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TOWARDS AN UNDERSTANDING OF CONTRACTOR - SUBCONTRACTOR RELATIONSHIPS IN THE SOUTH AFRICAN CONSTRUCTION: EXPERIENCES FROM SITE

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There is a strong correlation between project success and a good contractor-subcontractor relationship. Although the term "contractor" is ascribed to main contractor and their subsequent supply chains, the broad generalization has somewhat distorted each supply chain's role and interaction with the principle contractor. The purpose of this paper is to provide an understanding into the influences of various aspects of management that have a bearing on contractor-subcontractor relationships and their overall performance on site. By means of three case studies, 31 semi-structured interviews were conducted with various project teams. The in-depth qualitative approach highlighted collaborative practices that influence the contractor-subcontractor relationship. Notably, client requirements, procurement strategies, project sum and size were found to influence the operational structures on-site as well as relationships between the principal contractor and subcontractors. Also, the duration of site occupancy was found to impact the relationship dynamic among the principal contractor and subcontractors as relationship built over time were viewed as beneficial for project alliance. The role of government and regulatory bodies in influencing policies and procedures in South African construction is paramount to reconciling the tensions that exist between principal contractor and subcontractors. Finally, creating and managing time-sensitive stakeholder relationships effectively that are built on communication and information sharing, irrespective of the selection processes employed remains a key element in successful collaboration as this encourages a shared vision among project participants.

Keywords: case studies, collaborative practice, subcontracting, supply chain, South Africa.

INTRODUCTION

South Africa has undergone significant change over the past 20 years. The societal transformation has had great effect on sectors such as construction where the democratic dispensation has produced professionals, construction companies owned and managed by historically disadvantaged individuals (Martin & Root, 2010). The majority of these construction companies reprise the role of subcontractors and suppliers generally known as SMEs. Further structural change in the country's construction industry has been accredited to the increase of contracting activities funded by both private and public divisions of the economy (Emuze & Smallwood, 2014). Although a major contributor to the country's economy, the industry is not without its challenges. Challenges, which include: public-sector capacity; mismatches between available skills and required skills; procurement practices and the capacity

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for sustainable empowerment; availability of infrastructure; high rate of enterprises failure/ delivery capacity and performance; increases in the costs of building materials; statues and regulations affecting tender and procurement processes to include previously disadvantaged groups (Windapo & Cattell, 2012). These challenges directly impact on the performance, growth and development in the industry (ibid). Over and above these challenges, Emuze and Smallwood (2014) bring to the fore a challenge that South African construction industry shares with the rest of the international construction community, that of fragmentation and specialisation as response to the growth as well as free-entrants to the field.

In this paper, we seek to add to existing research on collaborative working on construction sites by presenting the analysis of high priority case studies where contractor-subcontractor relationships were paramount to successful execution and completion of work. The aim of this research is to develop an interpretative understanding of the relationship dynamic between principal contractors and their supply chains, in this case the subcontractors. To enable the conceptualisation of collaborative practices (CP) to resonate with practitioners, each element of collaborative working are explored deeply through the development of narratives (Pablo & London, 2017). The sequential format followed in this paper begins with a brief background into CP in the South African construction industry and the challenges it grapples with which ultimately influences the contractor-subcontractor dynamic. Thereafter, the research methodology and the analysis of data is presented to provide an interpretation of the findings. The discussions in this paper are organised under three areas, namely: government influence on project structure and outcome; creating and managing time-sensitive stakeholder relationships; and subcontractor selection and competency of contract teams.

COLLABORATION IN THE SOUTH AFRICAN CONSTRUCTION

Notably collaborative practice (CP) is not an emergent concept in construction, in the South African construction industry however, researchers have only recently explored this concept as a means to improve project performance and other related issues by promoting the application of supply chain management (SCM) through collaboration (Emuze & Smallwood, 2014). Owing to the fact that a supply chain works as one team for the project duration, the benefits presented by collaboration are copious. Shakantu et al. (2007) make reference to one crucial benefit of collaboration that of ensuring that no unnecessary risk is passed on from one member of the supply chain (SC) to the next. Collaboration is further seen as a problem solving or win-win means to avoid and or reduce risk for the client and members of the SC (*ibid*).

In the wake of said challenges and issues encountered in the construction process, Towey (2012) tasks principal contractor as the enablers of productivity on construction sites. They therefore oversee the coordination and collaboration of the SC. A study conducted by Emuze and Smallwood (2014) affirmed the participation of contractors in collaborative arrangements in the South African construction industry within the last ten years. Establishing the existence and practice of collaboration in construction. Contractors in South Africa however face numerous challenges that hinder their abilities to ensure effective collaboration. One of the critical issues affecting the construction industry in South Africa is structural issues which are evident in the transient nature of work and the resulting temporary organisations involved (CIDB,2011., cited by English & Hay, 2015). The transient nature of work and subsequent establishment of temporary organisations further expose problems as brought out by the Construction Industry Development Board (CIDB, 2011) report which includes:

- A lack of skills on the part of contractors – many contractors lack the business and financial management skills, project management and technical skills specific to construction;

- Financial constraints and limited access to funding, trade credit, guarantees and performance bonds and high interests when these are available;
- Late payments by clients impacts on contractor cash flows and causes delays in the completion of the project, erodes profit margins, ties up working capital and encourages corruption;
- High turnover among skilled workers owing to uncertainties in job opportunities;
- Short term nature of the work which makes it hard to develop and implement long-term strategies and growth plans;
- Bureaucratic, overly complicated contract award and contract administration procedures;
- Intense competition, especially in the lower scales of construction enterprises, and difficulty in competing with larger construction firms;
- Insufficient resources to provide a safe and decent working environment such as protection equipment and attire;
- Lack of professional advisors and consultants, and where these are available the reluctance to use them to perceived fees, lack of finance or awareness;
- Lack of capital equipment such as vehicles, heavy machinery and scaffolding and;
- Uncertainties in supplies and prices of materials, allied with generally non-existent or poor relationships with suppliers.

In an exercise to explore remedial actions, Emuze and Smallwood (2014) proffer the following collaborative-working related recommendations to mitigate these and other challenges surrounding short-term objectives, strict and inflexible forms of contract, unfair allocation of construction projects risks and fragmentation:

- Ensure early involvement of key project team members who have expert knowledge so that an appropriate level of client satisfaction and value can be defined;
- Establish stable subcontractor and supplier relationships by selecting teams based on value rather that lowest price;
- Manage project parameters of cost, schedule. Quality and H&S harmoniously;
- Work together as a team to agree mutual goals and devise dispute resolution mechanisms;
- Develop and monitor continuous improvement programmes;
- Develop and implement sound risk management processes;
- Deal with risks and rewards equally by using modern commercial arrangements such as collaborative contract forms, target cost and open book accounting;
- Use non-adversarial forms of contract and ensure that contractual relationships are appropriate for expected project objectives;
- Mobilise and develop people to ensure employee satisfaction through integrated teams; and
- Embrace the Latham (1994)/Egan (1998) collaborative working principles.

As a deduction of the aforementioned, the successful execution of construction projects or lack thereof is greatly influenced and dependent on the contractor and their respective subcontractors involved in the project (Alzahrani & Emsley, 2013). Furthermore, CP as a core feature of SCM in construction is becoming an important part of management paradigms in effort to ensure that the industry remains in the global competitive market and fulfil the growing demand for better performance from clients (Bouchlagen & Shelbourn, 2012). This paper advocates the correct interpretation of the contractor –subcontractor relationship. Understanding the relationship

dynamic each subcontractor has with the principal contractor, a narrative can be developed that sheds light on barriers and enablers of collaboration in construction (Pesamma et al. 2009).

METHODOLOGY

To achieve the objectives outlined in the introduction of this paper, a qualitative case study methodology is used to analyse three construction projects that comprise of various subcontractors each undertaking work on behalf of the principal contractor. The rationale of utilizing case study is in line with conducting a pragmatic inquiry that investigates modern-day phenomenon in depth and within real-life context (Yin, 2009). As is the case of CP in South African construction, the boundaries between phenomenon and context are not clearly evident thus requiring an inquiry to bridge the gap. The data collected was gathered through semi-structured interview questions. The analysis of the interview followed an abbreviated guideline of analysing qualitative data development by Taylor-Powell and Renner (2003). The analysis process followed a five-step plan to describe the basic elements of the narrative data analysis and interpretation thereof. Figure 1 outlines the analysis process followed. The themes are colour coded to allow ease of allocating similar themes across every participant response.

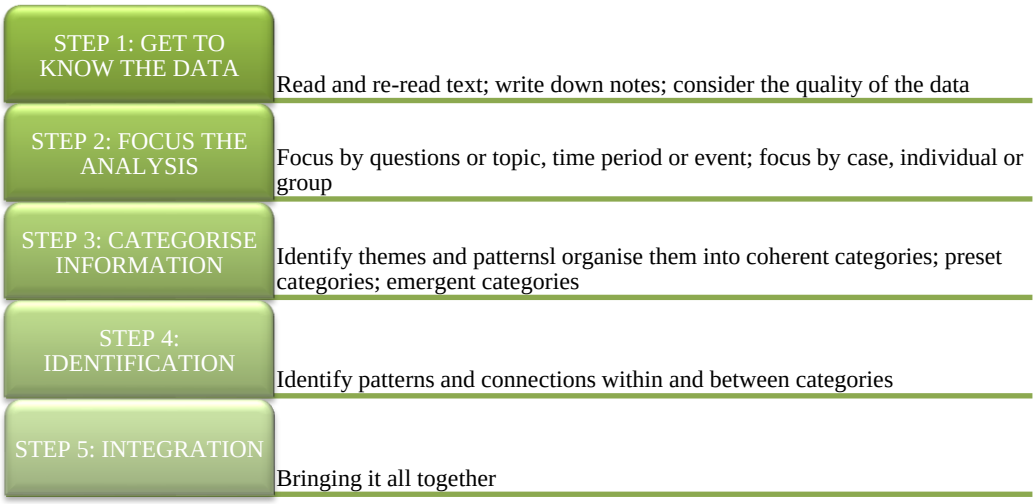

Figure 1: Qualitative Analysis process (Developed by Taylor-Powell and Renner, 2003)

The engagement with the interview transcripts initially produced 72 sub-themes which were further organized into thirteen primary themes from which three of those themes are explored in this paper. The respondents' responses to the seventeen questions posed during the 30 minutes' interview session were thus framed around the thirteen primary themes. Thus, as the discussion section will indicate, the data gathered from the case studies follows three concurrent flows of analysis namely (Miles et al., 2013):

i. Data condensation – the process of selecting, focusing, simplifying, abstracting, and/or transforming the data that appear in the full body of written- up filed notes, interview transcripts, documents and other empirical materials;
ii. Data display – an organised, compressed assembly of information that allows conclusion drawing and action. Data displays provides an understanding of what is happening in order to inform the remedial actions, and;
iii. Conclusion drawing/ verification – the qualitative analyst interprets what things mean by noting patterns, explanations, causal flows and propositions

FINDINGS, ANALYSIS AND DISCUSSION

Findings and analysis of the collected data is presented in this section. In addition, a critical discussion of the analysed data is undertaken in light of relevant literature.

Government influence on project structure and outcome

The influence of the Government and local governments is evident in most South African construction projects. This is not only limited to contracts awarded but also includes policies and regulations that are established and implemented by the authorities. Thus the supply chain in construction projects is directly affected by such decisions. Interviewees expressed concerns about the lack of efficient strategies to improve project supply chain integration. Some participants called for direct involvement from the Government to help improve relationships between main contractors and subcontractors. Approaches that were suggested included '*redefining existing partnerships roles*', '*better regulatory aids in the form of revised contract suites*', '*standardisation*' and involvement of independent professional parties. In essence, the interviewees believed there was a lack of clarity on the roles of the various construction parties i.e. a clear demarcation of remits and limits of roles and responsibilities.

With respect to regulations, there were ambiguities in required codes of practice. Issues ranged from industry standards to approaches to costing. Some of the findings are as follows:

"*For example the waterproofing… we use the conventional type but the Engineers have specified this new type so we comply*" – CS03SA

"*There must be legislated rates… improvement on government development programmes such as the EPWP programmes*" – CS01PM

"*There needs to be industry determined rates*" – CS01SA

As highlighted, the industry professionals appreciate a systematic and transparent method of carrying out projects. Their suggestion would eliminate numerous project ambiguities and misunderstandings which often lead to cost overruns and project delays. Shakantu et al. (2007) also emphasize the importance clarity and transparency in the supply chain as described above.

Creating and managing stakeholder relationships

The cohesion of parties involved in a given construction project often gains strength over a period of time particularly if they have never worked together before. Since relationships are built over time, it is widely accepted that earlier formed relationships are more beneficial for the longevity of the project alliance. However, since main contractors are often required to bring on board 30% of local SMEs as subcontractors, the cohesion and trust building process needs to be developed quite rapidly. Getting to know one another may be done through various methods but the face-to-face meetings are preferred by most main contractors. A brief, daily meeting among main contractor representatives and subcontractors has been the main method of creating and maintaining this relationship. However, subcontractors have found this practice to be insufficient. This approach to forming the project team has been described as '*poorly formed relationship dynamics*'. This is partly because the subcontractors believe the main contractor monopolises the direction of information flow; a practice which clearly goes against recommendations from Egan (1998). It was described as a meeting for the main contractor to brief other stakeholders instead of an opportunity for all parties to voice their opinions and concerns where possible. For instance, subcontractors believed holding such meetings offsite or in site offices (which are detached from the actual construction site) made it impossible for the main contractor's team to appreciate the predicaments of the subcontractors. It was also

revealed that the contracts managers often chaired the briefings/meetings and did most of the talking during the assembly with subcontractors giving yes/no answers to matters raised. Thus there were often communication issues among the project parties.

Although the main contractors believed that they needed a better relationship with subcontractors, they also identified that their topmost priority was a practical project completion within a reasonable time. Based on this, project managers were pressed for time and wanted to offer a prescriptive approach to the project execution. They often tried to automate the project activities as much as they could in order for their ideas to be carried out exactly. However, this meant that subcontractors could not inform them of genuine project errors or inaccuracies thereby leading to more project delays and cost overruns.

With many project relationships, conflicts may arise from time to time. When conflicts occur, it is important to resolve them swiftly and efficiently so as not to have the situation spiral out of control. Key personnel are often consulted on practices to be employed whenever a conflict arise. This then leads to improved practices e.g. fair allocations of work. One of the main triggers of conflicts was incompatibility of strategies particularly from representatives of main contractors and this was often attributed to late entrants to the construction team. PRCPM02 emphasised that "*communication is key in dispute resolution*".

Subcontractor selection and competence of contract teams

There is a competitive tendering process for subcontractor roles. This often includes '*competitive quotations*' in order to select the most suitable subcontractor for the role. The evaluation process includes the subcontractors' costs in addition to their experience. Main contractors described their means for subcontractor selection as follows:

"*We use a close tender system and negotiate the costs and partnerships*" – PRCMP02

Following the selection of specific subcontractors, the main contractor then supports the subcontractors with project necessities including funds and documents. The main contractor "*assumes managerial role [and] provides financial assistance to commence subcontractors' work*" (PRCMP03). In order to ensure that the subcontractors work in a competent manner PRCMP03 explained that there are "*incentive programmes for well-performing teams*". It was also added that main contractors had to inspire subcontractors to work effectively by "*encouraging soft skill development*". Thus although they are competent at their trades, their soft skills (e.g. effective communication) needed to be stimulated as such skills are imperative for any successful project.

Even though a fair method of subcontractor selection was adopted, the specialist subcontractor pool is often limited. This is due to the government restrictions on subcontractor selection. The following was revealed:

"*[The Government] clients imposed a clause in our agreement of 30% of project sum to local SMMEs, but it's a challenge because specialised trades require experience at the same time we can face hefty penalties if we ignore this clause*" – PRCPM01

By referring to the clause as being imposed on them, there is an obvious negative connotation assigned to the procedure. As bemoaned by the interviewee, the whole process is riddled with challenges, especially with respect to specialised tradesmen. This thus leads to a forced relationship between the two parties. In order for specialist subcontractors to be employed, the government clause and restrictions may need to be revised or relaxed for specific subcontractor roles.

CONCLUSIONS

The aim of this paper was to provide an understanding into the influences of various aspects of management that have a bearing on contractor-subcontractor relationships and their overall performance on site. In an effort to add to the existing research on collaborative working in construction sites, an analysis of high priority construction projects where the contractor-subcontractor relationship was paramount to successful completion of work was undertaken. To that end, the answers to understanding the contractor-subcontractor relationship was discussed under three areas of collaborative practice, namely: government influence on project structure and outcome; creating and managing time-sensitive stakeholder relationships; and subcontractor selection and competency of contract teams.

The role of government, in its capacity as project client and regulator of policy cannot be understated. As the findings of this research show, stakeholders in construction rely on government to help improve relationships between principal contractors and their subcontractors. Understandably, as issues regarding production and remuneration require legislated standardised rates. In addition, government imposed requirements on procurement strategies (i.e. 30% project sum allocated to local SMEs) should include training and skills development initiatives to circumvent any challenges associated with this method of procurement. Stakeholder relationships are time-sensitive due to the fragmentation of the construction industry. This is particularly true in South African construction. Early entrance to site with relation to project commencement has shown to contribute to better working conditions between principal contractor and subcontractors. The unavoidability of construction's transient nature should prompt a new line of thought that of working to create relationships as presented in each project awarded. This can be steered by effective communication and information sharing in real time. Respect for both man and trade and courteousness is imperative in building lasting relationships as the current status quo of monopolising information is contributing to the tensions experienced on construction sites.

This study provided insight into the contractor-subcontractor relationship. It is one with opportunity and challenges. It is therefore the understanding that an amalgamated approach to governing the contractor-subcontractor dynamic requires a twofold objective. That of maintaining and supporting the principal contractor as the enabler of production as well as establishing subcontractors' crucial contribution to the supply chain both contractually and by including them in operational structures. There is therefore a need to define and reconcile the intra – and interdependencies of all SC contributors specific to construction activity undertaken. This should not only validate collaboration but effective integration of processes that contribute to an effective SCM model.

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