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**EVALUATION OF THE IMPACT OF ORGANISATIONAL  
CONTINGENCY FACTORS ON FIRM PERFORMANCE**

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**Abstract**

This paper examines and proposes a model for improving the performance of construction organisations. The purpose of this study is to evaluate the relationship between organisational characteristics, competitive strategies and performance of construction organisations. The study investigates a sample of large construction firms listed in both civil and general building class of works on the Construction Industry Development Board (cidb) register of contractors in South Africa using quantitative approach. The analysis conducted on sample of 72 construction organisations reveal that differentiation strategy influences firm performance in complex and dynamic environment while cost-leadership is advantageous in less dynamic or stable environments. In addition, it was revealed that organisational structure only has a direct impact on performance when moderated by competitive strategy. This study is investigative in nature and focuses on large construction organisations; therefore, the results may not be generalizable to a larger population of SMEs in the industry. Further research is required to complement this study with larger sample size, and cluster the firms to identify different strategic groups that exist in the industry.

**Keywords:** contingency, competitive strategy, organisational structure, performance, South Africa.

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## 1.0 Introduction

Ever since the publication of Porter's (1980) and 1985 landmark research "Competitive strategy" and "competitive advantage creating and sustaining superior performance" respectively, there has been a strong debate in strategic management field whether the proposed generic competitive strategy, i.e. differentiation, cost-leadership and focus are mutually exclusive. Attempts have been made by researchers to ascertain whether organisation can only pursue one of the strategies or combination of the strategies to achieve superior performance (Dess and Miller, 1993; Allen and Helms, 2006). However, Parker and Helms (1992) contend that irrespective of an organisation's choice of strategy, it must be strategically fit with the overall objectives of the business in achieving superior performance. Porter (1980; 1985) reiterates that these strategies are pertinent in all industries in most countries and necessary for gaining competitive advantage in order to become an industry leader.

In spite of this assertion, the practice of strategic management within the construction industry has been a low-key activity (Price, Ganiev and Newson, 1993), but because of persistent change in the construction organisations business environment, organisations become more aware strategically (Chinowsky and Bryde, 2001; Price *et al.*, 2003). As a result, many construction organisations are now becoming preoccupied with strategic approaches in the deployment of resources to tasks and also in overcoming the threats in the environment as well as exploiting the opportunities (Junnonen, 1998; Price *et al.*, 2003). However, to compete successfully and develop sustainable competitive advantage, viable organisational characteristic is a prerequisite and it plays a pivotal role in organisational objective achievement. Organisational characteristics in this study are operationalised in terms of the decision-making structure, decision-making style and styles of management. This is because in an uncertain and hyper-competitive business environment like construction, for an organisation to stay competitively relevant and survive, decisions have to be made, a structural pattern for disseminating the decisions is required by using an appropriate management philosophy in implementing the strategies formulated (Price, 2003).

In riposte to this, this study develops and validates a generic and integrative, performance model linking the organisation-environment interface as well as competitive strategies. The study utilises Partial Least Square Structural Equations Modelling, which allows concurrent investigation of general relationships among environmental and organisational variables as well as of their combine and independent impacts on performance. Therefore, the objective of this study is to: (i) to examine the nature of relationship between organisational characteristics and performance; and (ii) to investigate the influence of environmental factors in moderating the strength of relationship between competitive strategy and organisational performance.

## 1.1 Theoretical foundation

The concept of strategy has been discussed variously in literature using different theoretical approaches and research methodologies to identify the strategy-performance linkages (Allen and Helms, 2006). One of the prominent among these theories is the industrial organization (IO) theory, rooted in industrial economic of structure-conduct-performance paradigm. The IO theory argues that industry competitors have fairly analogous strategies, resources and competencies, and that Organisational performance in terms of profitability is a function of the industry structure where it operates (Porter, 1980; Allen and Helm, 2006). Porter's generic competitive strategies align with this theory and argue that industry with positive or constructive structure provides the best opportunities for organisation to multiply its profitability, because its performance is measured by level of success achieved within the industry (Porter, 1980; Parnell, 2013). Porter (1980; 1985) asserts that organisation can develop competitive advantage to maximize profit through superior performance by adopting any of the generic competitive strategies. However, in the past few years, strategy researchers have re-aligned their efforts and begin to look beyond industrial organisation based perceptions of competitive strategy by striving to have a better knowledge of how organisations achieved sustained competitive advantage (Barney, 2011; Chan, Shaffer & Snape, 2004; Mahoney and Pandian, 1992). Structural contingency theorists argue that organisations that achieve beneficial fit with its environment will exhibit higher performance than those that misfit (Donaldson, 2001; Parnell, 2013).

Donaldson (2001) contends that the strategic component of structural contingency theory is that organisational performance results from a fit between characteristics of structure of the organisation and the contingency factors relating to environmental issues. The contingency theory claims that there is no any universal form of configuration that fits all situations, and that each organisation needs to obtain beneficial fit with contextual or environmental factors, its structural features, as well as strategies to be formulated. However, most of these existing theories on strategies are from the mainstream strategic management field and of which the characteristics of the construction industry are not quite similar (Cheah and Garvin, 2004). Although, construction organisations like all other organisations in other industries operate in a business environment that compares high competitive intensity, but the mainstream strategic management research have not characteristically focused the industry, and also the conservative philosophy within the construction industry has often tone down significance of strategy (Cheah and Garvin, 2004). Hence, competitive strategy helps in exploring how an organisation operates in order to improve its performance (Porter, 1980).

Based on the arguments of Porter (1980; 1985), Betts and Ofori (1992) investigate the use of strategic planning for gaining competitive advantage in construction and thus, conclude that Porter's concept of Strategic approaches are relevant and have appreciable use in construction. Fellow (1993) differs on this assertion; construction industry was viewed from the neoclassical economic perspectives which argue that there is need for demand factor in determining

competitive strategy. Fellow (1993) highlights among other things the peculiar characteristics of construction industry such as fragmentation of the construction process as well as the difference in the objectives and competitive behaviour of stakeholders involved in the process which do prevent them from realising the achieved performance as against actual performance. However, in response to the argument, Betts and Ofori (1993) relate the supply and demand to strategic advantage and strategic targets respectively as the origin of generic strategies. Betts and Ofori (1993) therefore, conclude that since there is dearth of identified body of knowledge on the economics and management of construction, transference of research ideas from other field is plausible.

Building on this, many strategy researchers in construction management have explored the relevance of Porter's generic strategies in construction and how it influences organisational performance (Price, 2003; Kale and Arditi, 2003; Dikmen and Birgonul, 2003; Tan, Shen and Langston, 2012). Some of these studies focused on the link either between environment and organisational variables or between strategies and performance rather on the relationship among all the variables. This constitutes a gap in literature and thus, a balance between these contingent factors: characteristics of organisation, environmental factors and competitive strategy will assist organisations in achieving performance excellence. This study examines the impact of organisational contingency variables on performance of construction organisations in South Africa.

## **2.0 Hypotheses development**

### **2.1 Organisational characteristics**

Organisational characteristic can be viewed as the features emerging from both the management philosophy adopted by organisations through its structure or strategy, and from exemplified management culture within the organisation in terms of relationship with the stakeholders (Magnier-watanabe and Sino, 2008). It revolves around how effective and efficient an organisation is in achieving or in the pursuance of its overall objectives and goals. In fact, van Loveren (2007) asserts that the more efficient an organisation, the better it is at attaining organisational goals and creating a positive outlook in the eyes of its stakeholders. Mathisen and Einarsen (2004) explain that organisation's outlook is more essential to its internal stakeholders, because their perception of the organisation will exhibit significant impacts on their productivity, morale and on the realisation of organisation overall goals. Organisations deal with complex and large amount of resources that requires strategic decisions in their deployment to achieve organisational goals (Amason, 1996).

Decision-making on how to run an organisation may likely be made under unpredictable conditions most especially the non-repetitive type (Elbanna, Child & Dayan, 2013). Therefore, there is need for managers to critically evaluate most efficient and effective approach to adopt in ensuring that stakeholders are carried along. This requires a frantic efforts and very challenging especially in construction where people with diverging objectives are brought together on *ad hoc*

basis. However, previous studies have identified organisational structure, style of leadership, decision-making process as well as relationship with employees to have significant impact on organisation's efficiency (Potosky and Ramakrishna, 2002; Amzat and Idris, 2012). Effectiveness and efficiency of an organisation is contingent upon some factors, this study thus considers organisational characteristics from tripod stand of decision-making style, management style and organisational structure.

The contingent links between structure and competitive strategy, and their influence on organisation performance has been researched using contingency theory (Pertusa-Ortega, Molina-Azorin and Claver-Cortes, 2010). However, Pertusa-Ortega et al. (2010) asserts that indirect relationship exists between organisational structure and performance, but influences performance through strategy. Gupta and Govindarajan's (1984) contends that managerial decision-making style moderates the strength of relationship between strategy and organisational performance, while Limsila and Ogunlana (2008) assert that when project managers adapt their style of management in a way that creates positive working environment, it leads to enhance organisational commitment, and improve work performance. There dearth of empirical research to validate the relationship in construction, therefore this study intends to bridge the gap in literature by hypothesising that:

*H1: Organisational characteristics is significantly related to competitive strategy*

*H2: Organisational characteristics is significantly related to organisational performance*

## **2.2 Environment, strategy and performance**

Porter (1980) posits that the essence of formulating strategy is to relate organisations to its environment. Since then, the relationship between strategy and environment as well as their resultant impacts on organisational performance has been empirically examined (Kabadayi, Eyuboglu & Thomas, 2007; Nandakumar, O'Regan and Ghobadian, 2010). Some of these empirical studies acknowledged that different generic strategies are suitable for different environments and that relationship exists between competitive strategy and organisational performance (e.g. Kabadayi et al., 2007). For example, Keat and Hitts (1988) establish that in a stable or less hostile environment cost-leadership strategy offer most advantage for organisations to achieve superior performance, whereas differentiation strategy is appropriate for uncertain and dynamic environments (Porter, 1980; Kabadayi et al., 2007; Nandakumar et al., 2010). This was further explained by Miller (1991), Ward, Bickford and Leong (1996), that in a hostile business environment organisation is required to put more emphasis on efficiency that can lead to cost lowering rather differentiating its product or services. Cost-leadership organisations look for opportunities in the environment using their strengths while organisations that pursue differentiation strategy examines or x-rays the environment for likely threat to their business (Jennings and Lumpkin, 1992). However, Nandakumar et al. (2010) argue that many of previous empirical studies finding on the influence of environment on the strength of relationship between strategy and performance have been equivocally reported. Some of these studies are conducted with the mainstream of strategic management, there is little or no

empirical research in construction that explores this area, and as a result, therefore, this study identifies this as a gap research. To investigate this gap, hypotheses was put forward that:

*H3: There is no significant relationship between environment and organisational performance*

*H4: Environment moderates the relationship between strategy and organisational performance*

### **2.3 Competitive strategies and organisational performance**

A plethora attempts have been made by various strategy researchers to demonstrate the significance of the generic strategies both in construction management research and main stream of strategic management studies (Dess and Davis, 1984; Kale and Arditi, 2003, Ling, Lbs and Cuervo, 2005; Tan et al., 2012; Budayan, Dikmen and Birgonul, 2013). Some of the efforts made by previous studies include identifying the nature of relationship between competitive strategy and performance, and the need to establish performance measures that relates to strategy adopted by organisations (Govindarajan and Gupta, 1995; Jusoh and Parnell, 2008). Evidence exists in literature that all the competitive strategies have different impact on Organisational performance, but the result is inconclusive (Jusoh and Parnell, 2008; Allen and Helm, 2006). Some studies have, however, argue that there is no relationship between strategy and performance (e.g. McGee and Thomas, 1992), while others have found that relationship exists between strategy and performance (Nandakumar, et al., 2010; Lechner and Gudmundson, 2012; Teeratansirikool, Siengthai, Badir and Charoenngam, 2013).

Nonetheless, in construction organisations pursue default strategy- cost leadership due to the traditional procurement practices of lowest responsive tenderer (Price, 2003). Oz (2001) affirms this in the Turkish construction industry; however, Dikmen and Birgonul (2003) added that both differentiation and cost leadership are being practice in Turkish construction industry. The extant literature in construction management research supports that generic strategies lead to superior performance. Although, some researchers view that differentiation strategy lead to a better performance (Kale and Arditi, 2003; Budayan et al., 2013), while some argue that selection of strategies to achieve improved performance should be organisations objectives and the prevalent competitive behaviour in the market which may require cost advantage or differentiation (Dikmen and Birgonul, 2003; Tan et al., 2012). Richard, *et al.* (2009) suggest the need for a researcher to select appropriate measures of performance that are closely linked to the research question under investigation and assert a comprehensive measure of performance that will take into consideration the divergence between measures and their multidimensionality. This study defines organisational performance as the level of a firm's achievement on both subjective and quasi-objective indicators. The fully subjective is the objective achievement while the quasi-objective measures used in this study are tagged competitive analysis, it obtain specific objective information about performance using self-report

methods, for example, asking manager to estimate the market share of the organisation, return on assets, profit margin etc. This study thus hypothesised that:

*H5: There is a significant relationship between competitive strategy and organisational performance*

### **3.0 Methodology**

This research examines the impact of organisational characteristics and competitive strategy on organisational performance with respect the moderating role of business environment with a focus on large construction organisations both civil and building in the South African construction industry. The study conducted a pilot survey among 30 construction organisations which was randomly selected before the data collection to improve reliability and ensure the clearness of the questionnaires. A total of 277 questionnaires were sent out to Chief Executives Officers (CEO), directors and senior management within the target population. The selection of the sample size was based on non-response bias using a calculation of minimum sample size technique (Ankrah, 2007) in which 277 organisations out of 577 registered construction organisations in grades 7, 8 and 9 on the cidb registers of contractors in three major province of Gauteng, Kwazulu Natal and the Western Cape. This province represent where almost 70% of public projects are being executed in the last six years (SatSA, 2012). The questionnaire was administered via email using web-approach to questionnaire administration to the CEO of each organisation, the person who is has the complete knowledge of the organisation's strategy. Of the 277 questionnaires sent out, 72 (26%) valid and usable responses were obtained. The paper presents part of an on-going PhD research that is at discussion stage. This paper considers the three generic strategy as classified by Porter (1980; 1985) and the measurement scales were adapted from Kale and Arditì (2003). This study measures the performance of organisations using both subjective and quasi-objective measures; these were adapted from (Dess & Davis, 1984; Nandakumar et al., 2010). Organisational characteristics was operationalised using decision-making style, management style and organisational structure (Lansley, 1987; Amzat & Idris, 2012), while business environment dimensions were measured using previously validated scales (Kabadayi, et al., 2007; Nandakumar et al., 2010). Each variable in the constructs were measured reflectively with multi-item five-point Likert scales.

### **4.0 Findings**

This section of the paper presents the findings of the study. In order to evaluate the developed research model shown in Figure 1, SmartPLS (Version 2.0 M3) was used to analyse the quantitative data collected. SmartPLS software was selected because of its special feature in dealing with unobserved heterogeneity through the finite mixture routine (FIMIX) technique (Ringle, Wende, & Will 2010; Sarstedt & Ringle 2010; Sarstedt, Becker & Schwaiger 2011). The default total of 200 re-samples were employed to produce the test of significant (t- statistics), descriptive statistics as well as the standard error of the estimate. PLS-SEM is employed in this

study because it relaxes the demand for distributional assumptions; its capability in producing unbiased estimates of parameters with small data set which may fall short of conditions for modelling with Amos or Lisrel (Hair *et al.*, 2012; Robins, 2012); it accommodates easily the formative indicators in measurement models which other techniques may not allow (Robins, 2012); and finally, it is considered to be the most suitable methods for the development of new theory (Elbanna *et al.*, 2013). The study first examines the reliability and internal consistency of the measurement items in the study as shown in Table 1. The Cronbach's Alpha values were above the acceptable threshold of 0.5; this indicates that the items are reliable in measuring the constructs in the model. Next, the study examined the convergent validity of the items to determine the extent to which multiple items to measure the same construct are in accord. The study then assesses the discriminant validity by comparing the squared correlations between the variance extracted and constructs for each of the constructs (Fornell & Larcker, 1981).

**Table 1: Showing the Cronbach's Alpha reliability of the measures**

Constructs	Measurement item	Alpha Value
organisational characteristics	1. Management style	0.750
	2. Decision-making style	0.580
Competitive strategies	1. Differentiation	0.940
	2. Cost-leadership	0.775
Dimensions of the Environment	1. Dynamism	0.562
	2. Complexity	0.554
Organisational Performance	1. Objective achievement	0.834
	2. Competitive analysis	0.784

#### 4.1 Evaluation of the Measurement Model

The study evaluate the quality of the model by examining the individual measurement item and the reliability of the scale used as well as the discriminant and convergent reliability of the model constructs. To test these properties, confirmatory factor analysis (CFA) was conducted by using PLS algorithm to evaluate convergent validity, reliability, and discriminant validity of the measurement scales. Tables 2, 3 and 4 show the item loadings, discriminant validity and composite reliability. As shown in table 3, most item loadings were larger than 0.7 and significant at 0.01 except management style which was below the threshold of 0.5 (Field, 2013) but retained because of its significant contribution to constructs based on t-values (Bagozzi, Yi, & Philipps, 1991; Gefen, Straub, & Boudreau, 2000; Akter, D'Ambra & Ray, 2010). However, Chu *et al.* (2004) suggest that items with small loading and insignificant contributions should be dropped; on this basis some measurement items that show low loadings and insignificant contribution to the construct they measure were dropped. In order to test the convergent validity, all the composite reliability (CR) values were above .70 (Chin, 2010; Akter, D'Ambra & Ray, 2010; Chin, Lo & Ramayah, 2013) and the average variance extracted (AVE) values meet the minimum criteria of .50 (Henseler, Ringle, & Sinkovics, 2009).



**Table 2: Outer model loadings and cross loadings for measurement (outer) model**

Measurement item	Environment	Org. Xtic	PERFORMANCE	STRATEGY
Dynamism	<b>0.5578</b>	-0.1371	0.0193	0.1695
Complexity	<b>0.8861</b>	0.0300	0.0981	0.2852
Decision-making style	-0.1200	<b>0.8959</b>	0.3908	0.1097
Management style	0.1492	<b>0.4817</b>	0.1776	0.1145
Objective achievement	0.1782	0.2009	<b>0.7090</b>	0.3626
Competitive analysis	-0.0535	0.3924	<b>0.6921</b>	0.0744
Differentiation strategy	0.3578	0.0996	0.1893	<b>0.8260</b>
Cost-leadership strategy	0.1099	0.1329	0.3125	<b>0.7190</b>

**Table 3: Result of outer loading of the model**

Model Path	Original Sample loading	Sample Mean (M)	Standard Deviation	Standard Error	T Statistics
COMPAN <- PERFORMANCE	0.6921	0.6687	0.2999	0.2999	2.3079
COST <- STRATEGY	0.7190	0.6634	0.2540	0.2540	2.8309
CPL <- Environment	0.8861	0.8084	0.2011	0.2011	4.4055
DIFF <- STRATEGY	0.8260	0.7932	0.1748	0.1748	4.7256
DMS <- Org. Xtic	0.8959	0.8649	0.1358	0.1358	6.5971
DMY <- Environment	0.5578	0.5065	0.3672	0.3672	1.5193
MGS <- Org. Xtic	0.4817	0.4684	0.2441	0.2441	1.9734
OBJACH <- PERFORMANCE	0.7090	0.6211	0.2740	0.2740	2.5874

In Table 3, all the t-values except dynamism and environment exceeded 1.96 significant levels which depict statistical significance at .05 levels of confidence, it can thus be concluded that all the measurements items were significant in explaining the research construct they measure. In PLS analysis, Chin (2010) highlights two criteria to be used in assessing discriminant validity: items should load more strongly on their corresponding construct than on other constructs; and second, the square root of each reflective construct's AVE should be greater than the level of correlations involving the construct. The results of the discriminant validity is presented in Table 4, all Composite Reliability (CRs) and Average Variance Extracted (AVEs), exceeded the threshold values of 0.7 and 0.5, respectively (Akter, D'Ambra & Ray, 2010; Chin, Lo & Ramayah, 2013). Performance has lowest AVE (0.5909) and CR (0.7585); however, all those values exceeded their recommended threshold values for both properties and it can therefore

be said that the measurement model was satisfactory and offered enough confirmation in terms of reliability, convergent validity, and discriminant validity of the measurement scales.

**Table 4: Discriminant Validity of Constructs**

	AVE	Composite Reliability	Envi.	Org. Xtic	Perf.	Strategy
Environment	0.6482	0.7976	1.0000			
Organisational Characteristics	0.6173	0.7628	-0.0389	1.0000		
Performance	0.5909	0.7585	0.0909	0.4218	1.0000	
Strategy	0.6996	0.8488	0.3172	0.1472	0.3142	1.0000

#### 4.2 Evaluation of the Structural Model

The quality of PLS-SEM model can be evaluated using two indicators: the variance explained ( $R^2$ ) in the endogenous variables and the regression coefficients' significance (Saade, 2007; Chin, 2010). The  $R^2$  values showed in Figure 1 (0.126 and 0.244) are higher than the validated 10% (Falk and Miller, 1992), this depicts that the model testing showed that our model results in acceptable. Figure 2 and Tables 5 and 6 present the findings of the tested hypotheses. A path is significant iff the resultant empirical t-value is above 1.96 ( $p = 0.05$ ); when the critical t-values is above 2.58, ( $p = 0.01$ ); and when it is above 1.64, ( $p = 0.10$ ).The findings indicated organisational characteristics is significantly and directly related to organisational performance at 0.01 level of confidence. The relationship between environment and strategy was also found to be significant at 0.01 level, while strategy is positively and significantly linked to organisational performance at 0.1 level of confidence. The relationship between organisational characteristic was found to be insignificant while the results indicate that environment moderates the strength of association between strategy and performance as insignificant link was shown between environment and performance. Hypotheses H2, H3, H4 and H5 were accepted, while, H1 was rejected.

**Table 5: PLS Path modelling results with path coefficients**

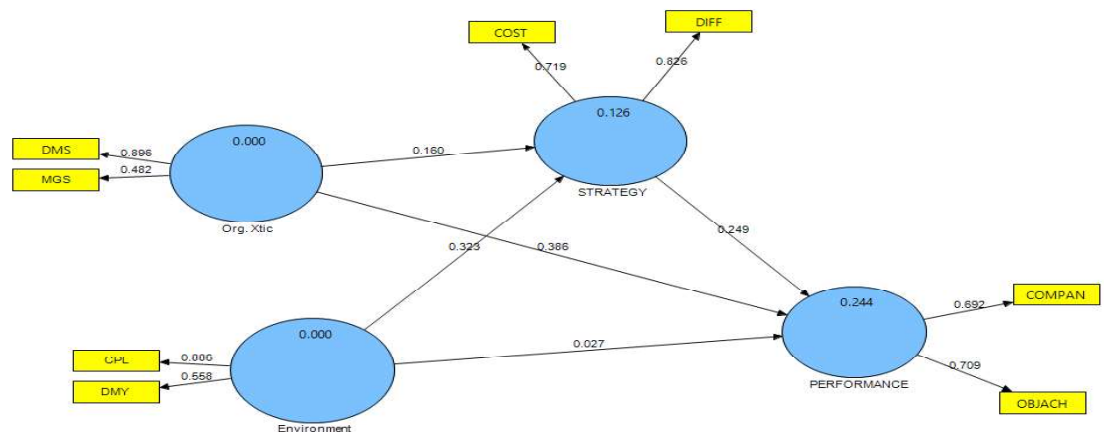
Model Paths	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error	T Statistics
Environment -> PERFORMANCE	0.0270	0.0272	0.1091	0.1091	0.2475
Environment -> STRATEGY	0.3234	0.3217	0.1133	0.1133	2.8537
Org. Xtic -> PERFORMANCE	0.3862	0.3883	0.1149	0.1149	3.3619
Org. Xtic -> STRATEGY	0.1597	0.1644	0.1173	0.1173	1.3615
STRATEGY -> PERFORMANCE	0.2488	0.2339	0.1481	0.1481	1.6800

**Table 6: Path Coefficients and Hypothesis Testing**

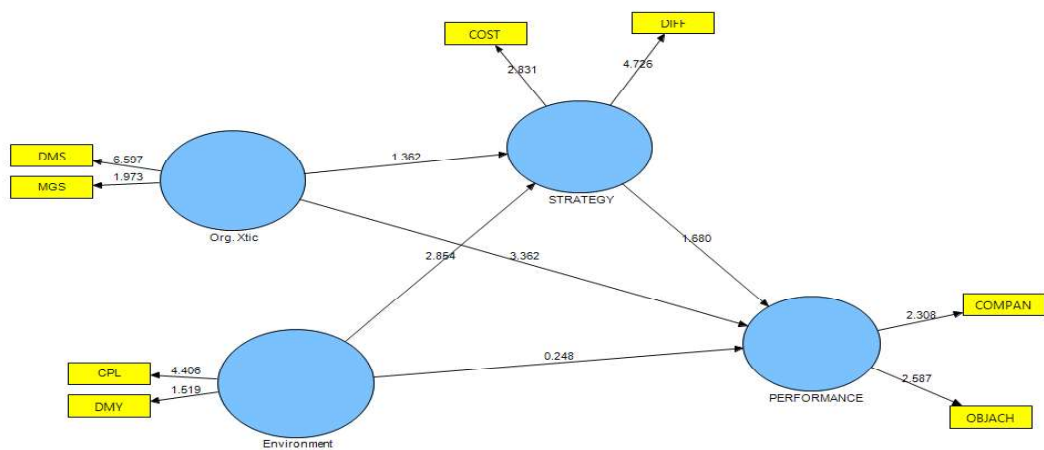
Hypothesis	Relationship	Coefficient	t-statistics	Supported
H1	Organisational characteristics is significantly related to competitive strategies	0.0270	0.2475	Not supported
H2	Organisational characteristics is significantly related to organisational performance	0.3234	2.8537	Supported
H3	Environment is significantly related competitive strategies	0.3862	3.3619	Supported
H4	Environment is insignificantly related organisational performance	0.1597	1.3615	supported
H5	There is a significant relationship between competitive strategy and organisational performance	0.2488	1.6800	Supported

To examine the global validation of the model, the study employs a global criterion of goodness of fit (GoF index) suggested by (Tenenhaus Vinzi, Chatelin & Lauro, 2005). GoF index which is described as the geometric mean of the *average communality* index and the average  $R^2$  value (Tenenhaus *et al.*, 2005). This study follow the procedural guidelines provided by Wetzels, Schroder and Oppen (2009), and computed the GoF values, which may be considered as minimum values for global validation of PLS path models. The GoF was calculated using the equation given below, the average  $R^2$  is 0.185 from figure 1 and the average of all the variance explained from Table 4 is 0.639, hence the calculated GoF value is 0.34 this falls in between the medium and large value given by the rule of thumb, the standard values given by Akter, D'Ambra and Ray (2011) indicates the following: ( $GoF_{small} = 0.1$ ,  $GoF_{medium} = 0.25$ ,  $GoF_{large} = 0.36$ ). The study thus conclude that the partial model in this research has above average predictive power and that it also offers average support to global validation of the PLS model (Wetzels *et al.*, 2009).

$$GoF = \sqrt{\text{Average } R^2 \times \text{Average (AVE)}} \dots \dots \dots (i)$$



**Figure 1: A developed model showing result of the path analysis**



**Figure 2: Research model showing the t-values**

## 5.0 Discussion of findings from the models results

From the results of the models explained in the sections above, the structural models tested indicate that business environment dimension as well as organisational characteristic influences competitive strategies employed by organisations in achieving superior performance with  $R^2$

values of 12.6% which is higher than the acceptable 10% reported by Elbanna *et al.* (2013). However, the relationship between organisational characteristics and competitive strategy is insignificant but positively related, whereas environment is significantly related to competitive strategy this imply that environment and organisational characteristics jointly explained 12.6% of the variations of competitive strategies in achieving organisations goals. Organisational characteristic, exhibit direct and positive significant relationship with organisational with 1% level of significance. Considering the reflective indicators that contributed to the significance level, a viable decision-making style combine with effective management philosophy will lead to a better performance as summarised by the model ( $r$  (path) = 0.896;  $t$  = 6.597). Organisational characteristics (decision-making and management style) is positive but not significantly related to strategy (Path = 0.160;  $t$  = 1.362). This result relates well with Gupta and Govindarajan's (1984) finding that strategy variables such as decision-making style moderates the strength of relationship between strategy and organisational performance.

The models result supported the hypothesis that environment moderates the strength of relationship between strategy and performance as insignificant relationship is shown by the model. This consistent with the findings of previous studies that established that environment play a mediating role in the strength of relationship between strategy and performance (Goll and Rasheed, 1997; Kabadayi *et al.*, 2007; Nandakumar *et al.*, 2010), Competitive strategy is positively and significantly related to organisational performance (path = 0.249;  $t$  = 1.68) with the  $R^2$  values 24.4%. The model result is validates by the assertion of Nandakumar *et al.* (2010) that to enhance organisational performance both differentiation and cost leadership are efficient in environment that is dynamic or complex. In summary, the results upheld the hypothesised statement that combinations of the three construct (organisational characteristics, strategy and environment) will lead to a superior performance. The critical link between strategy and performance has the coefficient (0.249) for the PLS-SEM path model estimated on aggregate effect level. Table 6 provides the summary of effects on hypotheses.

## 6.0 Conclusion and implications

This study examines the relationship between organisational characteristics, competitive strategies and organisational performance as well as the moderating role of business environments. The research upholds four of the hypothesised statements and therefore concludes that significant relationship exists between organisational characteristic and performance; between environment and strategy; between strategy and performance. It also reaffirm that environment moderates the strength of relationship between strategy and performance. However, this study presents some hypothetical and practical implications for researchers and industry practitioners. First, the research provides a basis for future studies in construction management field to further investigate the use of business environment as a moderator as well as influence of organisational characteristics, strategies on performance using larger sample size.in other industries. Second, the results of this research can provide invaluable information to construction organisations managers, project managers as well as

CEOs to understand the impact of their decisions and management philosophy on the organisations performance.

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