



## Strategies for Resolving Deficit Cash Flow by Contractors in Abuja, Nigeria

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**ABSTRACT:** In comparison to other industries, the construction industry faces greater risks due to the inherent uncertainty of the operating environment and the economic crisis. Due to the high risks inherent in the industry, some successful and profitable contractors have failed to survive due to incompetence in managing cash flow. To guide against such failure, cash flow management has become a critical element of strategic operations implored by many firms. This study, therefore, aims to assess the different strategies for resolving the cash-flow deficit by contractors in the Nigerian construction industry using Abuja. The study made use of the quantitative research method with the use of a questionnaire to retrieve data from respondents. The respondents include small, medium, and large contracting organisations in Abuja. A total of 67 data was retrieved and found suitable for analysis. Data analysis was carried out using a percentile, relative importance index, and one-way ANOVA. Findings from the study revealed that the most suitable strategies for resolving cash flow deficit by contractors include using the company's cash reserves and retention money for bonds and as collateral for loans. The study recommends that planned cash flow should be one of the contract documents to be submitted by the contractor at the tender stage and strict compliance should be monitored by the supervising Quantity Surveyor.

**Keywords:** Cash flow, Cash-in, Cash-out, Contractors, Strategies.

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### INTRODUCTION

A contracting business can be compared to a living organism that needs to be fed often, whereby, if not in a good health, will not only restrict contractors' ability to grow but will also make payroll and project funding more difficult (Williams, 2017). R. I. C. S. (2011) asserted that cash flow is the relationship between incoming money and outgoing money into a company and it is usually on monthly basis. Cash flow management is a broad term that refers to the process of planning, forecasting, manipulating, and controlling cash flows at the project or organizational level (Ross & Williams, 2013). James & Andrew (2014) opined that the cash flow policies of a firm help in the management of working capital in terms of cash receivables from customers, cash payments, and inventory holdings to suppliers, and it can also be associated with the firm's operations. Cash is

the most critical resource of all project resources, as businesses typically fail due to a budget deficit rather than a lack of other resources (Basha et al, 2016). Cash is the fuel that keeps businesses afloat (Peavler 2019). Thus, cash flow is a measure of the contractor's revenue and expenditure on projects. El-Abbasy, Elazouni & Zayed (2020); Zayed, & Liu (2012) asserted that cash flow has been recognised as a serious issue that adversely affects performance of contracting organisation for decades. Boowen, Bakker, Schraven & Hertogh (2020) corroborated this assertion that accurate cash flow forecasting plays critical role in driving economic and social sustainability in construction. Cash flow forecast is used at two main levels; the company (i.e. a contractor or consultant), division or area level, otherwise known as organisational cash flow, and the

construction contract or project level (done at the estimating and tendering stage for an individual project), otherwise known as project cash flow (RICS, 2011; Kado, Dandajeh & AbdulAzeez, 2018). RICS (2011) further explain that cash flow forecast can be used to obtain loans from financial institutions, monitor bank, and contract progress, manage cash within a business, forecast business performance, and help in the management of stock holder.

In the contraction industry, it is important to note that when a company is successful monetarily or profitable does not truly mean that it cannot face cash flow problems. Efeeloo, Ofor & Onuorah (2020) observed that cash is not the same as profit, as it is possible for a business that is profitable to encounter

problems if it does not manage inflow and outflow of cash effectively. It is therefore quite essential to realize that successful and profitable contractors have failed because of incompetence in cash flow management (RICS, 2011). Min-Yan & Andreas, (2011) observed that contractors are in a position to identify potential problems and create suitable strategies for mitigating their negative impacts on the overall success of the project during construction projects. A cash-flow deficit is a typical example of such a problem. Cash flow deficit can lead to project abandonment or litigation which may also result in a delay in completion of the project. Therefore, the contractors need to develop strategies for mitigating the cash-flow deficit which is the focus of this study.

#### LITERATURE REVIEW

AbdulRazaq, Ibrahim, and Ibrahim (2012) expressed the view that cash flow consists of the internal cash flow and the external cash flow. The relationship between time and costs is the basis of gross cash flow allied with time-cost models. AbdulRazaq et al (2012) opined that net cash flow consists of the balance between internal cash flow and external cash flow. A cautious cash flow management enables a company to estimate cash flow, project trends in cash inflow and cash outflow, and assess whether a deficit or surplus in cash might occur at any time (Henry, Ammar & Roy, 2003; AbdulRazaq, Ibrahim & Ibrahim, 2012). According to Evans (2012), cash flow management helps small and medium enterprises (SMEs) in maintaining an excellent, non-excessive, or inadequate cash balance. Menon, (2011) adds that management of cash flow helps SMEs identify potential cash flow gaps, serves as a tool to find bankers' funds, and improves bankers' confidence in SMEs. Amuzu (2010) agreed that cash flow is important for investors' evaluation of a business, since it focuses on the true operation of the company and eliminates one-time and non-cash expenses and clearly shows what the company is doing. Lange (2010) claims that small and medium-sized businesses may have a profitable image and be in danger of failure because many think

of how the business will generate profit instead of planning cash flows. Lange (2010) explained that several profitable SMEs face serious operational challenges because their liquids and cash are all linked to assets and therefore lack the cash needed to settle financial liabilities.

#### Cash Flow Forecast and Cash Flow Analysis

Cash flow analysis is the study of the movement of cash through business, also called a cash budget, and it is used to determine patterns of how money is taken in and paid out (Peavler, 2019). Cash flow forecast is an important strategy that is usually adopted at the company level otherwise known as organisational cash flow and at the construction contract or project level (done at the estimating and tendering stage for an individual project), otherwise known as project cash flow (RICS, 2011; Kado, Dandajeh & AbdulAzeez, 2018).

Construction companies frequently participate in contracts with ever-smaller prices, making them vulnerable to unforeseen events inherent in any building project (Augustin & Constanta-Nicoleta, 2016). The analysis of the cash flow is a method for financial health checks for the company. Contractors' ability to make a reliable cash flow forecast improves project cost control and management (Min-Yan & Andreas, 2011).

The practical cash flow analysis model can be applied mainly by construction companies (Augustin & Constanta-Nicoleta 2016). Augustin & Constanta-Nicoleta (2016) concluded that the models suggested allows the builder to predict, not only when, but mainly, what money should be borrowed or obtained, and when and how much money should be returned. Because of the high amount of money required to complete the projects, the construction company needs a specialized bank rather than a commercial bank that supports its financial needs. Martin Brook (2004) suggested that the contractor set his financial and time goals at the tender stage by calculating building costs and creating a project programme. The author explained further that an estimator can help a customer to produce a forecast of the payment by linking the two sets of data and comparing the forecast with his expected payments (to suppliers and subscribers) to generate his forecast of cash flow. RICS (2011) has suggested some guidance regarding the purposes for which the cash flow forecasts are being used, their usefulness in running a company and forecasting business failures, and 'curves.' for building projects all reviewed in this research, the cash flow prediction. Entrepreneurs' ability to predict cash flow reliably improves project cost flow management (Min-Yan & Andreas, 2011). It was also postulated that a cash flow forecast during a building project will enable the contractor to better define potential problems and develop appropriate strategies to mitigate their negative impacts on overall project success.

#### **Strategies for Resolving Deficit Cash Flow**

Having established several factors and problems associated with cash flow management in Nigeria, there is also a need to identify the strategies to which they can be resolved. These strategies will serve as a medium of understanding for contractors who do not know the importance of the knowledge of cash flow and the relativity to the construction company. Hence, the following strategies are thereby explained to give a wide range of knowledge of cash flow management.

#### **Cash Reserves**

The money a company or individual keeps on hand to meet short-term and emergency funding needs are referred to as cash reserves. Cash reserves are short-term investments that allow customers to get access to their money quickly in exchange for a lower rate of return (Daniel, 2019). As a result, as part of a strategy to resolve a cash flow deficit, a cash reserve can be useful to constructors as a form of a bond, particularly when tendering for work. Firms keep a cash reserve to cover all expected and unexpected short-term costs, as well as to fund potential investments. Cash is the most liquid form of wealth, but due to its high liquidity and short maturity dates, short-term assets such as three-month Treasury bills are also considered cash reserves. Some businesses have millions in cash on hand, but needs vary, and experts recommend that businesses have three to six months' worth of operating expenses in cash or highly liquid assets. According to Moddy (2018), since the end of 2017, when tax reforms were enacted, corporate America's cash pile has been shrinking.

#### **Deferred Payment to Suppliers/Subcontractors**

Deferred payment is a type of loan arrangement in which the borrower is permitted to begin making payments at a future date. Deferred payment arrangements are also common in retail settings, where a customer buys and receives an item with the promise of starting payments at a later date. According to Babich and Tang (2010), product adulteration by foreign suppliers has caused many contractors to reconsider their approaches to deferring suppliers, particularly when monitoring and controlling activities are not possible for the contractors to perform. As a result, the research looked into the deferred payment mechanism (where the buyer pays the supplier after the deferred payment period, with no adulteration in the process); the inspection mechanism (where the buyer pays the supplier right away); and the combined mechanism (where the buyer pays the supplier right away) (a combination of both the inspection payment and deferred mechanisms). The standard practice in the construction industry is for the main contractor

to contractually delegate various aspects of his work to specialist subcontractors, but when there are errors in submitting claims as well as contractors' failure to agree with the valuation of work as observed by Ansah (2011), these errors can lead to an agreed deferred payment with the subcontractors to pay at a specified date instead of causing delayed payment on such project. Such subcontractors may be selected by the main contractor or the employer for easier negotiation in case this kind of incidence may occur. Hitherto, deferred and delayed payment of contractors' invoices are not usually common in practice, therefore, failure in the complete and timely payment of invoices will both have many negative effects on parties to a construction contract (Ramachandra & Rotimi, 2011).

#### ***Sales of Company's Assets***

Assets are items that a business owns, including cash product inventory, buildings, and property, as well as intangible assets. Kulikova, Semenikhina, and Vetoshkina (2016) believed that to obtain the most accurate picture of an enterprise's property situation and financial results of operations in terms of economic value, it is necessary to perform appropriate data corrections in accounting (financial) reporting and to seek a solution to the enterprise's evaluation problem as a property complex in making the assessment. As demonstrated by an analysis of existing methods for determining the economic value of a business (Kulikova & Semenikhina, 2014), such corrections are diverse and can be used both for determining the property's value and for determining the efficiency and profitability of the business's operations. Thus, actuarial accounting's objective is to ascertain the company's market value (Kulikova, Semenikhina, & Vetoshkina, 2016). Any economy prioritizes technology renewal and increasing the efficiency of use of fixed production assets; consequently, questions regarding the calculation of a company's efficiency of use of fixed production assets are extremely urgent (Gajfullina, Nizamova, Musina & Alexandrova, 2017).

#### ***Borrowed Funds from Banks through Loan***

Cash flow shortages occur when more money flows out of the company rather than into the company. Therefore, to solve this problem, a business loan can be obtained to bring money into the business. Havranek, Havrankova, and Lesanovska (2015) examined the bank-level determinants of pricing policies using a data set of Czech loan and deposit products. Additionally, the findings were classified into three thresholds: first, long-term pass-through was nearly complete for the majority of products before the financial crisis, but has weakened significantly since then; second, banks that offer high deposit rates typically charge high loan mark-ups; and third, cost-efficient banks tend to delay responses to market rate changes, smooching.

#### ***Procurement Route***

Uher & Davenport (2009), describe procurement as "the process where clients' satisfaction on building requirement is characterised by a specific distribution of responsibility, tasks, organisational form, and risk allocation". As a result, the project manager is tasked with the responsibility of supervising the organization of the various work components, defining the project scope, planning and controlling project deliverables. (Forgues et al., 2015). Marzouk and Elmesteckawi (2014) state that their study develops and analyzes a decision support tool for determining the most efficient procurement/delivery system for multiple contracts for Combined Cycle Power Plants (CCPP) constructed in Egypt and financed by the public sector. Additionally, the research considered procurement routes, which are composed of five components: a selection strategy, an evaluation strategy, awarding procedure, a procurement/delivery system (contract model), and a compensation format. Additionally, RIBA (2012) found that respondents preferred the following procurement routes: traditional contract (86 percent), single-stage design and build (41 percent), two-stage design and build (39 percent), management contract (18 percent), and PFI (10 percent). In contrast to the

aforementioned findings, Muhammad, Adamu, and Ladi (2015) discovered that there is widespread criticism of public sector procurement in Nigeria for being inefficient in terms of project delivery.

#### ***Credit Facilities***

A credit facility establishes a line of credit between a customer and a bank. This ensures that you always have a certain amount of money on hand, which you can use as needed. This also means that when you contract a credit facility, you do not immediately receive the money loaned, but rather have access to it whenever you need it.

#### ***Retention***

RICS (2011), posited that most forms of contract in construction do include a provision for retention to be held at each payment of a project. This retention is usually held at a certain percentage and at a particular period in time. Hence, the percentage is usually around three to five percent of the construction value but can be fixed. In comparison, Salisu, Chinyio, and Suresh (2016) established a theoretical framework based on equity theory to examine how the retention of workers in Jigawa State can affect their compensation.

#### ***Reduction in Liabilities***

Liability for foreignness and liability for 'outsider ship' are concepts drawn from management and international business literature (Milanesi & Guercini, 2017). Outsider-ship liability can exist both during the firm's internationalization process and in the domestic market when information constraints and uncertainties regarding network developments and opportunities emerge in

networks and business relationships exist (Hilmersson, 2013). However, according to Milanesi & Guercini (2017), the liability of outsider-ship occurs when a firm enters a business environment without knowledge of the other business actors or their relationships. According to Michael, Martin, and Celine (2017), their study's econometric analysis indicates that countries with strong average real Gross Domestic Product growth are more likely to sustain net foreign liability reductions. Additionally, the findings indicate that net foreign liabilities are decreased as a result of an increase in gross assets and a decrease in gross liabilities.

#### ***Raising Investor Capital***

Investors must be informed about an investment before allocating capital to it, resulting in investment specialization. This causes some investors to hold highly concentrated portfolios, thereby deviating from the fully diversified equilibrium's required rate of return (Jurek & Stafford, 2013). Additionally, Jurek and Stafford (2013) assume that investors fall into two categories: traditional investors who do not invest in alternatives but do have access to cash and equity index funds, and endowment investors who have access to both traditional and alternative investments. Additionally, it was assumed that traditional investors priced the equity index exclusively, while endowment investors priced the alternatives index. In addition, another way to quickly increase business working capital is to sell equity. In like manner, Berk, Binsbergen & Liu (2014), in their findings, showed that investors are unable to match the firm's capital reallocation decision themselves and find that the capital reallocation decisions add more value for young managers.

### **RESEARCH METHODOLOGY**

As part of the efforts to determine strategies for resolving the deficit on the cash flow of contracting organisations on construction projects, a quantitative research method was adopted. This method employs a questionnaire survey to retrieve data from respondents purposively chosen for the study. To effectively get a viable result on this study, a well-

structured and well-developed questionnaire was administered to contractors working in Abuja, Nigeria via physical distribution and through email. The research population for this study was the contractor of a small, medium, and large organisation at Abuja Municipal Area Council (Phase 2; Gudu, Utako, Jabi, Kado, Mabuchi, Katampe, Jahi, Gaduwa, and Dutse).

The Council was selected because a pilot survey conducted for the study shows that more projects were executed in the council than others. Crosswell & Plato Clark (2011) asserted that purposive selection involves identifying and selecting individuals or groups that are expected to be especially knowledgeable about or experienced with the phenomenon of interest. Small contractors are those operating in a particular locality and dealing with minor works, repair, and maintenance. Medium contractors are those operating within one particular region of the country while large contractors include those dealing with a wide range and sizes of activities on a national or worldwide basis. The sampling technique used for this research is simple random sampling also known as chance sampling or probability sampling. This became necessary because the population has an equal chance of inclusion in the sample and the possible samples have the same probability of being selected. The

questionnaire used for data collection was designed using close-ended questions in two sections. Section A of the structured questionnaire solicited the demographic information of respondents while section B requested respondents to rate on a 5-point Likert scale based on their experiences, the strategies for resolving the deficit on cash flow. The rating was on a continuum, ranging from 'Not Important' (rated 1) to 'Very Important' (rated 5). Data analysis is the language of research (Agbaje and Alarape, 2010). The reliability of the data collection instrument was checked using Cronbach Alpha and the result showed 0.897 which suggests a very good internal consistency reliability as posited by Pallant (2011) that values above 0.7 are acceptable. The collected data were analyzed using frequencies, percentile, Relative Importance Index (RII), One-way ANOVA, and Post-hoc test.

## RESULTS

### Characteristics of Respondents

The result from the analysis of retrieved data revealed the background information of the respondents as depicted in Table 1.

The result observed in Table 1 shows that small contractors operating in the locality are 49.3% of the respondents, the medium contractor operating on a regional basis is 37.3% while large contractors operating nationwide are 13.4% of the respondent. The respondents who specialise in certain fields such as Architecture are 19.4% of the respondent, 32.8% of the respondents specialises in Quantity Surveying, those that specialise in Engineering are 25.4%, the respondents that specialises in Building takes 17.9% of the respondent while those that specialise in other area but work in a contracting firm take 4.5% of the respondents. From the table, it was observed that 23.9% of respondents have working experience between one to five years, 43.3% have between five to ten years of working experience, 23.9% also have working

experience between ten to fifteen years while 9% have more than fifteen years working experience. The result of the table shows that 28.4% of the respondents are HND holders, 9% of the respondents are PGD holders, 34.3% of the respondents are BSc./B.Tech holder, 23.9% of the respondents are MSc./M.Tech holders and 4.5% of the respondents are Ph.D. holders. Also, the findings show that 10.4% of the respondents practice on their own, 37.3% of the respondent partners with each other to form a company, 35.8% are private company while 16.4% of the respondents are public companies. The table also revealed that 55.2% of contractors that practice cash flow have less than 20 persons working in their company. In a like manner, 22.4% of the respondent show that 20 - 30 persons work in contractors' firms. About 30 - 40 persons working with contractors take 13.4% of the response, 3.0% is for 40 - 50 persons in the company while 6.0% is for those that 50 persons and above.

**Table 1: Characteristics of the Respondents**

<b>Charateristics</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Kind of Organization</b>		
Small	33	49.3
Medium	25	37.3
Large	9	13.4
<b>Total</b>	<b>67</b>	<b>100.0</b>
<b>Field of Specialization</b>		
Architecture	13	19.4
Quantity Surveying	22	32.8
Engineering	17	25.4
Building	12	17.9
Others	3	4.5
<b>Total</b>	<b>67</b>	<b>100.0</b>
<b>Working Experience</b>		
1-5years	16	23.9
5-10years	29	43.3
10-15years	16	23.9
more than 15years	6	9.0
<b>Total</b>	<b>67</b>	<b>100.0</b>
<b>Academic qualification</b>		
HND	19	28.4
PGD	6	9.0
BSc/B.Tech	23	34.3
MSc/M.Tech	16	23.9
PhD	3	4.5
<b>Total</b>	<b>67</b>	<b>100.0</b>
<b>Form of business organization</b>		
Sole proprietorship	7	10.4
Partnership	25	37.3
Private company	24	35.8
Public company	11	16.4
<b>Total</b>	<b>67</b>	<b>100.0</b>
<b>Number of employees</b>		
less than 20 persons	37	55.2
20-30 persons	15	22.4
30-40 persons	9	13.4
40-50 persons	2	3.0
50 persons and above	4	6.0
<b>Total</b>	<b>67</b>	<b>100.0</b>

#### **Relative Importance Index of Strategies for Resolving Cash Flow Deficit**

Table 2 shows the strategies for resolving cash flow deficit are ranked in their order of importance in which using the company's cash reserve takes the highest relative importance index of 0.88. Retention for collateral from a loan takes 0.83 and ranked second, borrowed funds from banks through a loan, deferred

payment to suppliers, and deferred payment to subcontractors are ranked third with an RII of 0.78. On the other hand, the availability of credit facilities is ranked sixth with a slight difference of 0.01 RII away from the strategies ranked third. Furthermore, adoption of the design and build procurement route eighth with an RII of 0.73. Reduction in the payment of interest by the company and reduction in

liabilities obtained are ranked nine and ten respectively with a relative importance index of 0.72 and 0.71. Hence, sales of the company's assets have RII of 0.67 and raising investor capital with RII of 0.63. In conclusion, the result of the above strategies for resolving deficit cash flow as shown reveals that the identified strategies are not less than 0.5. Therefore, it can be concluded that all the identified strategies are deemed important to the contractors.

#### One-Way Analysis of Variance for Strategies for Resolving Deficit Cash Flow

One-way analysis of variance (ANOVA) was adopted in this study to investigate the significantly important strategies for resolving deficit cash flow. Therefore, these strategies for resolving deficit cash flow have been categorised into small, medium and large contractors. Table 3 shows the significantly important strategies for resolving deficit cash flow through one-way ANOVA which was conducted. For using company's cash reserves, the findings reveal significant difference in signage ( $F = .320, p = 0.728$ ), deferred payment to subcontractors ( $F = 1.871, p = .162$ ), deferred

payment to suppliers ( $F = 3.842, p = .027$ ), sales of company's assets ( $F = .645, p = .528$ ), borrowed funds from banks through loan ( $F = 4.995, p = .010$ ), adoption of the design and build procurement route ( $F = .974, p = .383$ ), availability of credit facilities ( $F = .213, p = .808$ ), reduction in the payment of interest by the company ( $F = 3.120, p = .051$ ), retention money for bonds and as collateral for loans ( $F = 7.264, p = .001$ ), reduction in liabilities obtained ( $F = 9.653, p = .000$ ), raising investor capital ( $F = 2.352, p = .103$ ).

Post-hoc tests were also conducted for the significantly important strategies for resolving deficit cash flow in Table 4. The results of the post-hoc tests for the strategies for resolving deficit cash flow revealed significant differences in respondents' importance level with deferred payment to suppliers, borrowed funds from banks through a loan, reduction in the payment of interest by the company, retention for collateral from bond or loan and reduction in liabilities obtained between medium and large, medium and large, and large and small.

**Table 2: Strategies for resolving deficit cash flow**

Strategies for resolving deficit cash flow	Overall		Small		Medium		Large	
	RII	Rank	RII	Rank	RII	Rank	RII	Rank
Using company's cash reserves	0.88	1	0.87	1	0.88	1	0.91	2
Retention money used as bond or collateral for loan	0.83	2	0.74	6	0.86	2	0.99	1
Borrowed funds from banks through loan	0.78	3	0.69	10	0.84	3	0.91	2
Deferred payment to suppliers	0.78	3	0.75	4	0.76	5	0.91	2
Deferred payment to subcontractors	0.78	3	0.8	2	0.74	7	0.8	7
Availability of credit facilities	0.77	6	0.75	4	0.81	4	0.73	9
Adoption of the design and build procurement route	0.73	8	0.7	9	0.76	5	0.78	8
Reduction in the payment of interest by the company	0.72	9	0.73	7	0.68	9	0.82	6
Reduction in liabilities obtained	0.71	10	0.77	3	0.59	12	0.87	5
Sales of company's assets	0.67	11	0.67	11	0.66	10	0.73	9
Raising investor capital.	0.63	12	0.57	12	0.64	11	0.78	8

**Table 3: One-way ANOVA for Strategies for Resolving Deficit Cash Flow**

		Sum of Squares	df	Mean Square	F	Sig.
Using company's cash reserves	Between Groups	.280	2	.140	.320	.728
	Within Groups	28.019	64	.438		
	<b>Total</b>	<b>28.299</b>	<b>66</b>			
Deferred payment to subcontractors	Between Groups	1.605	2	.802	1.871	.162
	Within Groups	27.440	64	.429		
	<b>Total</b>	<b>29.045</b>	<b>66</b>			
Deferred payment to suppliers	Between Groups	4.531	2	2.266	3.842	.027
	Within Groups	37.737	64	.590		
	<b>Total</b>	<b>42.269</b>	<b>66</b>			
Sales of company's assets	Between Groups	.942	2	.471	.645	.528
	Within Groups	46.730	64	.730		
	<b>Total</b>	<b>47.672</b>	<b>66</b>			
Borrowed funds from banks through loan	Between Groups	10.998	2	5.499	4.995	.010
	Within Groups	70.465	64	1.101		
	<b>Total</b>	<b>81.463</b>	<b>66</b>			
Adoption of the design and build procurement route	Between Groups	1.145	2	.573	.974	.383
	Within Groups	37.631	64	.588		
	<b>Total</b>	<b>38.776</b>	<b>66</b>			
Availability of credit facilities	Between Groups	.436	2	.218	.213	.808
	Within Groups	65.355	64	1.021		
	<b>Total</b>	<b>65.791</b>	<b>66</b>			
Reduction in the payment of interest by the company	Between Groups	4.612	2	2.306	3.120	.051
	Within Groups	47.299	64	.739		
	<b>Total</b>	<b>51.910</b>	<b>66</b>			
Retention money used for bonds or as collateral for a loan	Between Groups	10.322	2	5.161	7.264	.001
	Within Groups	45.469	64	.710		
	<b>Total</b>	<b>55.791</b>	<b>66</b>			
Reduction in liabilities obtained	Between Groups	41.982	64	.656		
	Within Groups	41.982	64	.656		
	<b>Total</b>	<b>42.418</b>	<b>66</b>			
Reduction in liabilities obtained	Between Groups	17.302	2	8.651	9.653	.000
	Within Groups	57.355	64	.896		
	<b>Total</b>	<b>74.657</b>	<b>66</b>			
Raising investor capital	Between Groups	7.750	2	3.875	2.352	.103
	Within Groups	105.444	64	1.648		
	<b>Total</b>	<b>113.194</b>	<b>66</b>			

**Table 4: Post-hoc Tests for Strategies for Resolving Deficit Cash Flow**

<b>Multiple Comparisons</b>								
Tukey HSD								
<b>Dependent Variable</b>				<b>Mean</b>	<b>Std.</b>	<b>Sig.</b>	<b>95% Confidence Interval</b>	
				<b>Differ-</b>	<b>Error</b>		<b>Lower</b>	<b>Upper</b>
				<b>ence</b>			<b>Bound</b>	<b>Bound</b>
				<b>(I-J)</b>				
Using company's cash reserves	Small	Medium		-.076	.175	.901	-.50	.34
		Large		-.192	.249	.722	-.79	.41
	Medium	Small		.076	.175	.901	-.34	.50
		Large		-.116	.257	.895	-.73	.50
	Large	Small		.192	.249	.722	-.41	.79
		Medium		.116	.257	.895	-.50	.73
Deferred payment to subcontractors	Small	Medium		.320	.174	.164	-.10	.74
		Large		0.000	.246	1.000	-.59	.59
	Medium	Small		-.320	.174	.164	-.74	.10
		Large		-.320	.255	.424	-.93	.29
	Large	Small		0.000	.246	1.000	-.59	.59
		Medium		.320	.255	.424	-.29	.93
Deferred payment to suppliers	Small	Medium		-.012	.204	.998	-.50	.48
		Large		-.768*	.289	.026	-1.46	-.07
	Medium	Small		.012	.204	.998	-.48	.50
		Large		-.756*	.298	.036	-1.47	-.04
	Large	Small		.768*	.289	.026	.07	1.46
		Medium		.756*	.298	.036	.04	1.47
Sales of company's assets	Small	Medium		-.057	.227	.966	-.60	.49
		Large		-.364	.321	.498	-1.13	.41
	Medium	Small		.057	.227	.966	-.49	.60
		Large		-.307	.332	.628	-1.10	.49
	Large	Small		.364	.321	.498	-.41	1.13
		Medium		.307	.332	.628	-.49	1.10
Borrowed funds from banks through loan	Small	Medium		-.685*	.278	.043	-1.35	-.02
		Large		-1.040*	.395	.028	-1.99	-.09
	Medium	Small		.685*	.278	.043	.02	1.35
		Large		-.356	.408	.660	-1.33	.62
	Large	Small		1.040*	.395	.028	.09	1.99
		Medium		.356	.408	.660	-.62	1.33
Adoption of the design and build procurement route	Small	Medium		-.215	.203	.545	-.70	.27
		Large		-.343	.288	.463	-1.04	.35
	Medium	Small		.215	.203	.545	-.27	.70
		Large		-.129	.298	.902	-.84	.59
	Large	Small		.343	.288	.463	-.35	1.04
		Medium		.129	.298	.902	-.59	.84
Small	Medium		-.041	.268	.987	-.68	.60	

<b>Multiple Comparisons</b>							
Tukey HSD							
<b>Dependent Variable</b>			<b>Mean Differ- ence (I-J)</b>	<b>Std. Error</b>	<b>Sig.</b>	<b>95% Confidence Interval</b>	
						<b>Lower Bound</b>	<b>Upper Bound</b>
Availability of credit facilities	Medium	Large	.212	.380	.843	-.70	1.12
		Small	.041	.268	.987	-.60	.68
	Large	Large	.253	.393	.796	-.69	1.20
		Small	-.212	.380	.843	-1.12	.70
		Medium	-.253	.393	.796	-1.20	.69
		Small	.377	.228	.231	-.17	.92
Reduction in the payment of interest by the company	Medium	Large	-.414	.323	.411	-1.19	.36
		Small	-.377	.228	.231	-.92	.17
	Large	Large	-.791	.334	.054	-1.59	.01
		Small	.414	.323	.411	-.36	1.19
		Medium	.791	.334	.054	-.01	1.59
		Small	-.422	.223	.151	-.96	.11
Retention money used for bonds or as collateral for loans	Medium	Large	-1.182*	.317	.001	-1.94	-.42
		Small	.422	.223	.151	-.11	.96
	Large	Large	-.760	.328	.060	-1.55	.03
		Small	1.182*	.317	.001	.42	1.94
		Medium	.760	.328	.060	-.03	1.55
		Large	-.222	.305	.747	-.95	.51
Reduction in liabilities obtained	Medium	Small	-.027	.215	.992	-.54	.49
		Large	-.249	.315	.710	-1.00	.51
	Large	Small	.222	.305	.747	-.51	.95
		Medium	.249	.315	.710	-.51	1.00
		Small	.868*	.251	.003	.27	1.47
		Large	-.545	.356	.283	-1.40	.31
Raising investor capital.	Medium	Small	-.868*	.251	.003	-1.47	-.27
		Large	-1.413*	.368	.001	-2.30	-.53
	Large	Small	.545	.356	.283	-.31	1.40
		Medium	1.413*	.368	.001	.53	2.30
		Small	-.401	.340	.470	-1.22	.42
		Large	-1.010	.483	.099	-2.17	.15
Medium	Small	.401	.340	.470	-.42	1.22	
	Large	-.609	.499	.446	-1.81	.59	
	Small	1.010	.483	.099	-.15	2.17	
	Medium	.609	.499	.446	-.59	1.81	

\*. The mean difference is significant at the 0.05 level.

## DISCUSSION OF FINDINGS

The survey result in tables 2-4, which shows the strategies used for resolving deficit cash flow by contractors, indicates that the use of the company's cash reserves is ranked first according to the order of importance. This is in support of Daniel (2019), who stressed that cash flow investments are short-term investments that allow customers to quickly access their money in exchange for a lower rate of return. Additionally, it was explained that firms maintain cash reserves to cover short-term expected and unexpected costs, as well as to finance potential investments (Moddy, 2018). Retention for collateral from bonds or loans is also another important strategy for resolving deficit cash flow by contractors. This is ranked second, and it showcases the certain percentage of the project sum to be deducted at the beginning of a project in which half of the retention fee (fifty percent) is paid at the end of the completion of the contract and the other half is being paid six months after the first payment. According to Al-Issa & Zayed, (2007), the

purpose of retention is to supply funds to the owner of the contractor who fails to carry out the project and to encourage the contractor to bring to an end any minor outstanding items. The third-ranked strategy is borrowed funds from banks through the loan, deferred payment to suppliers/subcontractors. Another strategy from the study findings is the availability of credit facilities. This is however hard to meet up with by contractors as pointed out by Kado *et al* (2016) that the management of cash flow is made difficult by the fact that payments in construction are made in different increments depending on payments arrangement with clients and the type of activities involved in the project. Other strategies that are used in resolving deficit cash flow by contractors include time lags between billing and actual payment, adoption of the design and build procurement route, reduction in the payment of interest by the company, reduction in liabilities obtained, and sales of the company's assets.

## CONCLUSION AND RECOMMENDATIONS

This study was set out to assess the strategies to resolve the cash-flow deficit on construction projects. The study reviewed extant literature to establish how cash flow is being used in the construction industry by contractors. The study also established the strategies for resolving cash flow deficit from extant literature which was then employed in designing a well-structured questionnaire that was used in retrieving information from respondents. Findings from the study showed that the highest acceptable strategy to resolve cash flow management deficit is the company's cash reserve. Other strategies are also important as they were ranked above the average 0.5 of a relative importance index analysis method. Based on

the findings of the study, it is recommended that contractors should set aside fund to cater for deficit cash flow or what is known as negative cash flow/capital lockup. Also, other strategies identified from this study should be put in place to resolve deficit cash flow. The study recommends that planned cash flow should be one of the contract documents to be submitted by the contractor at the tender stage and strict compliance should be monitored by the supervising Quantity Surveyor. Further study can be carried out using all the states in Nigeria to have a better coverage such that the findings can be generalised for the whole country.

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