

Relationship between decision-making style, competitive strategies and organisational performance among construction organisations

Introduction

This paper examines and analyses the influence of strategic decision-making and competitive strategy on organisational performance based on contingency theory. Leaders of organisations are expected to make strategic decisions that have a significant influence on their organisation's performance. The style and speed of decision-making has been reported to be strongly related to organisational performance (Goll & Rasheed, 1997; Baum & Wally, 2003). The contingency approach holds that decision-making structures are chosen based on the competitive strategy employed by organisations, and assumes that organisations that carefully select their strategies with adequate attention to decision-making structures, outperform their competitors that do not (Chung, 2008; Chung, Wang & Huang, 2012). Certain key issues in the strategic management field is the clarification of the developmental process of strategy and the strategic intent which undoubtedly defines the end, so as to provide a plan for decision-making that will lead to an effective formulation of strategy (Panagiotou, 2008). The competitive strategy of an organisation and its structural relationship are vital in improving organisational performance and in enhancing its competitive advantage, but it may not be sufficient for organisations to plan the current industry market niche and associated constraints. Therefore, managers of organisations need to unlock new business opportunities which can make organisation grow and develop competitive strength through decision making (Parnell, 2011; Arasa & K'Obonyo, 2012). Organisational strategic decision making and competitive strategy have been topical issues among scholars from diverse backgrounds, most especially amongst researchers in both the strategic management field and the field of organisational theory (Dean & Sharfman, 1996; Pertusa-Ortega, Molina-Azorin & Claver-Cortes, 2010; Amzat & Idris, 2012). It is believed that the quality of decision-making is dependent upon organisations' strategic process and intent. These exert pressure on organisations to identify their strengths and weaknesses and devise mechanisms to recognise pertinent business opportunities, and adapt to dynamic business environments in a way that will reduce or eliminate business threats. The identification of these factors will not only enable organisations to gain competitive advantage over their industry rivals but guarantees the needed survival to remain in business by obtaining the anticipated strategic fit (Panagiotou, 2008).

Rowe and Mason (1987) view decision-making styles from a psychological viewpoint and contend that it is a cognitive process that characterises how an individual solves a problem and makes use of available information to formulate decisions. The cognitive viewpoint considers organisations and their external environment to be interrelated while the industrial environment and market margins they see as constructed socially through the development of competitive depiction (Porac *et al.*, 1995). The cognitive process allows an individual to adopt analogous postures and behaviours in different spheres of influence (Raffaldi, Iannello, Vittani & Antonietti, 2012). The definition of decision-making style used in this paper is founded on the observations of previous researchers such as Albaum, Herche and Murphy (1995) and Sayles (1999) who argue that the acts of decision-making are attributable to organisational behaviour as contrasted to individual behaviour. The variation of these attributes do not only depend on the environment in which the organisation operates but within a dynamic and growing history of role-bounded interpersonal relationships (McCabe, 1987; Osborn, 1999). Uncertainty that typically prevails in construction businesses due to its fragmented nature requires viable decision-making. How those decisions are made (style) is an essential element in the success of a decision. Hence, managers of an organisation must

decide whether to take full control of the decision-making process or to allow contributions from other employees when making decisions. This is because the eccentricities of key makers of decision in any organisation play a pivotal role in the influence style has on decision-making (Albaum et al., 1995). In spite of the significance of decision-making styles as self-assessment tools, that require organisations to evaluate their *modus operandi* inertly, there is a lack of understanding on how the decision-making style influences organisational performance taking into cognisance the competitive strategy. The contingent relationship between structure and competitive strategy, and their effects on organisational performance has to be researched using contingency theory (Pertusa-Ortega, Molina-Azorin & Claver-Cortes, 2010). However, there is far less empirical or theoretical research devoted to the investigation of how the competitive strategy and decision-making style affects organisational performance in the construction context except few studies on leadership styles in construction (e.g. Giritli & Oraz, 2004).

The primary aim of the study reported in this paper is to examine the influence decision-making style has on the strength of relationship between competitive strategy and organisational performance. The research intends to answer the following fundamental questions. Can style of decision-making in an organisation be used in explaining its performance? Do decision-making style moderate the strength of relationship between competitive strategy and performance? Furthermore, there is no known research in construction management research context that explored the impact of decision-making style and competitive strategy on construction organisation's performance. Therefore, this study builds on the existing organisational theory research in construction domain that investigated organisational behaviour or characteristics such as management style, leadership style, structure and culture (see Lansley, 1994; Anumba, Baugh & Khalfan, 2002; Giritli & Oraz, 2004; Ankrah, Proverbs & Debrah, 2009). In answering these basic questions, this paper would therefore contribute uniquely to the current discourse on strategy in construction and in understanding of the impact of decision-making style on organisational performance in the construction context using the contingency approach. Against this background, the paper also examines the relationship between different types of decision-making styles, competitive strategy using multiple measures of organisational performance.

Theoretical background and conceptual frameworks

The theoretical framework of this study is founded on the contingency theory. Strategic contingency theory upholds that a beneficial strategy should obtain a strategic fit with the dimensions of the environment in which it is implemented. This suggests that different strategies are required in different environments in which organisations operate (Baack & Boggs, 2008). The competitive strategies and the strategic decision-making styles of construction organisations will be measured based on the contingent variables identified in literature. The linkages amongst the constructs: strategy-structure-performance trilogy as it affects organisational performance will be the focus. Thus, the study investigates the underlying theoretical foundation of prior studies in this subject area.

Although, strategic contingency theory can be traced back to the structure-strategy-performance paradigm linked to early institutional economists, such as Mason (1939) and Bain (1956), the idiom 'contingency theory' was first introduced into the organisational studies lexicon in 1967 by Lawrence and Lorsch. Lawrence and Lorsch (1967) conducted empirical research to show the influence of organisational structure on the economic performance of organisations and argue that organisational performance is contingent upon environmental dimensions. Since then, contingency theory continues with its dominance in strategic organisational management literature as one of the central approaches to the study of

organisational design and remains the most extensively adopted present-day theoretical approach to organisational studies (Scott, 2003). The theory focuses more on strategy than structure and its concern is on the strategic fit or match between strategy and environment (Lee & Miller, 1996). Porter (1980, p. 3), unequivocally states that “the essence of formulating competitive strategy is relating a company to its environment.” According to Parnell (2013), the theory proposes that the most sustainable strategic posture of an organisation is the one that obtains a beneficial strategic fit with the business environment. Although, one of the main concern of contingency theory is on how an organisation achieves strategic fit with the environment to enhance performance with respect to its structure, but it has also been applied to a number of studies on organisational characteristics e.g. leadership (Fiedler 1966; 1967), decision-making structure (Pertusa-Ortega et al. 2010; Chung et al., 2012) or strategy (Frederickson 1984). Hence, this study’s theoretical background is explored to establish the link between the constructs. However, contingency theorists argue that no single ideal style or kind of organisation exists for all potential types of environment; each organisation must obtain a beneficial fit between circumstantial elements - business environment, the organisational structural attributes and the competitive strategy (Parnell, 2013; Pertusa-Ortega, Molina-Azorin & Claver-Cortes, 2008).

The perception ‘fit’ explains the strategic linkages between organisations and their contextual components to enhance organisational performance. The concept ‘fit’ as used in contingency theory is described in Pertusa-Ortega et al. (2008, p. 141) “as the degree of internal coherence among a set of theoretical attributes (for instance, certain strategies will most probably be associated with specific organizational structures and environments)”. Miles and Snow (2003) posit that the most effective and efficient organisation is the one that develops mechanisms that permit organisations to achieve strategic fit and complement their market strategy. To achieve this strategic fit being referred to in the current paper, there must be consistency in the moderated or mediated relationship between the competitive strategy and decision-making style used in enhancing organisational performance/excellence, which is conceptualised in Figure 1 and 2. It is essential to delimit the fit used in this paper because many of the previous studies that focused on the contingency approach failed to unambiguously delimit the description of fit that they use. Lack of delimitation leads to confusion, when putting forward the influence of organisational fit on the performance of an organisation (Roca-Puig & Bou-Llusar, 2007). This is also considered to be one of the reasons for incongruence in the results of the empirical research theorising on the impact of fit on organisational performance (Pertusa-Ortega et al., 2008). Pertusa-Ortega et al. (2008) argue that within the construction of contingency concept, organisational performance is dependent on the fit that exists between organisational background, its structure (this is conceptualised as decision-making style) and the strategic processes of organisations. Findings from previous studies indicate that different decision-making styles exhibit different impacts on organisational performance which may be positive or negative (Rehman, Khalid & Khan, 2012; Amzat & Idris, 2012). Govindarajan (1989) also found that problem-solving styles, among other factors, have an influence on the competitive strategies of business units.

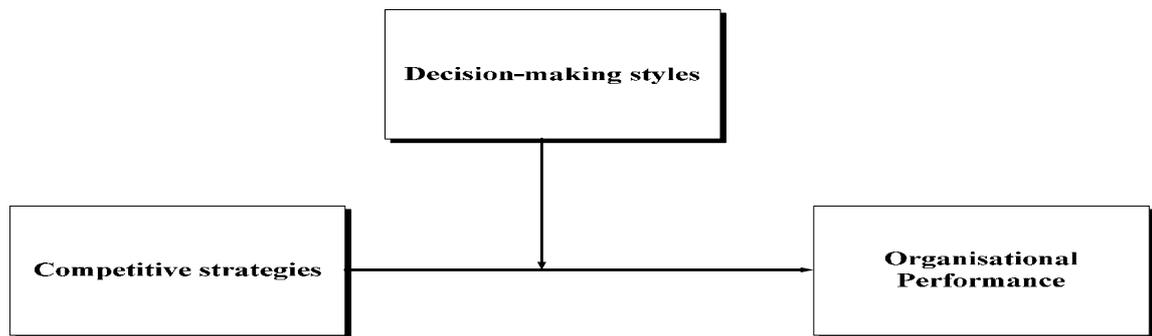


Figure 1: Moderated causal relationship between competitive strategy and performance

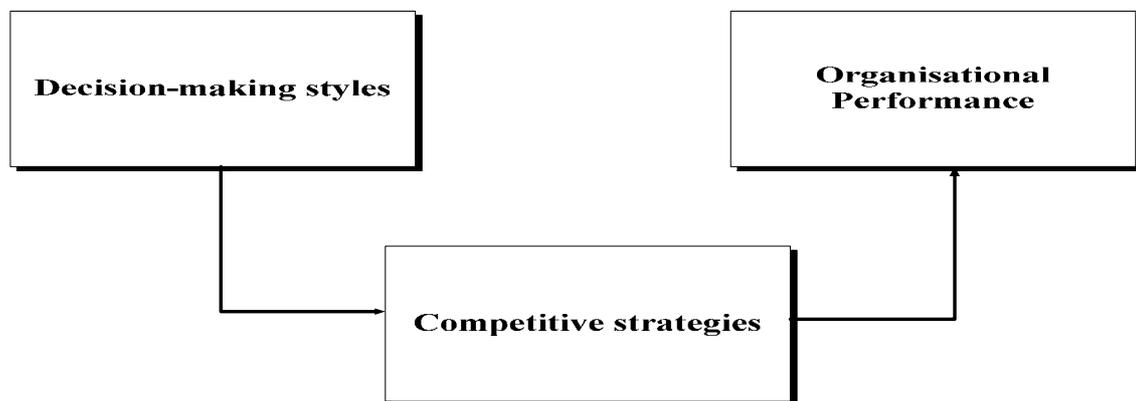


Figure 2: Mediated or indirect causal relationship between decision-making style and performance

Decision-making styles

Researchers in construction management have devoted considerable effort towards understanding the factors that influence the performance of construction industry, with much attention given to project managerial leadership (e.g. Chan & Chan 2005; Limsila & Ogunlana, 2008; Toor & Ofori, 2008). Although the reasons for their interest in project managers is understandable, because decision-making is the key activity that impact on performance (Russ, McNeilly & Comer, 1996). Hence, the quality of decisions made by project managers will be fundamental in determining performance. Having acknowledged their position and the understanding that a construction organisation is conceived as project-based, hence, decision-making is a collective responsibility of all stakeholders in an organisation and should be viewed from a broader perspective of an organisation characteristics as against individual learned or acquired habit of solving problems (Albaum et al., 1995). Asaari and Razak (2007) view strategic decision-making as those decisions that give overall direction to an organisation and its eventual sustainability in the face of expectable, changeable and unforeseen events that may likely occur in an organisation's vital

business environment. Decision makers are influenced by the unpredictable nature of the business environment and as such are saddled with the responsibility of making everyday decisions on issues that affect their organisations and provide solutions to problems (Tatum, Eberlin, Kotttraba & Bradberry, 2003). Therefore, the manner of arriving at decisions by the management of an organisation - their decision-making style, influence organisational performance (Russ *et al.*, 1996). Tatum *et al.* (2003) posit that decision-making styles have been discussed in the literature from various viewpoints and that a one size fits all solution does not exist, as there is no one unanimously accepted categorisation of decision-making styles. Tatum *et al.* (2003) contend that decision-making styles vary with regard to the quantity of information at the disposal of the decision makers, the amount of alternatives that presents themselves, and the degree to which decision makers strive to put together and coordinate several sources of input (information). This supports the earlier position of Eisenhardt (1989), who argues that the larger the amount of information available to a decision maker, the quicker the decision-making happens, even when various sources of information are taken into consideration. Eisenhardt's theory contradicts traditional decision-making theory that acknowledges that the speed of decision making slows down when dealing with large and multiple sources of information.

Various decision-making typologies exist in literature, Asaari and Razaki (2007) posit that decision making styles may be categorised based on the approach used by decision makers in solving organisational problems. Bartol and Martin (1994) cited in Asaari and Razak (2007) contend that multiple models of decision-making styles exist in literature and these include: the rational model, the non-rational model, the satisficing model, the incremental model and garbage-can model. Scott and Bruce (1995) also categorised decision-making styles into five different groups which they tagged: General Decision Making Styles (GDMS). Scott and Bruce's classifications include: rational, intuitive, dependent, avoidant, and spontaneous decision-making styles. The rational decision-making style denotes that individuals engrossed in the rational decision-making processes anticipate the need for it and are adequately equipped with all the necessary information suitable to make an effective decision. Intuitive decision-making suggests that managers rely solely on premonitions and feelings without adequate information to make optimal decisions. This may be from sources including; innate response, general experience or focused learning (Patton, 2003). The dependant style describes managers that rely heavily on the direction and support of subordinates or other individuals to make vital decisions. This type of manager always searches for advice and direction from others to arrive at decisions. Avoidant decision-makers, try to avoid decision-making or perhaps postpone the making of vital decisions either due to fear of failure or any other reasons. Spontaneous decision makers are known for making sudden and impulsive decisions. They are quick in making decisions and always eager to come through the decision making process as rapidly as possible (Omotola, 2012). In contrast, Miller, Hickson and Wilson (1996) argue that decision-making is satisficing rather than maximising. They contend that decisions cannot be made wholly in a rational way considering the constraints of organisational sophistication and the cognitive abilities of managers. Russ *et al.* (1996) contend that decision-making style appears to be related to performance, there is however no anecdotal or empirical evidence in the construction industry context.

Competitive strategy

The concept of competitive strategy originates from Porter's (1980; 1985), 'competitive advantage theory' that became an axiom towards the end of the 20th century. Competitive advantage was developed by Porter to enable organisations sustain their ability to improve performance and be more innovative in their approaches to enhancing the quality of their products. The essence of competitive strategy is to enjoy superior profit margins and remain competitively relevant in the marketplace to attain success (Porter, 1985). Therefore, competitive strategies that are used mostly in business organisations, including construction businesses, as categorised generically by Porter, are to (1) strive to be the industry low-cost producer through cost-based business strategy, (2) practice different strategies based on quality, superior performance or technological dominance, and (3) concentrate on a market segment using a focus strategy to achieve a competitive advantage by performing better than their competitors in providing more value to the product required by the buyers.

These strategies are adopted within the construction industry as a result of the proliferation of construction organisations on a yearly basis, which forces the existing construction firms, to eliminate the potential barriers of new entrants to the business (Isik Arditi, Dilmen & Birgonul, 2010). This is achieved by adopting more proactive and competitive strategies (focus, low-cost or differentiation) to undertake or secure construction works that are beyond the capability of the new entrants (Isik *et al.*, 2010). Hence, an alignment of these strategies to the five competitive forces given by Porter: threat of new entrants; threat of substitute products or services; bargaining power of suppliers; bargaining power of buyers; and rivalry amongst existing firms, will provide organisations with the opportunity to identify and develop core competence skills required to achieve a sustainable competitive advantage and performance excellence. Pearce and Robinson (2007) contend that in ideal strategic management settings, decision makers must come from all the three decision-making levels in the hierarchy of an organisation (Corporate, Business or Competitive, and Functional levels). This is because strategic decision-making exhibits an immense influence on organisations and demands a huge commitment of organisational resources to align decision makers with the type of strategic goals and strategies, they are more often than not responsible for (Pearce & Robinson, 2007; David, 2011).

The focus of this paper is on competitive strategy and as such decisions at business-level are its major concern. At that level, decision-making moves beyond conceptualisation and tends to be more concrete in order to bridge the gaps between the corporate and functional decision-making levels (Morell, 2004; Pearce & Robinson, 2007). Here, the manager translates strategic direction statements and intent into concrete objectives and strategies that will ultimately influence all levels of the organization and beyond; this will determine how organisations will favourably compete in the industry (Eberlin & Tatum, 2008).

Decision-making style and competitive strategy

Govindarajan (1989) argues that how managerial characteristics contribute to the performance of an organisation as well as the nexus between them may likely depend upon its strategic context. Govindarajan (1989) buttresses this argument that if the choice of suitable competitive strategies (Porter, 1980) to be pursued and implemented by an organisation is considered to be decisive to its survival, then the selection of specific individuals responsible for making the decision (choice) and implement these strategies should also be regarded as important. However, some previous studies such as Hambrick and Mason (1984) and Miller, Toulouse and Belanger (1985) have empirically related managerial

characteristics to corporate strategy, the strategy in this study comprises the decision by an organisation on how to compete in the turbulent and uncertain construction market, and not just the choice of which sector or niche market of the industry to focus. Porter (1980) highlights resources and managerial or problem-solving skills among other requirements needed by an organisation for pursuing each of the generic strategy and these requirements differ across the choice of strategies. Problem-solving is viewed as the processes through which organisations organise relevant information from the environment or from already occurred problems and evaluate it (Govindarajan, 1989; Edum-Fotwe and McCaffer, 2000). A decision-maker is a problem-solver in an organisation (Russ *et al.*, 1996) and as such problem-solving skills and decision-making styles are two closely related terms that are used interchangeably and needs inventiveness in recognising and creating options using relevant methods.

Govindarajan (1989) examines the portfolio of managerial attributes along biographies and personalities, and identifies four variables that can be used in matching managerial characteristics with strategy. These include: the functional background; industry familiarity; locus of control; and problem-solving style. Problem-solving style was considered from four psychological function- sensing, intuition, thinking and feeling. These styles were classified into information gathering style and information evaluation style. Sensing-intuition is the information gathering style and research affirmed that cost-leadership strategy requires sensing while intuitive attribute is relevant for organisation pursuing differentiation strategy. Few other studies have examined the influence of executive style, top management teams on the organisation strategic choice (see Finkelstein & Hambrick, 1996; Miller, Hickson & Wilson, 2008; Hakonsson, Burton, Obel & Lauridsen, 2012). However, Miller *et al.* (2008) report that above average of the strategic choices fail, due to factors under the control of the executives. Many of these studies are from mainstream management or marketing research. Lack of empirical research linking decision-making style and competitive strategies used by organisation appears to be a gap in the current discourse on strategy in construction.

Decision-making style and Organisational performance

The relationship between decision-making style and performance has been established in literature. Russ *et al.* (1996) in a research conducted to examine the influence of leadership, decision-making style on performance of sales managers found that decision-making style is linked to performance. Their research adopted Scott and Bruce (1995) classification of decision-making style, the study revealed that intuitive, dependent and spontaneous do not affect performance, however, higher performers are those managers who make quick and careful (rational) decisions. Also, empirically rationality-performance relationships have been demonstrated in literature but some of the studies were in the context of environments (e.g. Fredrickson & Mitchell, 1984). In a recently conducted research, Hakonsson *et al.* (2012) with evidence from Danish Small and Medium sized (SMEs) organisations examined how executive style affects strategy implementation. Their research showed that failure to align SMEs executive style and strategy leads to a significant loss in organisational performance.

However, most of these studies have been conducted in the area of decision-making style in manufacturing industries or marketing domain. Lack of organisation theory research and understanding of the construction industry by social science researchers may likely be responsible for paucity of research in this area (Lansley, 1994; Langford, Fellows, Hancock

& Gale, 1995). In construction context, few studies have identified problem-solving skill as an essential attribute that impacts on organisations effectiveness and as a key factor in achieving competitive advantage and efficiency (e.g. Lansley, 1987; 1994; Edum-Fotwe & McCaffer, 2000). This study views organisations as having particular decision-making styles or problem-solving skills which represent a collective of individual managers.

This study thus considers decision-making styles from the four forces that determine how decisions are made as argued by Rowe and Manson (1987). This is because it is essential to explore organisation's decisions within the context of its set of needs, predisposition and the desired values while also taking into account apparent individual differences that manifest and become stable overtime. These styles are as follows: (i) Analytic style - this possesses the distinctive feature that is challenged-based achievement with complex reasoning attained through a methodical and slow decision making process; (b) Behavioural style - which promotes effortless reasoning, individual orientation and makes employees feel valued within the organisation by creating an enabling environment that allows compromise to be reached and enhances better communication; (c) Conceptual style - the achievement of the organisation is based on the intrinsic rewards which are psychological, usually non-financial rewards that workers receive from performing their task meaningfully and doing it successfully. This includes rewards such as praise and recognition, which Thomas (2009) regards as the reinforcements that keep workers actively self-encouraging and enhances their work engagement. This style improves the employee's orientation and encourages creativity and an idealistic environment; and (d) Directive style - the characteristics of this include authoritative power and dominant behaviour by the superior with clarity of purpose and simple reasoning or rational thinking.

Decision-making style unlike leadership style, where considerable efforts has been made to establish the link to performance in construction (e.g. Nicholas, 1990; Naum, 2001), is yet to receive attention. This study posits that the approach used by managers to arrive at decisions will affect the quality of the decisions made and how stakeholders (superiors and subordinates) will react to it. When decisions made by managers are popular, its implementation may likely be faster and thus lead to greater success. Based on the foregoing discussions, this study also postulates that decision-making style will lead to a superior performance most especially when aligned with appropriate competitive strategy. However, effective managerial decision-making styles can be assumed to exhibit a higher influence on organisational performance, no any known research has investigated these nexus empirical within the construction industry. The next section explores organisation performance measurement literature and justify the reasons for the choice of measures used in this study.

Organisational performance measurement

The continual increase in the number of construction organisations denotes fierce competition, most especially in the South African context, where over 30 Acts relating to the construction industry have been enacted in nearly two decades in order to balance the inequality of the past and give preference to black owned organisations (Construction industry Development Board (cidb), 2004). Consequently, construction organisations are confronting many issues of how to successfully exist in the industry by formulating strategies and making viable and feasible business decisions. Decision makers within an organisation require multiple sources of information to make decisions on the ways to achieve the strategic goals of their organisation (Eisenhardt, 1989; Tatum *et al.*, 2003). In making these decisions,

a considerable amount of information is needed, thus it becomes necessary for decision makers to reappraise past decisions and evaluate their strategies to ensure the organisations objectives are being realised (David, 2011). This requires measuring the performance of the organisation. The measures of performance may be subjective or objective and this has generated heated arguments within the performance literature (Allen, Dawson, Wheatley & White, 2008). The two categories of performance measures have their own inherent merits and demerits. According to Allen et al. (2008), objective measures of performance such as return on investment, return on assets or return on capital appear to be more concrete in explaining an organisation's performance, but they are often limited in scope to financial or accounting data.

However, the inappropriateness of objective measures for planning and making decisions for the healthy growth of organisations, has been revealed by Wongrassmee, Gardiner and Simmons (2003), and Jusoh, Ibrahim and Zainuddin (2008). This is considered inappropriate because their focus is limited to easily measurable standard such as profitability and blinds them to other norms essential to competitive success (Liviu, Sorina, & Radu, 2008). Subjective measures as argued by Allen et al. (2008), are leading indicators but indeterminate. Subjective measures, by and large, offer the researcher a comprehensive description of how effective an organisation is with respect to their industry or market competitors and they are forward looking (Kale & Arditi, 2003; Beatham, Anumba, Thorpe & Hedges, 2004; Allen *et al.*, 2008). Subjective measures of organisational performance permit a wider range of organisations to be contrasted unlike the objective measures that frequently constrain the breadth and scope of organisations that can be involved within a single study (Parnell, O'Regan & Ghobadian, 2006; Allen *et al.*, 2008). This paper therefore views organisational performance from both perspectives in relation to their competitiveness from multiple organisational standpoints and this comprises of accounting data, objective fulfilment and overall performance of the organisation. From the review of past research, the distinct idiosyncrasies of the industry context and discussion on the nexus between the study constructs, the following hypotheses are highlighted to be tested in the current paper:

Summary of hypotheses:

Hypothesis 1: There is an indirect relationship between decision-making styles and overall organisational performance.

Hypothesis 2: There is a significant relationship between competitive strategies and organisational performance.

Hypothesis 3: Decision-making styles moderate the relationship between competitive strategies and organisational performance through different measures individually emphasised.

Research method

The focus of this study is on large construction organisations in the South African construction industry (Grade 7 to 9 on the cidb register of contractors) operating in three provinces namely: Guateng, Kwazulu Natal, and the Western Cape. The research considers large construction organisations based on the classification of cidb, as contractors that have defined strategic planning and have the internal capabilities in both technical and managerial areas for competitive advantage, could be located in these categories (cidb, 2012). These categories are selected because the study intends to investigate the impact of the

organisation's decision-making styles and competitive strategy on performance which many small or medium organisations do not exhibit due to their size (Pertusa-Ortega *et al.*, 2010). Also, organisations doing construction business in these provinces were considered because approximately 70% of public contracts in South Africa in the last five years were executed in these regions (StatSA, 2012). To identify the total number of organisation in these grades in those regions, cidb database of registered contractors was used and a total of 577 organisation were identified. It was not possible to reach out to all the organisations identified, the study adopted non-response bias approach using a calculation of minimum sample size (Ankrah, 2007) to derive a figure of 277 considered to be representative of the sample and to which questionnaires were administered.

The development of the questionnaire for the quantitative survey started with the review of relevant literature on competitive strategies, decision-making styles and organisational performance to identify the variables, and this was refined by researchers in construction and the built environment to evaluate the content validity (Govindarajan, 1989; Nandakumar *et al.*, 2010). The refined questionnaire was tested through pilot survey to establish whether the questions were clear in terms of expression and free of technical jargon or colloquialism that prevent the research from obtaining useful data. After making corrections based on the outcome of the pilot test, the final questionnaire was mailed to the targeted respondents who have earlier been sent a letter of invitation to participate in the study. The respondents were assured of the secrecy of their identity that the information provided is only for academic purposes and it will not be divulged to a third party. The survey questions were designed in a manner that there is no wrong or right answer based on the measurement scale that have been extensively validated in different countries, this was used to give assurance that the questions were unambiguous and easily comprehended by the respondent.

The research employed an internet-based survey to administer questionnaires to 277 construction organisations in South Africa. This approach eliminates the barriers to postal surveys and allows researchers to build in a dynamic error tracking mechanism for consistency of responses throughout (Easterby-Smith, Thorpe & Jackson, 2012). The target respondents are chief executive officers and senior management employees that have a deep and broad knowledge of the organisation's philosophy and its processes (Goll & Rasheed, 1997). They are considered to be the most suitable respondents for the research, to explain the decision-making structure and strategic posture of their organisations (Pertusa-Ortega *et al.*, 2010). A total of 72 valid responses were obtained and analysed in this paper. The reliability of the scales were examined using Cronbach's alpha coefficient. All the scales exhibit alpha values above 0.6 considered acceptable for exploratory research (decision-making style 0.68, competitive strategies 0.85 and performance (subjective measure) 0.834).

Unit of analysis

The units of analysis for this study include competitive strategy, decision-making style and organisational performance. These units of analysis were chosen because of performance heterogeneity among construction organisations which is being influenced by different strategies used by different organisations, and also because of the lack of uniformity in the decision-making styles among organisations. An effective and viable decision-making style leads to beneficial strategic decisions which can vary from one organisation to another (Miller *et al.*, 1986). This is supported by Papadakis and Barwise (1998) who argue that every organisational strategic decision is distinctive and not generic in every circumstance. Papadakis and Lioukas (1996) contend that the attributes of the decision-making process within the same organisation can differ significantly between distinct organisational decisions. This happens because matters relating to decision-making are not viewed in the

same manner. This view is buttressed by the findings of empirical studies which show that decision makers react differently to different decision-making issues depending on the way each decision is perceived (Elbanna & Younies, 2008).

Measures

Independent variables. Decision-making style- The decision-making styles in this study are synonymous with the problem-solving skills of managers or leaders of organisations identified by Lansley (1987). The classification of the decision-making styles follow Rowe's classification so that it is easier to understand the cognitive aspect of managers in the decision making process. The styles assist in having full knowledge of how individuals view and approach problems within an organisation. The organisational decision-making style was measured by four subscales from Amzat and Idris (2012): analytic, behavioural, conceptual and directive. The styles were measured on a five point Likert scale. To reduce the inherent possibilities of respondents getting confused while responding to decision-making style questions, the participants were requested to focus on one specific characteristic of each of the decision-making styles. The study of Russ et al., (1995), Connor and Becker (2003) as well as Amzat and Idris (2012) form the basis for determining the items of the decision-making styles.

Competitive strategy - This paper considers the three generic strategies as classified by Porter (1980; 1985): differentiation, cost-leadership and focus. The strategies were not considered to be mutually exclusive because an organisation may chose or combine more than one strategy. The generic strategies are measured with multi-item five-point Likert scales. The study combines previously adopted items of measurement used by earlier researchers both within and outside construction management research, and adapts the same to measure competitive strategy used by organisations (Kale & Arditi, 2002; Nandakumar, Ghobadian & O'Regan, 2010). Focus strategy was estimated with four items: 1. targeting a clearly identified segment (e.g. emphasising a provincial region or a specific group of consumers); 2. Offering specialty products tailored to a particular group of customers or users; 3. Uniqueness of products (e.g. unique function or design); 4. Offering products suitable for a high price segment. Differentiation was measured using the following: 1. achieving high quality in the constructed facility; 2. achieving high quality beyond the requirements in the specifications; 3. being highly responsive to clients' requests; 4. achieving on schedule performance in construction operations; 5. attempting to deliver constructed facilities ahead of schedule; and 6. Introducing innovative financing methods. Cost-leadership was calculated with six items all measured on a 5-point Likert scale. These include: 1. emphasis on production capacity utilization; 2. emphasis on operating efficiency (e.g. productivity in production or efficiency in outbound logistics); 3. Emphasis on finding ways to reduce costs (e.g. standardising the product or increasing the economy of scale); 4. Emphasis on efficiency of securing raw materials or components (e.g. bargaining down the purchase price); 5. Emphasis on tight control of selling/general/ administrative expenses; and 6. Emphasis on price competition (i.e. offering competitive prices).

Organisational performance - This study analyses the performance of organisations from both subjective and objective perspectives. Some authors' view subjective measures of performance as more suitable in measuring organisational performance because it strengthens the generalizability of the findings (Allen *et al.*, 2008; Pertusa-Ortega *et al.*, 2010). Therefore, subjectively, organisational performance was measured using an overall objective fulfilment which describes the extent to which an organisation has attained both its short and

long-term objectives and is able to reduce challenges (Nandakumar *et al.*, 2010). The scale used follows Nandakumar *et al.*'s (2011) study consisting of six items which are: 1. improvement in long-term performance; 2. predicting organisation's future growth; 3. evaluate alternative based on relevant information; 4. preventing problem areas; 5. resolving problems; and 6. promoting management development. The respondents were asked to rate the extent to which their organisation has been successful in achieving these performance objectives in the last five years on a 5-point Likert scale. The objective measure of performance used is return on capital employed (ROCE) as it indicates the level of effectiveness of organisational management of financial resources in the growth of its business. ROCE measures essentially how well a business strategy used, and turns assets into profit. It is very significant for business due to the concept of opportunity cost which often plays a role in business organisations, especially in procuring construction projects. Objective measures of performance (ROCE) have previously been used to measure performance in a construction context, because they offer concrete evidence with regard to the explanation of organisations' performance (Ibrahim, Ibrahim & Kabir, 2009; Oyewobi, Windapo & Cattell, 2013).

Control variables- This paper uses the size of organisations and the number of years in business as control variables to remove any potential influence it might pose on organisational performance (Pertusa-Ortega *et al.*, 2010). This is because organisation size is a contingent variable that is capable of influencing the decision-making style due to the structure and design of the organisation (Huang, 2001; Pertusa-Ortega *et al.*, 2010). Therefore, size of organisation was measured by the natural logarithm of the organisation's employee numbers, this eliminates any potential effects on organisational performance due to the heterogeneity in the size of organisations considered.

Data analysis and results

Profile of the respondents

The data presented in Table 1, show that 55 (76%) of the organisations that participated in the research had been in construction business for over ten years, while only 17 (22%) had less than ten years' experience. The majority of respondents' organisations thus possessed considerable experience in the construction industry. This was beneficial to the study because it would improve the reliability of data and subsequent findings. As indicated in Table 1, a large majority (71%) of the organisations participated in the study had more than 100 full time employees. Table 1 also shows the grades of the organisations that responded to the survey. Out of the organisations considered, 49% were Grade 7 contractors; 23% were in Grade 8; while contractors in Grade 9 represented 28% of the total respondents. This indicates that Grade 7 construction organisations participated more than those in Grades 8 and 9. Table 1 indicates the class of work in which the organisations were engaged. Twenty-seven (37%) were in general building works only; 20(28%) in civil engineering construction works only; while 25 (35%) executed both civil engineering and general building works.

[Table 1 about here]

The data was analysed using descriptive, parametric and multiple regressions to establish the relationship, and determine the impact of the variables on one another. The analysis follows the method used by Goll and Rasheed (1997), Huang (2001), and Baum and Wally (2003) in identifying the moderating variables. Multiple regression analysis was used to explore the relationship between the dependent variables and independent variables (Kale & Arditi, 2003;

Hair, Black, Babin & Anderson, 2010). The independent variables include the decision-making styles and the competitive strategy as the main predictors in measuring organisational performance (both objective and subjective measures of performance). The study also adopts correlational statistics to indicate the nature and pattern of relationship among the variables tested. This statistical tool assists in determining the strength of the association between two metric variables which can exhibit any of these relationships; positive, negative or no relationship (Hair *et al.*, 2010). The correlation coefficient values can range from +1 to -1, with +1 indicating a perfect positive correlation relationship, 0 indicating no relationship and -1 indicating a perfect negative relationship.

Organisational performance analysis: correlation results

Table 2 shows the descriptive statistics (means and standard deviations) and Pearson's product-moment correlation. The correlation between competitive strategies, decision-making styles and measures of performance show that all the four types of decision-making style are present within the organisations considered (r - values range from 0.319 to 0.352; $p < 0.01$) and are being used whether knowingly or without attention. The directive style of decision-making shows a negative but significant association with the overall performance of the organisation ($r = -0.276$, $p < 0.05$), while the differentiation strategy is negatively but significantly associated with objective performance measure (ROCE). However, this does not wholly support hypothesis 1 which states that "there is an indirect relationship between decision-making styles and overall organisational performance", because the relationship is negative and it thus proposes the need to explore the role of related variables as potential moderators of the association. The correlation among the constructs indicates that the data does not exhibit multicollinearity as the coefficient of correlation is in general less than 0.6 (Teeratansirikool, Siengthai, Badir & Charoenngam, 2013)

[Table 2 about here]

Direct effects of decision-making styles

Table 3 summarises the results of the main effects of the multiple regression analysis with organisational performance measures as the dependent variables and different decision-making styles and competitive strategies as independent variables. Regression analysis was conducted to examine whether there was a significant relationship between the constructs stated in the hypotheses. The independent variables were regressed against the measures of performance separately: overall performance, and the objective and subjective performance measures. The overall performance depicts the combined effects of both objective and subjective performance perspectives on the organisation as viewed by the respondents. The results are as shown in Table 3 by each of the models, namely model 1- overall performance, model 2- objective performance and model 3- subjective performance.

The hypothesis 3 (Decision-making styles moderate the relationship between competitive strategies and organisational performance through different measures individually emphasised) relating to the decision-making style and competitive strategy was earlier proposed in this study that is there is a positive and direct relationship between overall organisational performance, competitive strategies and decision-making styles. The regression results show that the effects of all the decision-making styles on organisational performance were non-significant except for the analytical style which was found to be significantly related to overall performance ($p < 0.01$). Differentiation strategy was also found to be significant, but negatively related to objective performance measures ($p < 0.01$). This result partially confirms the hypothesis that there is a direct relationship between overall organisational performance and decision-making styles but it is negatively related.

[Table 3 about here]

Moderating effects of decision-making styles

Table 4 shows the regression results of the moderating effects of decision-making styles on competitive strategy and organisational performance. The moderated regression analysis results were controlled using the organisational size (no of employees) and years of existence in construction business of the organisation. The performance effects of the competitive strategy were moderated by the decision making style and it was found that the decision-making style significantly moderated the influence of the competitive strategy on the objective performance ($p < 0.01$). The F -statistic was also found to be statistically significant and the value shows that there is less loss of fit in the model ($p < 0.05$). Cost-leadership and differentiation strategies were significantly related to objective measures of performance, although weaker, but do indicate they have an influence on the performance of organisation through competitive strategy. This is weak because approximately 15 percent of the variance was explained by the model (model 5). This partly confirms the hypothesis 3 which states that:

Decision-making styles moderate the relationship between competitive strategies and organisational performance through different measures individually emphasised.

This is as a result of the insignificant relationship that exists between different measures of organisational performance with competitive strategy when moderated by the decision-making style, as only objective performance was found to be significantly related.

[Table 4 about here]

Discussion of results

The research examines the relationship between the variables with the measures of organisational performance, and the moderating effect of decision-making styles controlled by organisational size and years of existence in construction businesses. The findings indicate that the main effect was significant on objective performance measures (financial) and also shows that the differentiation strategy is significantly related to objective performance. This is consistent with the findings of Spencer, Sarah, Joiner and Salmon (2009) and Teeratansirikool *et al.* (2013), who assert that differentiation strategy influences organisational performance through financial measures. A direct but negative relationship exists between analytical decision-making style and overall organisational performance. This supports the findings of Amzat and Idris's (2012) research conducted among research universities in Malaysia. They found that the analytical style was dominant and the decision-making style influenced job satisfaction of the group studied.

The moderated regression results (model 5) indicate that the decision-making style moderates the relationship between cost-leadership, differentiation strategies and objective performance. This is in line with the results of Dess and Davis (1984), Power and Hahn (2004) and Allen and Helms (2006), that indicate a positive relationship is in existence between cost-leadership and organisational performance. The results are also in harmony with the findings of Goll and Rasheed (1997) and Baum and Wally (2003), who found that decision-making is a strong predictor of organisational performance when used as moderators. Also, Rehman *et al.* (2012) moderate the impact of employee decision-making styles on organizational performance using emotional intelligence and they found that rational and dependent decision making styles exhibit high positive influence on organisational performance while avoidant

decision making styles have a negative impact on organisational performance (financial performance).

Many of these researchers used financial measures because they believed that measuring organisational performance through financial growth and the achievement approach set the benchmark for the top management to appreciate their managers' efforts and business capability in making productive business decisions (Goll & Rasheed (1997); Baum & Wally, 2003; Rehman et al., 2012). This aligns with the popular saying that the essence of remaining in business is to make profit. More so, Simon (1990) contends that financial measures are a true reflection of an organisation's operating efficiency and present profitability which is a dashboard for monitoring an organisation's performance and ensuring its continuous existence. Nonetheless, the results obtained from the study partially support the three hypotheses tested.

The research demonstrates that differentiation strategy exhibits a direct relationship with organisation performance when combined with a suitable decision making style while cost-leadership does not. Hence, both cost-leadership and differentiation strategies impact on organisational performance through the objective measures when moderated by the decision-making style. These findings support the assertion of Teeratansirikool *et al.* (2013), who contends that organisations in developing countries will benefit tremendously by placing an emphasis on objective measures of performance combined with appropriate competitive strategies to confront the fierce competition due to trade reforms and liberation. These findings may be partly due to a combination of all the variables in one block during the analysis, as it is expected that alignment of all the measures of performance with competitive strategy will lead to superior performance (Spencer et al., 2009).

However, in the context of this study, it can be suggested that organisations use objective measures of performance as a yardstick for measuring the consequence of their decision-making style when balanced with any of the competitive strategies adopted. The reasons for this may be as a result of organisations using objective measures as predictors for future potential earnings which many organisations cannot afford to neglect in order to gain stakeholders confidence and attract more funds when giving reports (Teeratansirikool *et al.*, 2013). Nonetheless, the current study shows that a viable decision-making style combined with relevant competitive strategy and the appropriate selection of performance measures will improve organisational performance and competitive advantage.

Conclusions and implications

The findings from the study give support to the role of decision-making styles as a mediator in the association between competitive strategies and organisational performance, and as a moderator in the relationship between the return on capital employed (financial measure) and competitive strategies. Based on these findings, it can be concluded that the lesser the differentiation strategies used by construction company management in South Africa, the better their performance financially. This implies that organisations can adopt differentiation strategy to achieve higher market share, and then adopt cost-leadership to improve their objective performance. The results of the research presented in this paper will be beneficial to owners as well as managers of construction organisations in choosing the most appropriate strategy in growing their businesses to survive in the competitive construction environment. It will also inform the CEO of the need to identify relevant decision-making styles that can improve their managerial abilities, enable companies to compete favourably and organisation financial performance.

The results of this study have to be made clear considering the limitations ranging from research design, choice of data sourced and unavoidable trade-offs involved in the interpretation procedures. Competitive strategy and decision-making style attributes cannot be measured objectively, thus subjective data was used using opinion scales. The sample used was limited to large construction organisations based in South Africa and was dependent on respondents from each organisation, hence the results cannot be generalised to other smaller construction company or service organisation in the industry.

However, the research findings present some implication for future research. They make explicit the need to have a better understanding of the moderating role of different decision-making styles and their influences on organisational performance through competitive strategies. It is also essential to study these effects in relation to the dimensions of the environment concurrently so that content specificity of the different styles can be ascertained. Although, this study did not consider these, there is a need to take cognisance of how organisational core capabilities influence these variables. In summary, this research made apparent the need to consider different decision-making styles being practiced within an organisation as it affects its performance beyond rational processes. A better understanding of this will enable organisations to achieve the total commitment of employees to achieve superior performance.

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Table 1: Profile of respondents' organisations

	Frequency	Valid percent	Cumulative percent
<i>Years in business</i>			
1-5yrs	1	1	1
6-10yrs	16	22	23
11-20yrs	20	28.8	51
21-30	14	19	70
> 30	21	29.2	100
<i>Number of employees</i>			
0-99	20	28	28
100-199	31	43	71
500 and above	21	29	100
<i>Grades of work</i>			
7	35	49	49
8	17	23	72
9	20	28	100
<i>Class of work</i>			
General building works (GB)	27	37	37
Civil engineering work (CE)	20	28	65
General building and civil engineering	25	35	100

Table 3: Results of regressing of organisational performance on decision-making styles and strategies

Independent variables	overall performance		Objective		subjective	
	Model 1		Model 2		Model 3	
	<i>Beta</i>	<i>t</i>	<i>Beta</i>	<i>t</i>	<i>Beta</i>	<i>t</i>
(Constant)		1.426		1.008		4.357**
Directive style	0.062	0.424	-0.005	-0.032	-0.167	-1.089
Analytical style	-0.304	-2.302**	-0.176	-1.372	0.074	0.535
Conceptual style	-0.055	-0.436	0.124	1.014	0.06	0.452
Behavioural style	0.001	0.008	0.11	0.834	-0.018	-0.126
Differentiation strategy	0.18	1.488	-0.349**	-2.977	0.08	0.631
Focus strategy	0.098	0.817	0.012	0.101	0.087	0.693
Cost-leadership strategy	0.113	0.933	0.16	1.364	0.146	1.152
<i>R</i> ²		0.158		0.204		0.075
<i>F-Model</i>		1.716		2.35**		0.741

****p* < 0.001; ***p* < 0.01; **p* < 0.05

Table 4: The moderating effects of decision-making styles on strategies and organisational performance

	overall performance		Objective		subjective	
	Model 4		Model 5		Model 6	
	<i>Beta</i>	<i>T</i>	<i>Beta</i>	<i>T</i>	<i>Beta</i>	<i>t</i>
(Constant)		5.495***		1.036		13.457***
Differentiation strategy x Decision-making styles	-0.01	-0.052	-0.571	-3.191***	-0.024	-0.124
Cost-leadership strategy x Decision-making styles	-0.019	-0.107	0.373	2.188**	0.115	0.626
Focus strategy x Decision-making styles	-0.058	-0.329	0.109	0.658	0.01	0.055
Organisation size(log)	-0.371	-1.757	-0.065	-0.328	-0.099	-0.46
Organisation's years of existence (log)	0.23	1.089	-0.015	-0.077	0.177	0.828
<i>R</i> ²		0.05		0.15		0.02
<i>F-model</i>		0.671		2.264*		0.258

****p* < 0.001; ***p* < 0.01; **p* < 0.05

Table 2: Descriptive statistics for the constructs used in the study

Mean	Std.	Directive style	Analytical style	Conceptual style	Behavioural style	Differentiation strategy	Cost-leadership strategy	Focus strategy	Subjective measures	Objective measures	Overall performance
4.0694	0.75669	1									
4.25	0.74588	.343**	1								
3.9167	0.83497	0.21	.328**	1							
3.8194	0.89327	.352**	0.005	.319**	1						
4.1157	0.39425	0.067	-0.02	-0.17	0.034	1					
4.0972	0.43583	-0.135	0.105	-0.068	-0.081	0.209	1				
4.0382	0.45706	0.043	0.106	-0.01	0.043	0.109	0.111	1			
4.1574	0.33822	0.021	0.073	-0.061	-0.192	0.146	0.185	0.091	1		
503.35561732	97741	-0.182	0.141	0.196	-0.165	-.345**	0.12	-0.007	-0.077	1	
3.9583	0.86297	-.276*	-0.137	-0.083	-0.028	0.194	0.192	0.12	0.022	-0.131	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

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