

Challenges Associated with Nominated Suppliers Procurement (NSP) Method in the South African Construction Industry

Oluwaseun Dosumu

*(Sustainable Human Settlement and Construction Research Centre
University of Johannesburg, South Africa)*
oluwaseundosumu97@gmail.com

Clinton Aigbavboa

*(Sustainable Human Settlement and Construction Research Centre
University of Johannesburg, South Africa)*
calgbavboa@uj.ac.za

Wellington Thwala

*(Sustainable Human Settlement and Construction Research Centre
University of Johannesburg, South Africa)*
didibhukut@uj.ac.za

Nxumalo Thandokhule

*(Sustainable Human Settlement and Construction Research Centre
University of Johannesburg, South Africa)*
cedrichungelo@gmail.com

Abstract

Nominated Suppliers procurement is a method that is being currently embraced in South Africa. However, it is unclear how the method is being administered in the construction industry. The aim of the study is to gain a reputable knowledge into the challenges associated with Nominated supplier's procurement method in the South Africa construction industry. Out of the 90 questionnaires that were distributed, 67 (giving a response rate of 73%) were retrieved and used for the study. Data collection was based on random sampling technique from construction professionals and merchants such as project managers, clients, manufactures, suppliers, engineers and quantity surveyors. The findings reveal that inadequate planning and scheduling by the supplier, fluctuation of prices associated with the prevailing supply–demand cycle and lack of commitment by material supplier are some of the challenges of nominated supplier's procurement method in South Africa.

Keywords

Nominated suppliers, procurement challenges, construction industry, South Africa

1. Introduction

There are two familiar, but different types of subcontracting and they include domestic and nominated subcontracting. Al-Hajj and Skaik (2013) noted that the construction industry has been using these methods of subcontracting for quite a long time. Virtually all the types of procurement routes know about these subcontracting methods. Many mega projects are not usually completed without the involvement of subcontractors and suppliers. Brook (2008) highlighted that some main contractors have less expertise and competencies for which they are compelled to subcontract part of the project to specialist subcontractors and engage some suppliers to supply some of the construction materials.

Since the early 1990s', there has been growing interest in nominated contracting practices with a view to understanding and characterising deficiencies, and proposing solutions that are aimed at improving the coordination of NSP in the construction industry (Segerstedr & Olofsson, 2010; Eriksson, 2010). Chiang (2009) noted that, there is a huge need for expertise to cope with the complex and large-scale construction projects that are taking place around the globe. The needed expertise ensured that projects and their executors are faced with challenges that can significantly affect construction projects. one of the methods of overcoming the huge challenges of complex construction projects is the adoption of nominated supplier for materials. This is the current practice in south Africa on many formal construction projects. NSP method is however facing various challenges that are militating against it success in the construction industry. The investigation of these challenges is the focus. This will enable construction professionals and other stakeholders to know the areas of concentrate effort in their bid to ensure that NSP is a success.

2. Literature Review

In the study of Yang et al. (2013), it was suggested that NSP strategy is vital for the mitigation of risks associated with unavailable construction materials. Other necessary steps to overcoming material problems include establishment of better materials management systems and improvement of the understanding of NSP internal requirements. These steps reduce the time spent on a project and increases its quality. It may also ensure that projects are completed at the agreed cost. With all these benefits, NSP still faces challenges. There is also scarcity of researches on the challenges of NSP in the construction industry.

Akogbe et al. (2013), Mpofu et al. (2017) and Nguyen et al. (2015) found that, material supplies on construction projects need to be accurately planned and executed to avoid material shortage or excessive material inventory. Baloyi and bakker (2011) supported the statement by stating that increase in cost of materials is the largest contributor to cost overrun in some stadia construction projects. This assertion is similar to that of Niazi and Painting (2017) who noted that fluctuating market price plays a huge role in poor construction project performance.

Construction materials constitute more than 40% of the total cost of construction projects (Patel et al., 2011). Construction delay, which is usually as a results of supply problem occurs in many countries, especially on public projects (Hwang et al., 2013). Trauner (2009) stated that the causes of delay include unavailability of construction materials in the market, modification in materials type and specifications during construction among others. In addition, Jarkas and Haupt (2015) found that, unavailability or shortage of construction materials, instability of prices related to the material supply-demand cycle and postponement of material procurement by contractors are some of the challenges of nominated suppliers. Safa et al. (2014) commented that, procurement and management of construction materials include challenges identified with lessening list, rapid conveyance and expanding of the control of materials which diminishes project cost.

From previous researches, Al Hajj and Skaik (2013) claimed that the challenges of using nominated suppliers are cost uncertainty, late nomination of supplier, failure of the parties to enter into subcontracting agreement, argumentative relationship with main contractor, uncertainty of the relevant contract provisions and nominated suppliers default. These challenges usually result to losses caused by conflicts, budget

overruns, claims and counter claims (Mahamid et al., 2011). The study of Kamanga and Steyn (2013) indicate that, unavailability of construction materials in the construction industry is the direct result of too much claims on construction projects in developing economies which also have effect on construction performance.

According to Choudhry (2012), poor quality, slow progress, lack of cooperation among team members, too much material wastages and tough time in coordinate activities are some of the challenges of NSP method. Doloi et al. (2012) found that, lack of obligation, incompetent site management and poor communication are some of the challenges of shortage of materials on construction projects.

3. RESEARCH METHOD

The method used to conduct the study is the survey research method and the data was collected using a detailed questionnaire. The quantitative technique was used to collect data from respondents. Out of the 90 questionnaires that were sent out to respondents, 67 (giving a response rate of 73%) were retrieved and used for the study. The 67 responses were obtained from randomly selected construction professionals and construction business personnel including: project managers, clients, manufacturers, suppliers, engineers and quantity surveyors. Data obtained through the questionnaire were tabulated and presented using frequency, sum, percentages and mean item score. The Statistical Package for Social Sciences (SPSS) was used to analyse the data collected from the field. Furthermore, the t-test was used to determine the significance of the challenges investigated in the study. Variable were accepted to be significant if their p value is less 0.05.

The mean item score was calculated with:

$$\text{Mean Item Score (MIS)} = \frac{1n_1 + 2n_2 + 3n_3 + 4n_4 + 5n_5}{\sum N}$$

Where:

n_1 = Number of respondents for no extent; n_2 = Number of respondents for slight extent

n_3 = Number of respondents for neutral; n_4 = Number of respondents for high extend

n_5 = Number of respondents for very high extent; N = Total number of respondents

4. DATA ANALYSIS

Table 1 indicates the demographic information of respondents. The organisational demography shows that, 14.9% of the respondents were clients, 68.7% were consultants and 16.4% were suppliers/manufacturers. This means that, majority (68.7%) of the respondents for this study were consultants. Consultants normally represent clients' interest on site and hence were satisfactory for this study. Also, 50.7% of the respondents were quantity surveyors, architects, civil engineers and structural engineers (represented with 'others'), 25.4% were project managers, 13.4% were suppliers/manufacture representatives, 7.5% were directors, and the remaining 6% were procurement managers. Furthermore, 25.4% of the respondents had 11-15 years of work experience, 23.9% had 16-20 years' experience, 20.9% had less than 5 years of experience, 13.4% had 5-10 years of work experience, 10.4% had 21-25 years of work experience and 6% the least were more than 25 years of experience.

In addition, 76.1% of the respondents had Bachelor's degrees, 9 % had post matric, diploma or certificate, 7.5 % had master's degree, 6% had matric certificate and 1.5% had PhD. Also, 52.2% of the respondents had executed between 1-3 construction projects, 26.9% had executed 4-6 projects and 20.9% had executed 7-9 projects respectively. Also, 40.3% of the projects executed were building projects, 38.8% were civil engineering projects 20.9% were building and civil engineering projects. Moreover, 65.7% of the projects were private sector projects while 34.3 % were public sector projects. Lastly, 41.8% of the projects were completed before 2015, 25.4% were completed completed in 2015 and 20.9% completed in 2016. Projects

that will be completed in 2017 or later were 1.9%.

Table 1: Demographic information of respondents and their projects

Demographic information	Frequency	Percentage
Organization		
Client	10	14.9
Consultant	46	68.7
Manufacturer/supplier	11	16.4
Total	67	100
Position		
Director	5	7.5
Procurement manager	2	3.0
Project manager	17	25.4
Supplier/manufacturers' representative	7	13.4
Others	34	50.7
Total	67	100
Experience (years)		
0-5	14	20.9
6-10	9	13.4
11-15	17	25.4
16-20	16	23.9
21-25	7	10.4
Above 25	4	6
Total	67	100
Qualification		
Matric certificate	4	6
Bachelor's degree	56	85
Master's degree	5	7.5
Doctorate degree	1	1.5
Total	67	100
Number of projects done		
1-3	35	52.2
4-6	18	26.9
7-9	14	20.9
Total	67	100
Category of projects		
Building project	27	40.3
Civil engineering project	26	38.8
Building and civil project	14	20.9
Total	67	100
Sector of project		
Public sector	23	34.3
Private sector	44	65.7
Total	67	100

Year of completion of projects		
Before 2015		
2015	28	41.8
2017	14	20.9
2017 and above	17	25.4
Total	8	11.9
	67	100

Table 2 presents the challenges of the nominated supplier procurement method based on the ranking of clients, consultants and manufacturer/supplier. From the clients' perspective, the challenges of nominated suppliers include clash of organizational cultures (4.30), followed by delinquency or deficiency in providing the service required (4.20) and inadequate planning and scheduling by supplier (4.10). Furthermore, the clients rated lack of senior management support in supplier organization (2.80) as the lowest challenge of nominated supplier procurement method.

Table 2: Challenges of nominated supplier procurement method based on organization of respondent

CHALLENGES	CLIENTS		CONSULTANTS		SUPPLIERS		OVERALL		
	MIS	R	MIS	R	MIS	R	MIS	R	SIG
Inadequate planning and scheduling by the supplier	4.10	3	3.83	4	4.09	1	3.91	1	0.703
Fluctuation of prices associated with the prevailing supply-demand cycle	3.60	8	3.93	3	3.91	3	3.88	2	0.771
Lack of commitment by the material supplier	3.30	10	4.00	2	3.91	3	3.88	2	0.234
Suppliers' non-adherence to the condition of the contract	4.10	3	3.78	5	3.82	4	3.84	3	0.786
Lack of belief in the supplier system by the client and the contractor	3.90	5	3.76	6	3.55	7	3.74	4	0.826
Shortage of foreign currency for importation of materials	4.20	2	3.63	9	3.73	5	3.73	5	0.453
Changes in materials types and specifications during construction	3.70	7	4.02	1	2.55	13	3.73	5	0.004
Lack of trust among the team members	3.80	6	3.63	9	4.00	2	3.72	6	0.745
Increase in material cost	3.70	7	3.65	8	4.00	2	3.72	6	0.647
Clients interference with suppliers	3.20	11	3.78	5	3.73	5	3.69	7	0.438
Clash of the organizational cultures	4.30	1	3.61	10	3.45	8	3.69	7	0.273
Delays in Materials delivery to the construction site	3.40	9	3.72	7	3.64	6	3.66	8	0.755
Mistakes during the construction and delivery of stage/phase materials	4.00	4	3.50	12	3.91	3	3.64	9	0.467
Suppliers financials problems	4.10	3	3.50	12	3.82	4	3.64	9	0.354
Poor quality of materials supplied or delivered to site	3.90	5	3.65	8	3.36	9	3.64	9	0.649
Clash among suppliers, clients and contractors	3.40	9	3.61	10	3.82	4	3.61	10	0.794
Lack of communication between parties	4.00	4	3.50	12	3.64	6	3.60	11	0.621
Unchanging attitudes of suppliers	3.10	12	3.61	10	3.82	4	3.57	12	0.521
Lack of senior management support in clients' organization	4.00	4	3.39	15	3.73	5	3.54	13	0.497

Lack of co-operation among the construction members and suppliers	3.70	7	3.52	11	3.27	10	3.51	14	0.747
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Table 2 Cont'd

Supplier delivered less quantity of materials to site	3.80	6	3.48	13	3.27	10	3.49	15	0.673
Previous disputes not resolved	3.10	12	3.41	14	4.09	1	3.48	16	0.247
Damage of sorted materials while they were needed urgently	3.20	11	3.48	13	3.73	5	3.48	16	0.660
Lack of appreciation for contractual risk by suppliers	4.00	4	3.35	16	3.45	8	3.46	17	0.420
Late procurement of construction materials by suppliers and contractors	3.70	7	3.22	17	3.55	7	3.34	18	0.508
Delinquency or deficiency in providing the service required	4.20	2	3.07	19	3.36	9	3.28	19	0.061
Skilled shortage in material supplier sector	2.80	13	3.41	14	3.09	11	3.27	20	0.463
Shortage of construction materials in market	3.30	10	3.17	18	2.73	12	3.12	21	0.292
Delay in manufacturing specialized construction materials	3.60	8	3.07	12	2.55	13	3.06	22	0.266
Lack of senior management support in supplier organization	2.80	13	2.87	21	3.09	11	2.90	23	0.880
1= No Extent 2= Slight Extent 3= Neutral 4= High Extent 5=Very High Extent									

From the consultants' perspective, changes in types of materials and specifications during construction (4.02), lack of commitment by the material supplier (4.00) and fluctuation of prices associated with the prevailing supply–demand cycle (3.98) were ranked as the topmost challenges of the adoption of nominated suppliers' procurement. In the same vein, lack of senior management support was ranked as the least challenge. The consultants rated inadequate planning and scheduling by the supplier (4.09), increase in material cost (4.00), and fluctuation of prices associated with the prevailing supply–demand cycle (3.91) as the highest challenges of nominated supplier procurement method. While the challenges of nominated supplier procurement method vary among the client, consultant and suppliers, t-test show that the only challenge that is significant among the threeset of respondents was changes in materials types and specifications during construction.

5. DISCUSSION OF FINDINGS

The findings revealed that the top 5 challenges of nominated supplier procurement method are inadequate planning and scheduling by the supplier, fluctuation of prices associated with the prevailing supply–demand cycle, lack of commitment by material suppliers, suppliers' non-adherence to condition of the contract, lack of belief in the suppliers' system by the client and the contractor and shortage of foreign currency for importation of materials.

These findings are somewhat similar to the findings of Trauner (2009) who noted that, delays caused by materials are as a result of: unavailability of construction materials in the market, modification in the type of materials and specifications during construction, delay or late delivery of materials, damage of arranged materials while they are needed immediately, delay in manufacturing superior building materials and late attainment of materials. Furthermore, the results are similar to that of Jarkas and Haupt (2015) who found that, unavailability or shortage of construction materials, lack of proper planning and procurement

management on the contractors' part and suppliers' deficiency in providing the services required, instability of prices related to the supply–demand cycle are challenges of nominated supplier procurement.

6. CONCLUSION

This research investigates the challenges of nominated supplier procurement method in the construction industry. The rating of the challenges according to the respondents shows that there are many challenges militating against the adoption of nominated supplier procurement method. These changes are different from stakeholder to stakeholder, depending on the person involved. Despite the enormity of these challenges however, the research concludes based on significance test done with t-test. Hence, the conclusion of the study is that, though there are many challenges militating against the success of nominated supplier procurement method, changes in types and specification of materials during construction is the only challenge that is significant to the client, consultants and manufacturers/suppliers.

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