

Competitiveness of construction organisations in South Africa

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Abstract

The government patronizes and awards public sector construction projects to large construction companies in South Africa based on the premise that they are technically and financially capable of executing the projects. In spite of this assumption and important contributions made by the construction organisations in delivering high-profile construction projects, many clients report poor performance of contactors on public projects. This paper therefore investigates the competitive strategies being used by large construction companies, their financial performance and whether their knowledge of the business environment help in obtaining beneficial strategic fit and fiscal performance. This study intends to use the synthesis of industrial organisation, contingency and resource-based theories in developing measures of environmental factors and competitive strategies used by construction companies. Parametric and non-parametric statistics is used in analysing quantitative and qualitative data obtained from the questionnaire survey. It emerged that corruption and lack of transparency was perceived as the key exogenous environmental factor influencing the strategies adopted by construction companies, while manpower problems associated with trade unions was perceived as the key endogenous environmental factor. The results also indicate that the differentiation competitive strategies of achieving high quality and time which are negatively correlated to financial performance were viewed by the respondents as the best strategies to adopt. This research will contribute to the discourse on competitive strategies in the construction industry and best practices.

Keywords: business environment, competitiveness, organisational performance, South Africa and strategy

INTRODUCTION

The upsurge in the interest rates witnessed by the South African construction industry in the late 1990s had a disastrous impact on the industry, and as a result many construction companies did not survive (cidb, 2004; van Wyk, 2003 and 2004; Joubert, Cruywagen and Basson, 2005), and those that did, found themselves in hyper-competitive construction business environment with other foreign companies (Joubert *et al.*, 2005). In addition, the global economic meltdown of 2008 did not spare the South African economy and due to the global financial crises, the country experienced three consecutive quarters of negative growth in Gross Domestic Product first of its kind, since 1992 (Martin, 2010). In the same vein, the Register of Contractors and laws such as the Preferential Procurement Policy Framework Act, 2000 and Broad-based Black Economic Empowerment Act, 2004 meant to promote black economic empowerment and give preferences to Historically Disadvantaged Individuals (HDI), led to the HDIs

establishing their own firms, rather than joining established companies. Currently, there are almost 1200 large contractors across all class of works registered on the cidb Register of Contractors. The proliferation of companies, results in unhealthy levels of competition (Windapo and Cattell, 2013), and impedes the development of small enterprise capability and sustainability (Bowen *et al.*, 2007).

This competitive and unsustainable business environment necessitates that the South African construction organisations are more strategic and proactive so as to increase their chances of survival. However, the competitive strategies adopted by construction companies in South Africa are not known. According to Flanagan, Lu, Shen and Jewel (2007), the measure of competitiveness of a construction organisation, is an effective way to understand the concept, promote continuous improvement and enhanced performance. The main objective of this paper is therefore to identify the competitive strategies being used by construction companies in South Africa in response to the organisations' endogenous and exogenous environment, to achieve superior organisational performance, with the view of identifying best practices. Therefore, the following research questions will be answered in this paper: what are the key competitive strategies used by construction organisations? What environmental factors influence the competitive strategies adopted? Does the competitive strategy adopted by the construction organisation fit the environmental factor identified? What effects do the competitive strategies adopted by construction organisations have on their performance?

This paper first of all presents the review of extant literature on competitiveness with emphasis on its definition and measurements within the construction industry. The second section presents the theoretical underpinning of organisation competitiveness and performance. The following section appraises the competitive strategies in use, performance issues and environmental factors that favour competition. Thereafter, the paper will outline the results of a questionnaire survey examining the perceived environmental factors, competitive strategies adopted and financial performance of selected large construction companies in South Africa. Finally, the paper discusses the implications of the results for the survival and growth of construction companies in South Africa.

OVERVIEW OF COMPETITIVENESS

Competitiveness, in the past few decades has received attention from practitioners and researchers in many industries across the globe (Lu, 2006; Flanagan *et al.* 2007; Tan, Shen and Langston, 2012). This growing importance of competitiveness in the construction industry depicts it as a predictor of business performance or ability of an organisation to survive in a turbulent competitive construction business environment. As a result, researchers and practitioners have become obsessive in defining and measuring competitiveness, thus literature reveals diverse definitions of competitiveness across large number of industries (IMD, 2004). Though, the concept appears to be simple in definition and measurement, it is more demanding in the context of construction due to its heterogeneous nature (Flanagan *et al.*, 2007). While Porter (1990) asserts that no universal and precise definition of competitiveness exists in literature, Lu (2006: 25) synthesises and draws upon common components of different approaches to competitiveness to define contractor competitiveness "as the ability of a firm to bid successfully for construction projects, to provide construction services with superior quality, time or costs and with shorter time than its domestic and

international competitors, and in the long-run to consistently achieve superior firm performance”.

Flanagan *et al.* (2007) argue that some researchers view productivity as competitiveness which is partly supported by Porter's (1990) standpoint that productivity is the source of competitive advantage. However, Cattell *et al.* (2004) argue against using productivity to stand for competitiveness, they recommend a tilt towards a broader concept of competitiveness instead of productivity. For example, Flanagan, Jewell, Ericsson and Henricsson (2005) measure contractor's competitiveness in some selected countries using Porter's diamond model comprising six basic areas, their model is capable of being used to analyse different contractor's competitiveness operating in the same construction market but non-inclusion of sub-factors relating to macro areas hinders its wider implementations. Lu (2006) also measures competitiveness of contractors using a model that is rooted in Porter's competitive theory, generic strategy and value chain analysis as well as Resource Based View (RBV). The model was designed to identify contractor's competitiveness sources which can be used for ranking of contractors in order of their competitiveness, diagnose their competitiveness and for pre-qualification of contractors. But, this was country specific, which limits its application as a generic model. Therefore, more empirical studies are required in the context of measuring competitiveness of construction organisations.

THEORETICAL UNDERPINNINGS

The concept of competitiveness is deeply rooted in the early theories that surround comparative advantage. The theories were criticised for not keeping pace with changes in the environment and not being innovative, these criticisms then shifted researchers' attention to competitive advantage (Vagnes and Smith, 2005). The theories considered by this paper is from the strategy and management perspectives, according to Waheeduzzan and Ryans (1996) and these theories border on resources of the organisation, structure of the organisation and other organisation specific parameters such as environmental factors. These include the industrial organisation theory, which Porter's five competitive forces lean towards; the contingency theory which supports Porter's generic strategies; and resource-based view.

Industrial organisation theory

This is a branch of microeconomics theory; it stresses the impact of the industry business environment on the organisation. Industrial organisation according to Parnell (2013) is a view based in microeconomics theory, which highlights that organisation profitability is closely related with the industry structure. The main underlying principle of IO is that organisation must adapt to influences in its industry to prosper and continue in its existence because its performance is financially dependent on the level of success attained in the industry in which it operates (Parnell, 2013). This supports the argument of Porter (1981), who posits that an industry with positive or constructive structures provide the best opportunities for organisations to multiply their profitability. This means that organisations survival and superior performance are dependent on how the organisation adapts to the external forces within the industry which are often beyond its control. IO theory assumes that competitors in any industry have fairly

similar strategies, resources and competencies; it only focuses on the forces within the industry.

Porter's five competitive forces align to this theoretical perspective. The five-force paradigmatic model of competition has become a dominant strategy paradigm, and globally acknowledged as an essential and useful diagnostic framework for categorising and evaluating the strength of firms' competitiveness and profitability level in an industry. The framework is capable of enabling a firm device means of guiding against competitive forces and the results of the five-forces, by collectively controlling the strength of the competitiveness of an industry, and ability of the firm to remain in the business through profit making (Porter, 1980). Johnson, Scholes, and Whittington (2008) summarise Porter's essential message conveyed by the five-force, that where these five competitive forces are high, the industries will not be attractive to compete in. The industry will experience too much rivalry, intense competition and too much pressure, to allow firms make reasonable profits. Therefore, an organisation will adopt any of Porter's generic strategy (differentiation, cost-leadership or focus strategy) to remain competitive and achieve superior performance. However, the model has been criticised. For example, Steve (2010) argues that the model lack dynamism in terms of magnitude of the five forces relative to their importance. The model also ignores the issue of complementarities (the sixth force), which argue that if the marginal return an activity give rise to an increase in the level of the other activity, then the activities are mutually complementary (Stratman, 2013).

Resource-Based Theory

This theory's view is contrary to IO perspective; it argues that performance of an organisation is a function of the organisations ability to harness and make use of its resources (Barney, 2001). Parnell (2013) accepts that environmental threats and opportunities are essential, but organisations exceptional resources consist of the main variables that allow it create distinctive competencies. This permits an organisation to differentiate itself from competitors and develop competitive advantage. Resource-based theory lays emphasis mainly on individual organisations instead of the competitive environment. It is believed that organisations resources (tangible and intangible) are related to its capabilities, which in turn, create values and improvement in the level of profit achieved (Parnell, 2013). Barney (1991) argues that it is an organisation's resources that determine its level of sustainability, competitive advantage and performance with two basic underlying assumptions of heterogeneity and immobility of resources. Barney (1991) assumes that organisations resources are heterogeneous in nature and as such different organisations are endowed differently with different resources. He explains immobility of resources as a situation that permits for continuous existence of the differences in organisation resources, which allows for competitive advantage.

Despite the significance of the underlying assumption, Barney (1991) suggests that organisations resources must possess some distinguishing attributes that are capable of sustaining competitive advantage. These include: the fact that resources must be valuable; rare; unique; and non-substitutable. The static nature of Porter's five competitive forces framework and Barney's RBV comprehensive models as stated by Priem and Butler (2001) allows dynamic capabilities as a concept to extend the frontier of knowledge on strategic management science as a

field of study by focusing on sustained competitive advantage in a continuous and active manner. Another extension to this is the capabilities and competence-based theory (Prahalad and Hamel, 1990).

Contingency Theory

Strategic contingency theory is grounded in the structure-strategy-performance model linked to the work of institutional economists such as Mason (1939) and Bain (1956) with more attention on strategy than structure. This theory states that the most gainful organisations are those that develop best and beneficial fit with their business environment (Parnell, 2013). He argues further, that strategy that may be a success is the one that are attuned with the organisation's mission, competitive environment and its resources. Porter (1980: 3), succinctly states: that "the essence of formulating competitive strategy is relating a company to its environment." Extant literature indicates that application of contingency theory is not new in strategic management lexicon; Murray (1988) argues that it is more implicit in the adaptive model introduced by (Miles and Snow, 1978). According to Porter (1981), its manifestation is clearer in the contemporary contingency theoretical archetype of structure-strategy-performance.

The structural contingency theory argues that organisations with best fit exhibit higher performance than those that misfit. This is also the view of Donaldson (2001) hetero-performance theory, who contends that organisations that fit to higher level of contingency perform better than those fits to lower level. Meanwhile, Porter (1980) posits that the effectiveness of generic strategies may be contingent on industry structure. Therefore, relevant contingency approach to Porter's general strategy is not odd in strategic management literature. Researchers have also employed contingency theory to examine the relationship between strategy, performance and competitive environment and this perspective indicates that optimal organisational performance is contingent on strategy, organisational characteristics (structure, culture, management style, problem-solving style) among other elements (Garengo and Bititci, 2007; Pertusa-Ortega, Molina-Azorin and Claver-Cortes, 2010). Literature identifies contingency theory as one of the theoretical perspectives employed by researchers in analysing how performance measurement system obtains a strategic fit to the environment (Gimzauskiene and Kloviene, 2011).

Considering the complex, multifaceted and heterogeneous nature of the construction industry, Flanagan *et al.* (2007) contend that none of these theoretical perspectives is a cure-all for describing organisation competitiveness. They acknowledge that the theories are all useful for attaining competitive advantage in their own right. This point to the fact that understanding the competitive forces, identifying unique resources and achieving strategic fit with the environment by construction organisations determines the competitive strategies organisations within the industry will adopt in order to achieve excellent performance.

Based on the extant literature review, the study hypothesizes that a company that has unique resources and achieves a strategic fit with its environment, will adapt to the industry better, will be more competitive and perform better.

RESEARCH METHODOLOGY

This study is part of an on-going PhD research that is at the data collection stage, hence the results presented here are the outcome of a pilot study. To provide answers to the research questions, a quantitative research approach is employed. Based on extensive literature review, a questionnaire is developed and administered via Survey Monkey® web based research platform to 30 large construction organisations civil engineering and general building construction organisations registered in Grades 7 to 9 on the cidb Contractor Register. Internet approach to questionnaire administration was adopted due to large geographical dispersion of the contracting companies. The constructs used in measuring competitive strategy were adopted from Kale and Arditi (2003) and Nandakumar et al. (2010). Also, business environmental factors were adapted from (Ibrahim, Price and Dainty, 2006). Performance of construction organisations was measured using a measure of profitability, growth and how effectively and efficiently an organisation manages its business with respect to the use of its funds in growing the business' size (Return on Capital Employed (ROCE)).

The respondents include directors and senior management staff of the organisations surveyed and 16 (53%) valid responses were obtained. To have a better understanding of the variables in the questionnaire, the respondents were asked to rank each of the variables on a five-point likert scale. For frequency of usage or adoption, 1= never and 5= always; on level of significance, 1= not very significant and 5= very significant. The quantitative data obtained were ordinal in nature and as a result non-parametric and parametric statistics such frequency, significant index and correlation analysis were used (Idrus and Newman, 2002). Significant indices instead of mean scores were used because the data were ordinal in nature. This was done using the formula given in (Idrus and Newman, 2002):

$$\text{Significant/Severity Index} = \left(\frac{\sum_{i=1}^n w_i/f_i}{N} \right) \times 100\%/n$$

$$\text{Frequency Index} = \left(\frac{\sum_{i=1}^n f_i}{N} \right)$$

In the above equations, w_i is the weighting for each rating from scale 1 to 5 and f is the frequency of the response in the questionnaire. N is the total number of respondents with usable data to that particular variable.

RESULTS AND DISCUSSION OF PRELIMINARY FINDINGS

The results of the exogenous and endogenous environmental factors presented in Table 1 show that corruption, political instability, problems related to trade unions, leadership style and prolonged negotiation period are perceived by the respondents as influencing an organisation's strategy and indirectly its performance. Bowen *et al.* (2007) also acknowledge bribery and manifestation of incidence of unfair tendering practices as some of the ethical issues in the South African construction industry. The competitive strategies adopted by organisations based on frequency indices and highlighted in Table 2 include emphasis on; achieving on schedule performance in construction operations, quality of constructed facility, operation efficiency and consistently finding ways to reduce cost without compromising the quality.

The result of the correlation analysis in Table 3 shows that positive relationship exists between measure of performance and the generic strategies (Focus: $r = 0.135355$; Cost-leadership: $r = 0.230565$, but differentiation strategy has the largest negative effect ($r = -0.52387$). This suggests that each of the generic strategies could be appropriate under different situations, and construction organisations should avoid being “stuck in the middle” (Tan *et al.*, 2012). The negative relationship implies that when an organisation differentiates its product or services, it might be difficult to charge premium price when there are alternatives for customers to choose from. The results also affirm the earlier work of Ittner, Laker and Rajan (1997) that organisations that differentiate place high emphasis on subjective measures of performance than financial measures.

Table 1: Influence of environmental Factors

	Exogenous Environmental Factors	SI	Rank	Endogenous Environmental Factors	SI	Rank
1	Corruption and lack of transparency	0.88	1	Lack of government guarantees	0.71	14
2	Political instability	0.83	2	Demand for construction	0.76	9
3	Fiscal policy	0.77	3	Mission & Vision of the organisation	0.74	12
4	Inconsistencies in government policies and laws	0.77	3	Poor financial status	0.86	5
5	Health and safety issues	0.74	5	Prolonged negotiation period prior to award	0.90	2
6	Strong political opposition/hostility	0.72	6	Cancellation of tenders	0.74	12
7	Legislation change/inconsistencies	0.70	7	Career path for employees	0.75	10
8	Employment pattern & attitude to work	0.66	8	Bankruptcy of firm'	0.71	14
9	Procurement act & legislation	0.62	9	Manpower problem associated with trade unions	0.96	1
10	Exchange rate fluctuation	0.58	10	Lack of creditworthiness	0.80	8
11	Interest rate instability	0.54	11	High finance cost of projects	0.83	6
12	Environmental issues & legislation	0.54	11	Team spirit among employees	0.70	16
13	Technological impact	0.53	13	Business Competition law	0.89	4
14	Industrial & Trade policy	0.53	13	High bidding costs	0.75	10
15	Change in tax regulation & policy	0.51	15	Compliance with cidb rules	0.71	14
16	Socio-Cultural differences b/w main stakeholders	0.51	15	Leadership style	0.90	2
17	Public /press opinion	0.47	17	Management strategy	0.83	6
18	Intense rivalry b/w organisations	0.46	18			

Table 2: Frequency index and ranking for all 16 respondents

Competitive strategies	FI	Rank
Differentiation		
Achieving high quality in the constructed facility	0.91	1
Achieving on schedule performance in construction operations	0.91	1
Achieving high quality beyond the requirements in the specifications	0.89	5
Being highly responsive to clients' requests	0.84	9
Attempting to deliver constructed facilities ahead of schedule	0.80	12
Introducing innovative financing methods	0.77	13
Cost-leadership		
Emphasis on operating efficiency	0.90	3
Emphasis on finding ways to reduce costs	0.90	3
Emphasis on tight control of selling/general/ administrative expenses	0.87	6
Emphasis on price competition (i.e. offering competitive prices)	0.86	7
Emphasis on efficiency of securing raw materials or components	0.84	9
Emphasis on production capacity utilization	0.83	11
Focus		
Targeting a clearly identified segment (e.g. emphasising a provincial region or a specific group of consumers)	0.86	7
Offering specialty products tailored to a particular group of customers or users	0.74	14
Uniqueness of your products (e.g. unique function or design)	0.73	15
Offering products suitable for a high price segment	0.70	16

Table 3: Correlation between competitive strategies and financial performance

Financial Performance	Competitive Strategies		
	Differentiation	Cost-leadership	Focus
ROCE	-0.52387	0.230565	0.135355

CONCLUSION

Measuring competitiveness is an efficient and effective approach to understanding the concept, improving organisational performance and identifying the competitive strategies being used by construction organisations in South Africa in achieving a strategic fit with the high-velocity business environment. The study examines the environmental factors perceived to impact on the operations of South African companies, the competitive strategies the companies adopt in response to these environmental factors, and the relationship between the strategies adopted and financial performance. The results of the survey suggest that South African construction organisations adopt Porter's generic strategies of differentiation, cost-leadership and focus strategy. Though, a positive relationship exists between measure of performance and the generic strategies, the differentiation strategy have the strongest relationship. Corruption and political instability are perceived as the key exogenous environmental factors influencing

organisations strategy and performance from a ranking perspective. Manpower problem associated with trade unions, leadership style and prolonged negotiation period before the award of contracts are also viewed as endogenous environmental factors that influence the strategic position of construction organisations.

Based on these findings, the paper concludes that there is a poor fit between the key exogenous and endogenous environmental factors (corruption and lack of transparency, and manpower problems associated with trade union) perceived to influence the operations of South African construction companies and the strategies they adopt in response to these threats and weaknesses. The results provide an insight into competitiveness in the South African construction industry and offer opportunities for an organisation to review its strategy to neutralise environmental threats. The implication of the study is that organisations need to focus or adopt strategies that have positive impact on their performance, if an increase in return is the ultimate goal.

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