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Anny Aniekwu

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The business environment of the construction industry in Nigeria

ANNY ANIEKWU

Department of Civil Engineering, University of Benin, Benin City, Nigeria

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The business environment of any industry consists of systems and structures, which determine the atmosphere under which all the business of that industry is transacted. They affect directly or indirectly all practitioners of that industry, without their being able to influence it. In a scientific investigation into the problems of the construction industry in Nigeria, out of the 47 variables identified that can adversely affect the construction industry, 37 variables were classified under the environment of the construction industry. Of the 18 variables considered to constitute the most serious problems, which occur all the time, 17 variables were related to the business environment of the construction industry. This paper reviews the research findings with respect to the business environment of the construction industry in Nigeria and discusses the implications of some of the findings.

Keywords: Business environment, severity index, Nigeria

Introduction

The construction industry consists of structures and systems of activities which interact under the catalyst of construction operators to attain desired construction goals. A feature of the construction industry is the division of production responsibilities amongst many participants who belong to different organizations with different policies, objectives and practices. Also most construction industry clients come from the public sector, whose volume and composition vary thus involving high market variations and risks. There are also difficulties in securing investment capital, retaining skilled and permanent workers, investing in basic equipment and mobilizing on new jobs. Moreover, most construction products are custom-made to meet the particular needs of clients; they are also location-specific thereby necessitating the movement of manpower and materials to each site (Kirmani, 1988). The whole process is fraught with many unknowns which are further complicated by special factors in a developing country like Nigeria.

The problems of the construction industry are multifaceted and various scholarly works have focused on the problems of the construction industry in Nigeria. Wahab (1977) has identified various constraints responsible for the low productivity of the Nigerian contractor. Edmonds and Miles (1983) identified another set of problems which they attributed to the fact that the contractual framework and procedures under which the domestic contractor works in developing countries are not suitably adapted to local conditions. Okpala and Aniekwu (1988) identified delays and cost over-runs as the principal factors responsible for the high cost of construction in the Nigerian construction industry and derived a mathematical model for assessing the varying importance of different variables. Aniekwu and Okpala (1987), through a survey involving consultants to the construction industry, identified a set of factors termed systemic factors, which adversely affect the construction industry in Nigeria and arise from the application of systems not suitable to the local environment. Aniekwu and Okpala (1988) also identified another set of factors termed structural factors that are inherently related to the conditions and practices in Nigeria, which adversely affect construction activities. These are unique to the Nigerian environment and cannot necessarily be controlled by provisions in the conditions of contract in use. A survey carried out by the Ministry of National Planning in Nigeria established the fact that indigenous companies on average have lower total paid-up share capital base, compared with foreign companies. An analysis of Federal Road Projects in Nigeria covering the period between 1979 and 1991, carried out with respect to construction, rehabilitation, overlay, mechanical services and electrical services contract, indicated that

among other factors the low capital base of indigenous contractors excluded them from handling big projects, and put a few expatriate contractors in a monopoly position, thus reducing the worth of competitive bidding (Olugbekan, 1991). In June 1991, the Federal Government of Nigeria articulated some of the issues raised in some of the cited works, in the National Construction Policy (Federal Republic of Nigeria, 1991), and also established the Raw Materials Research and Development Council to initiate, organize and disseminate information on research works on local raw materials.

From an exploratory survey which involved a review of available literature, interviews with professionals of the construction industry, and information culled from a World Bank draft questionnaire titled 'Development of the construction industry in Nigeria' (The World Bank Field Office, Lagos, 1988), 47 variables that adversely affect the construction industry in Nigeria were identified. The principal manifestations of these adverse effects in the Nigerian construction industry are high costs of construction resulting from delays and cost over-runs, and low value addedness in the construction industry resulting from the heavy dependence of the construction industry on imported materials and technology. These problems emanate from numerous factors which can be broadly classified under the following headings:

1. Contracting and contract administration practices;
2. Business environment of the construction industry;
3. Capacity and efficiency of the contractors; and
4. Capable institutions to cater for the progress of the industry.

Contract and contract administration practices

This classification is related to those factors that adversely affect the industry, caused by inefficient contracting and contract administration practices. This includes pre-qualification procedures; tendering or bidding procedures; preparation of the bids; evaluation and award procedures; the condition of construction contract; level of compliance with the conditions; organization of the workforce; management of plant and materials; scheduling and delivery periods, and so on.

Business environment of the construction industry

The business environment of any industry constitutes the atmosphere in which all the industry's transactions are carried out. It consists of tangible and intangible systems and structures which affect and regulate the relations, actions and interactions of all the participants in that industry. These systems and structures include systems of governmental policies, procedures and administrative structures of incumbent government relating to procurement and disbursement procedures; approvals, licensing and negotiation policies; bonding, insurance and taxation policies; banking and credit policies; imports and foreign exchange transactions; legal systems of redress and adjudication; availability of manpower, materials and plants; corrupt practices, customs and general political climate.

Capacity and efficiency of the contractor

This classification reviews factors relating to the efficient performance of the contractor, and includes such factors as the general and unique characteristics of the contractor; categories and sizes of the contractor's operations; the size and scope of the industry; motivation and productivity rates; communication and control methods; levels and range of available manpower; avenues for manpower development, and so on.

Capable institutions to cater to the progress of the industry

This classification reviews the objectives, roles and effectiveness of professional associations, both governmental and private, instituted to cater for the progress of the construction industry. The review relates to their role in protecting the interests of the professions/contractors at all levels of government; encouragement of relevant education and research; regulation of standards and professional ethics; input into the formulation of policies relating to the industry; development of public awareness and confidence in the industry, and so on.

Research and development

This final classification deals with all factors relating to research and development with respect to the construction industry. These factors include the financing of research and development activities by government, companies or individuals in the area of materials and methods; research and development into the use of local materials; dissemination of information on research findings; response to successes in local material researches; establishment of materials and design standards and codes of practice, and so on.

Classifications

Of the identified variables, 15 were classified as being related to contracting and contract administration practices; 34 variables were identified as being related to the business environment of the construction industry; five were identified as being related to the capacity and efficiency of the construction industry; five were identified as relating to capable institutions catering for the progress of the construction industry. No variables were found to be directly related to the influences of research and development (Appendix 1). Some of the variables appear under more than one classification, because they are relevant in the various classifications under which they are listed.

Research methodology

A questionnaire on a five-point scale incorporating all the identified variables and other questions to identify the specific characteristics of the Nigerian construction industry was designed and sent out to building and civil engineering contractors in only eleven states out of the 21 that make up Nigeria (Delta, Abia, Osun, Kogi, Edo, Lagos, Rivers, Imo, Ogun, Oyo and Kwara states), due to limitations in funds. These states, however, all fall within the southern states of Nigeria and are similar in terms of climatic and busines environmental conditions. The questionnaire required respondents to mark the order of importance they attached to each variable in affecting the problems of the Nigerian construction industry. The variables were randomly scattered within the questionnaire to avoid any identifiable pattern which may affect the response. A total of 463 questionnaires were distributed out of which 344 responses were received, representing an average response rate of 74%.

The apparently high response rate was due mainly to the person-to-person approach used in the distribution and collection of questionnaires. This approach provided the contractors with the opportunity to interact personally with our field workers. All field workers were graduates of civil engineering, with 2 weeks' special preparatory training for the exercise, who were quite knowledgeable in their activities and who the contractors felt might be in the position to help.

Presentation and analysis of responses

The analytical procedures employed were aimed at establishing the relative importance of the various attributes contributing to the problems of the Nigerian construction industry. In the analysis, weights were assigned to the different degrees of seriousness or importance attached to the variables. The sum total of points obtained by a variable (based on the responses to that variable) is used to determine its severity index which is defined below:

$$SI = \frac{\sum_{w=1}^{5} R_w W}{R_t} \quad (1)$$

where R_w is the number of respondents; W is the weight or points assigned; and R_t the total number of responses obtained for that variable.

In order to measure the level of agreement in ranking between groups of respondents, a rank agreement factor as defined by Okpala and Aniekwu (1988), and given in Equation 2, was used for any two groups. This represents the average absolute difference in rank of the item. The percentage disagreement P_d is:

$$P_d = 100 \times \frac{\sum_{i=1}^{N} (R_{i1} - R_{i2})}{\sum_{i=1}^{N} (R_{i1} - R_{j2})} \quad (2)$$

where N is the number of items; i represents values up to N (1, 2, 3 ... N); and $\mathcal{J} = N - i + 1$.

The percentage agreement P_a is:

$$P_a = 100 - P_d \quad (3)$$

The full derivation of these equations is detailed in Okpala and Aniekwu (1988). D-base III computer software was used to execute a detailed analysis of the responses based on different groupings of respondents, and the general result is given in Table 1. The analysis of the responses was based on the the size of the company (small, medium or large); the main area of the company's operations (civil or building); the nature of the company (indigenous or foreign); location of the company (state of respondent); contractors whose principal client is the government; percentage of loan furnished as collateral; percentage of profit spent on research; percentage of skilled workers with vocational training; and percentage of workers that received on-the-job training.

However, due to the limitations imposed by the nature of a journal publication, all the analysis results cannot be presented, but are fully documented in Aniekwu and Okpala (1989).

In interpreting the degree of importance as perceived by the respondents, a scale based on mathematical reasoning was used for the severity indices values as given below:

1. $SI \leq 1.4$, implies not serious, or not difficult or never felt its effects;
2. $SI = 1.5$–2.4, implies moderately serious or moderately difficult or felt its effects some of the time.
3. $SI = 2.5$–3.4, implies usually serious, usually difficult or felt its effect many times.
4. $SI = 3.5$–4.4, implies very serious, very difficult or felt its effect most of the time.

Table 1 Ranking and severity indices for the general sample

S/N	Ranking	Q/N	Variable	*SI*
1	1	2D	Difficulty in obtaining foreign exchange allocation for equipment purchase	4.3
2	2	2C	Difficulty in importing spare parts directly including customs clearance	4.2
3	2	2E	Difficulty in obtaining foreign exchange allocation for spare parts	4.2
4	2	IP	Problems of incompetent and unqualified contractors winning contract awards	4.2
5	5	2K	Difficulties arising from changing governments	4.1
6	6	IF	Difficulties in securing credit on reasonable terms from commercial banks for interim construction financing	4.0
7	6	1Q	Problems of inadequate procedures for the registration of contractors, causing unqualified people to be registered as construction contractors	4.0
8	8	1A	Problems of delays in receiving payments for completed works	3.9
9	8	10	Problems of gratifying government officials in order to get paid for completed jobs	3.9
10	8	1Z	Problems of awarding most of the government contracts to foreign firms	3.9
11	11	1T	Delays in the delivery of imported materials and equipment	3.7
12	11	2A	Difficulty in finding equipment dealers with adequate maintenance services	3.7
13	13	1L	Shortage of materials	3.6
14	13	2F	Difficulty in dealing with the federal government concerning construction issues, e.g., approval procedures	3.6
15	13	3A	Clients' unwillingness to pay advances for mobilization and purchase of equipment	3.6
16	13	3B	Owners unwilling to compensate fully for price escalations suffered for reasons beyond your control	3.6
17	17	1G	Frequently unfair bidding procedures and contract awards	3.5
18	17	2B	Difficulty in finding equipment maintenance services other than those available through dealers	3.5
19	19	2G	Difficulty in dealing with the state governments concerning construction issues	3.3
20	19	2L	Difficulties arising from changing government officials	3.3
21	21	1D	Problems of delay by the owner or his agents to take decisions at the appropriate times	3.2
22	22	1M	Shortage of testing facilities for local materials	3.1
23	23	1K	Problems associated with lack of standardization of the local materials	3.0
24	23	3F	Inflating the contract sum	3.0
25	25	1C	Problems of too many changes in the original design	2.9
26	25	II	Problems of unrealistic completion schedule being imposed by the design consultants	2.9
27	25	1J	Poor quality local products	2.9
28	25	1N	Transportation problems	2.9
29	25	1N	Problems arising from the clients' consultants' interest in the choice of subcontractors/suppliers	2.9
30	25	1Y	Problems created by your inability to challenge some of the resident engineer's instructions	2.9
31	25	2H	Difficulty in dealing with local government concerning construction issues	2.9
32	25	1H	Problems of incompetent design consultants	2.9
33	33	1V	Non-performance of subcontractors' nominated suppliers	2.8
34	33	2J	Difficulty in dealing with other government parastatals/agencies concerning construction issues	2.8
35	35	1E	Problems associated with delays and unfair settlement of disputes between owners and the contractor	2.7

Table 1 Ranking and severity indices for the general sample—*continued*

S/N	Ranking	Q/N	Variable	*SI*
36	35	IR	Stealing of construction materials and equipment by workers	2.7
37	37	1B	Problems of unfair and unequitable construction contract documents	2.6
38	37	1X	Problems of dealing with the main contractor if you were a subcontractor	2.6
39	37	1AA	Problems of awarding most of the government contracts to government-owned construction firms	2.6
40	37	3C	Owners' failure to meet their contractual commitments on time, e.g., access to land, owner-supplied materials, etc.	2.6
41	41	1AC	Problems arising from non-compliance of workers to standard safety rules and regulations	2.5
42	41	3D	Owners' disregard of contract commitments by taking arbitrary action	2.5
43	43	2M	Difficulties in providing adequate safety measures on site associated with particular construction projects	2.4
44	44	1U	Problems associated with reduced work output during fasting and festival periods	2.2
45	45	1S	Weather conditions	2.1
46	46	1AB	Problems arising from accidents on site	2.0
47	46	3E	Difficulty in motivating your workers to work	2.0

5. $SI \geq 4.5$, implies extremely serious, extremely difficult or felt its effect always.

Discussion

A total of 344 responses were received, made up of 266 indigenous contractors (wholly Nigerian-owned) representing 78% of the total responses and 78 foreign contractors (either Nigerian branch of a foreign company or Nigeria/foreign joint venture), representing 22% of the respondents. The large difference in the two categories of responses may suggest a possible bias towards indigenous contractors. However a percentage agreement of 81.5% was recorded, which implies that both groups agree and do indeed face similar problems. From the investigation, out of the 344 respondents, 58 (17%) were classified as large scale contractors (i.e., with an annual turnover of over N4.0 million); 166 (49%) were classified as medium scale contractors, with an annual turnover of between N0.5 million and N4.0 million; while 112 (32%) were classified as small scale contractors with an annual turnover of less than N0.5 million. Within the large scale category, 72% are foreign contractors and this represents 53% of all the foreign contractors that responded. However the total income of this 9% far exceeded the combined income of the rest of the industry.

A look at the general result indicates that out of the 47 variables identified, 34 (72%) were classified under the business environment of the construction industry. Of the 18 variables (38.3%) which were considered to be very serious problems to the contractor, or very difficult and occur most of the time with a severity index of 3.5 and above, 17 were related to the business environment of the construction industry. Obviously any attempt to solve the problems of the construction industry in Nigeria must of necessity address the business environment of the industry.

General observations

The analysis of the results indicates that there is a good agreement between various categories of contractors as to the factors that contribute greatly to the problems of construction industry contractors in Nigeria. The lowest percentage agreement of 81.5% was recorded between medium and large scale contractors, small and large scale contractors and between indigenous and foreign contractors, while the highest agreement percentage was 91.9%, recorded between contractors engaged in civil and building works. This implies that in general, the contractors were subjected to similar kinds of frustration at varying degrees, irrespective of whether foreign or indigenous, small or large, or even whether engaged in civil or building works.

The results further imply that the construction industry in Nigeria is far from emancipation and cannot be said to be developing. This point is in consonance with observations in previous, related studies (Indigenization decree, 1972; Aniekwu and Okpala, 1989a) and it is perhaps responsible for the efforts of subsequent governments in Nigeria to indigenize the industry, sometimes

through not so well-thought-out fiscal and other policies. A construction industry that executes highly complex operations using expatriate personnel and imported technology and materials may be able to achieve high qualities of construction, but the value added to construction and local industries supplying construction inputs will be low. Developing countries need to optimize the values added in the construction industry in order to enhance the efficiency of this investment (Kirmani, 1988). The very high percentage of 89.4% obtained for variables considered serious (with severity index of 2.5 and above) indicates that the Nigerian construction industry is in very serious trouble. This is also corroborated by the very high response rate to our enquiry (74%), suggesting a yearning of participants for a possible amelioration, amongst other deductions.

The average Nigerian contractor is a small scale organization (83% of all respondents have an annual turnover of less than N4.0 million), mostly uneducated or at least fairly ignorant in modern construction and management techniques, with very limited manpower and unreliable credit facilities. Given the business environment he most probably lacks a sustained workload to plan effectively for and utilize construction equipment efficiently enough to get good returns on the investment. He also occupies a very disadvantaged position with the major client to the construction industry which is the government, and the government is also the most liable defaulter of construction agreements and procedures. Generally the contractor in the developing country is considered to be a dishonest businessman who does poor quality work, delays the completion of work and tries to maximize profit at all costs. Aniekwu and Okpala, 1989a.

The construction industry generally is becoming increasingly more complex and the boundaries of engineering disciplines are becoming less clearly defined. As a result, the forms of contracts currently in use no longer meet the requirements of today's client, a factor that has resulted in the development of the many hybrid forms now used by employers (Marita, 1990). This situation has created an untenable position for the local contractor who is still striving to get used to the traditional construction delivery methods, procedures and framework, which is not suitably adapted to his environment. Thus the productivity of the local contractors in the Nigerian construction industry is significantly lower than that of its foreign counterparts.

The limitations imposed by the scope of this work will not allow a thorough discussion of all the variables that affect the business environment of the construction industry. Some variables, however, have been selected for a closer review because they are of primary interest to all participants of the construction industry.

Analysis of some variables

The variables listed below all relate to problems associated with payment for works undertaken by the contractor as stipulated in the terms of agreement with the client.

1. Delays in receiving payments for completed works (1A) $SI = 3.9$.
2. Owners' unwillingness to pay advance for mobilization and purchase of equipment (3A) $SI = 36$.
3. Owners' unwillingness to compensate fully for price escalations (3B) $SI = 3.6$.

There is a general consensus that delays and or unwillingness by clients to make payments when due is a very serious problem in the Nigerian construction industry. The problem of delays in receiving payments for completed works is ranked eighth in the general response with a severity index of 3.9. The small, medium and large scale contractors ranked this variable fifth, tenth and sixth with severity indices of 4.0, 3.9 and 3.7. Despite the differences in ranking it is apparent from the severity indices that all sizes of contractors perceive the problem with a similar level of seriousness. Local contractors ranked it eighth with a severity index of 3.9 while foreign contractors ranked it seventh with a severity index of 3.8. Civil engineering contractors ranked it sixth with a severity index of 3.8 while building engineering contractors ranked it seventh with a severity index of 4.0. This result is also consistent with the known fact that local contractors, small scale contractors and building engineering contractors should all perceive the seriousness of this problem similarly and more than the other groups. The common factors between these categories of contractors is that they are mostly small scale contractors with limited cash reserves. They therefore perceive any delays in payments for services rendered as a threat to their very existence, since they are denied credit to finance or mobilize on other jobs.

The problem of owners' unwillingness to pay in advance for mobilization and purchase of equipment is ranked thirteenth, with a severity index of 3.6 by the general response analysis. This variable is also ranked nineteenth, eleventh and fifteenth with severity indices of 2.9, 3.8 and 3.5 by large, medium and small scale contractors respectively. Civil and building engineering contractors ranked this variable fourteenth and eleventh respectively with severity indices of 3.5 and 3.7, while indigenous and foreign contractors ranked it twelfth and twentieth with severity indices of 3.7 and 3.1 respectively.

This situation implies that the contractor would have to provide finance for the job up until the time the employer makes interim payment. Given the difficulties associated with securing institutional finance in Nigeria

for construction, this situation is extremely crippling – especially on the smaller contractors. It not only compels them into destructive debt, it also causes poor quality work and delayed completion as they seek to recover losses through any means possible. This trend, however, is as a result of the abuse of the mobilization system by unscrupulous contractors who often connive with equally unscrupulous government officials, collect mobilization fees and other advances without using them for the correct purposes. The necessary legal requirements for the release of funds to contractors are circumvented. The situation became so bad in the 1970s that the government of Nigeria as a matter of deliberate policy cancelled the granting of mobilization fees to contractors on government projects (although provisions were left for granting advances for certain purchases to beat inflationary trends on some special projects). It is not surprising that foreign and large scale contractors perceived the problem with the least amount of seriousness. They enjoy more credibility with the government in the sense that they own properties that serve as collateral and enjoy reputations that will make it seem very unlikely that they will run away with mobilization fees. They also have huge cash reserves and enjoy better credit facilities with the banks and may consequently even be in a position to finance whole projects without requiring mobilization.

The problem of owners' unwillingness to compensate fully for escalating costs incurred for reasons beyond the contractors' control is perceived seriously by all groups of contractors. It is ranked and weighted similarly to the preceding variable by the general response analysis, civil engineering, building engineering, medium scale and indigenous contractors. Small scale, large and foreign contractors perceived it more seriously with rankings of thirteenth, twelfth and thirteenth and severity indices of 3.6, 3.3 and 3.2 respectively. This factor was identified as the most important variable responsible for cost overruns on projects in Nigeria in a similar work conducted by Aniekwu and Okpala (1987) using consultants. This is as a consequence of the very unpredictable, high and unstable inflationary tendencies of the Nigerian economy which make cost estimations quite unreliable over reasonable periods of time. This problem is often compounded by the clients' ignorance and lack of appreciation of the contractors' role, which often leads to a refusal to honour costs justifiably incurred by the contractor as a result of fluctuating costs. This tendency is further encouraged by the rather weakened bargaining position of the contractors in Nigeria which cause the clients to see payments to contractor for services rendered as favours to the contractor(s).

All these problems are related to the ease with which payments are made to the contractors for services rendered as stipulated in the terms of contracts. The government in Nigeria is the biggest customer to the construction industry, accounting for up to 60% of the entire construction output and about 95% of all civil engineering works. It has been observed that on government contracts where payments are at best abnormally slow (running into years of overdue) and certificates are not honoured within the stipulated time laid down in the contract, contractors often resort to borrowing to finance existing projects and to mobilize new ones. The interest payable on such borrowed money is not catered for in the condition of contract. As at 1984, available statistics put the outstanding debts by the Nigerian government to members of the Federation of Building and Civil Engineering Contractors alone at N1.3 billion ($1 = N1.5) (Abiama, 1984). The state of government debt to contractors has since become worse following the deterioration of the Nigerian economy.

These problems can be seen as systemic problems which result from the fact that the contractual arrangements in use in the Nigerian construction industry have not made workable provisions for dealing with the business environment of the Nigerian construction industry. The contractual arrangement is based on the premise that a client has enough financial considerations or arrangements to undertake the project and that a contractor has the necessary expertise to execute the project. These premises do not hold true in Nigeria. The government, which is the largest customer of the construction industry, proposes construction schemes and budgets over a period of time based on projections of expected incomes for that period. Often these projections are not realized and at other times adjustments to budgets midway through the budget period due to unforeseen factors cause repudiation and delays to commitments already made. Under such situations payments are delayed and/or slashed and in some cases completely repudiated. Government agencies also maintain similar stances on their commitments which are based on anticipated subvention from headquarters. It is also not unusual for unscrupulous officials to simply delay payments deliberately to frustrate the contractor enough to cause him to offer gratification. Since some government representatives consider personal gains more important than the success of the project, this can be stretched in the case of an uncooperative contractor to the point where the primary objective of the project is destroyed. It has also been reported that the government has often used this as a strategy to secure concessions from contractors. The contractors are completely helpless in this situation because of the business environment of the Nigerian construction industry, which does not provide any system for equitable adjudication of such matters. Although the contractual arrangement in use provides for some measure of legal redress, it is not always expedient for the contractor to take the necessary

legal actions since he is dependent on the goodwill of his clients for subsequent jobs.

There are many forms of contract in use in Nigeria, since there is no recognized form of contract. By the provisions of the Joint Contracts Tribunal (JCT) conditions of contract 1963 edition, clause 22 (Joint Contract Tribunal Guide, 1963), clause 24 of the JCT's 1980 edition, clause 47 of the Institute of Civil Engineers (ICE) form of contract 1973 edition (ICE, 1973) and clause 47/1 of the Federation Internationale des Ingenueurs-conseils (FIDIC) 1977 edition (FIDIC, 1977) and clause 47 of the 1987 edition, the contractor is liable to a payment to the client of liquidated damages calculated at a rate specified for the period between the time of completion and date of practical completion, if he fails to complete the work by the completion date. However, by the provisions of JCT form of contract clause 26, 1963 edition, clause 28 of the 1980 revised edition, clause 69 of FIDIC form of contract, clause 63 of the ICE form and clause 5 of the GC/Works/1, the contractor is advised 'to determine the contract if the employer fails to pay amounts due on certificates or obstructs the issue of a certificate or becomes bankrupt or causes continuous suspension of substantial part or whole of the works'.

These remedial options are open to the employer and the contractor in cases of default. Apart from the provision being one-sided in favour of the employer, since he can apply the liquidated damages clause and so is not forced to determine the contract as his only remedy, the contractor is a businessman whose reputation is dependent to an extent on the satisfaction expressed by his various clients on his performance. His subsequent commissions are dependent on his reputation and to that extent he is dependent on the goodwill of his clients for future commissions. It is therefore not in his interest under the circumstances to invoke such a remedy. Thus the client is more at liberty to flout conditions and default in payments without adverse consequences. The FIDIC conditions of contracts and the ICE conditions stipulate further, 'that failure of the client to make payments on certificates as and at when due entitles the contractor, interests on overdue amounts and he may not determine the contract'. In Nigeria when these conditions of contract are used, the government ignores this provision and the contractors seem to acquiesce even in the face of flagrant provocation. The acquiescence highlights the disadvantaged position of contractors in cases of default by employers (Aniekwu and Okpala, 1989a).

Provisions of Article 5 of the articles of agreement of the JCT form of contract 1980 edition, clause 35 of the 1963 and 1977 editions, clause 66 of the ICE form of contract, clause 61 of the GC/Works/1, clause 67/3 of the 1987 edition of FIDIC conditions of contract, provide for and stipulate a recourse to and procedures for arbitration in cases of, 'disputes or differences between the client or the supervising officer or engineer or 'architect on his behalf and the contractor during the progress or after completion of the work or abandonment of the work'. It further states that the award or decision in such an arbitration shall be final and binding on all the parties. In Nigeria, however, it is considered imprudent for a contractor to pursue a dispute with his employer to arbitration level especially if the employer is an organ of goverment, since the government is the single largest customer to the construction industry. It is also the custodian of subsequent jobs, so much so that it is a public secret that bribes and 'kickbacks' are offered to secure such favours from the employer. Obviously, dragging him to an arbitration panel will not serve any useful purpose (Aniekwu and Okpala, 1989a).

Delaying payment is the one act of the employer that drives contractors to desperation, ruins their profitability, cripples their professional integrity and inhibits their zeal for doing a good job on time. Yet virtually all employers in developing countries such as Nigeria delay payments with impunity. It is futile to talk about developing the construction industry without eradicating this practice. Thus Edmunds and Miles (1983) noted that although construction accounts for a high percentage of Nigerians' GNP and constitutes almost half of the total public spending, the Nigerian construction industry seems to be slow to benefit from this trend, because the procedures and frameworks on which the indigenous contractors operate are badly adapted to local needs. The framework is constraining the development of a healthy local industry, particularly in the emphasis the system places on the contractor bearing virtually all risks. In developed countries this emphasis is offset by the formidable practical and constructional skills of the contractors including financial and managerial skills which are nonexistent in Nigeria. These procedures were not designed for a developing country like Nigeria. Even in Britain, where most of these procedures originated, there is a growing feeling that they may not necessarily be the most suitable for the present day requirements of the British construction industry (McCanlis, 1978). Moreover the construction industry is becoming increasingly more complex and the forms of contracts in use can no longer meet the requirement of today's clients adequately, thus various hybrid forms have been developed and used by different clients to meet their local needs. Recently the ICE launched the New Engineering Contract (NEC) in response to this emerging trend (ICE, 1991).

Conclusion

It is true that the Nigerian construction industry is in deep trouble and has not witnessed any real growth for some time now. It is also true that most of the value added to construction is lost to the Nigerian construction industry. Previous works by the author and a host of other scholars have identified various problems plaguing the Nigerian construction industry, some of which were classified as structural and systemic problems. It is also true that there is an insufficiently workable framework for construction delivery in the contemporary construction industry as a result of very sophisticated client demands, as evidenced in the proliferation of hybrid delivery systems and forms of contract. The Nigerian construction industry is immersed in all the problems above but in addition is faced with a multi-faceted human problem in the business environment of its construction industry.

The problems and variables identified and discussed do not arise from a lack of adequate legal provisions for resolving their effects, but rather from a lack of ability to enforce their compliance. It would seem that most laws in Nigeria, including construction laws which are received from the colonial government, do not command the minimum support required to make them meaningful and place people under an obligation to accept them. This is as against the existing situation that makes people obliged to obey. While the latter stance could be forced on society by a dictatorial leadership, the former is voluntary, an acceptance based on the people's conviction only of the justness of the cause.

The effect of this situation on construction activities is the inability to forecast, estimate or plan with any reasonable levels of confidence or accuracy, which is very vital for any construction industry operation. Given this grim scenario, efforts should perhaps be directed at arriving at a reasonable factor of safety to cushion the contractors from this mass of imponderables.

It is my view that strong contractors/professional associations would be very useful in tackling the problems raised in the discussion, which are both human and technical. The enthusiasm with which contractors responded to the bi-weekly workshop series organized by the Nigerian Society of Engineers, to help educate contractors on various aspects of contract delivery, is very encouraging. Significant successes have also been achieved as evidenced in the revision of the scale of fees for consultants in the construction industry, following the agitation of professional bodies. Without going into details, it is also my suggestion that the payment of advances for mobilization and equipment purchases should be encouraged, but with adequate measures taken to protect the client from losing such money to unscrupulous contractors. The FIDIC conditions of contract 1987 edition parts I and II, would be a useful format for adopting such measures for Nigeria.

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Appendix 1

(A) Contracting and contract administration practices

1. Unfair and unequitable construction contract documents;
2. Too many changes in the original designs;
3. Delays by owners or their agents to take decisions at the appropriate times;
4. Unfair bidding procedures and contract awards;
5. Incompetent design consultants;
6. Unrealistic completion schedule imposed by design consultants;
7. Shortage of materials;
8. Incompetent and unqualified contractors winning awards;
9. Dealing with the main contractor, if you were a subcontractor;
10. Accidents on site;
11. Non-compliance of workers to standard safety codes;
12. Non-provision of adequate safety measures on site;
13. Non-payment of advances for mobilization and purchase of equipment;
14. Inability to challenge some of the resident engineer's instructions; and
15. Inadequate procedures for the registration of contractors.

(B) Business environment of the construction industry

1. Delays in receiving payment for completed works;
2. Delays and unfair settlement of disputes between the client and the contractor;
3. Securing credit on reasonable terms from commercial banks for interim construction financing;
4. Incompetent design consultants;
5. Poor quality of local products;
6. Lack of standardization of local products;
7. Shortage of materials;
8. Lack of testing facilities for local materials;
9. Transportation;
10. Gratifying government officials in order to get paid for completed works;
11. Inadequate procedures for the registration of contractors, causing unqualified people to be registered as construction contractors;
12. Delays in delivery of imported materials and equipment;
13. Clients' and consultants' interest in the choice of subcontractors and suppliers;
14. Awarding most government contracts to foreign firms;
15. Awarding most government contracts to government-owned construction firms;
16. Finding equipment dealers with adequate maintenance services;
17. Finding equipment maintenance services other than those available through dealers;
18. Importing spare parts, including customs clearance;
19. Obtaining foreign exchange allocation for purchase of equipment;
20. Obtaining foreign exchange allocation for the purchase of spare parts;
21. Dealing with the federal government concerning construction issues;
22. Dealing with state government concerning construction issues;
23. Dealing with local government concerning construction issues;
24. Dealing with government parastatal concerning construction issues;
25. Changing governments;
26. Changing government officials;
27. Non-payment of advances for mobilization by clients;
28. Non-payment of compensation for price escalation;
29. Failure to meet contractual commitments on time;
30. Disregard of contract commitments by taking arbitrary actions;
31. Kickbacks;
32. Weather;
33. Reduced work output during festive and fasting periods; and
34. Stealing of construction materials and equipment by workers.

(C) Capacity and efficiency of the contractor

1. Non-performance of subcontractors and nominated suppliers;
2. Clients'/consultants' interest in the choice of subcontractor;
3. Dealing with the main contractor if you were a subcontractor;
4. Providing adequate safety measures on site; and
5. Motivating the workers.

(D) Capable institutions to cater for the progress of the construction industry

1. Inability to challenge some of the consultants' instructions;
2. Awarding most government contracts to foreign contractors;
3. Awarding most government contracts to government-owned firms;
4. Providing adequate safety measures on site; and
5. Non-compensation for price escalation.