac.uk/download/30696002.pdf
4. www.nbs.ng.org
5. National Bureau of statistics (2013), overview of GDP in quarter one 2014
6. Thorat, Hansraj. ""An Analysis of Working Capital Management of Genpharma International Pvt Ltd, Bhosari"." 2015, http://www.ischolar.in/index.php/KHOJ/article/view/134833. The Strategic Decisions That Influenced Post Consolidation Performance of Banks in Nigeria."2014,https://core.ac.uk/download/234625864.pdf.
7. Pandey, I.M. (2000). Financial Management (8th ed.). New Delhi: Vikas Publishing House.
8. Odediran S.J, Adeyinka B.F., Opatunji O.A. and Morakinyo K.O (2012). Business Structure of Indigenous Firms in the Nigerian Construction Industry; International Journal of Business Research & Management (IJBRM), Volume (3): Issue (5).
9. Nnadi, E.O.E. and O. O. Ugwu (2013); An appraisal of risk management in Nigeria construction industry; international Journal of Research and Advancement in Engineering Science, Volume 3, Number 2, pp 41 –50, Centre for Advanced Training and Research, ISSN: 22768149
10. www.imf.org
11. Bennett, J. and Jayes, S. (1995) Trusting the team: The best practice guide to partnering in construction. Reading: Centre for Strategic Studies in Construction/Reading Construction Forum.
12. Obademi Olalekan, Olagunju Adebayo. "An Analysis of the Impact of Mergers and Acquisitions on Commercial Banks Performance in Nigeria." 2012, https://core.ac.uk/download/234629327.pdf.

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