Impact of Competitive Aggressiveness on Performance of Small and Medium Construction Firms in Nigeria

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Abstract
One of the key challenges confronting construction organizations especially small and medium size firms is the issue of poor performance and survival due to the uncertain environment of the construction industry. Firms must therefore, respond by adopting suitable business strategies that ensure their survival and success in the industry. Competitive aggressiveness is regarded as one of the appropriate business orientations for firms in sectors like construction. This study examined the level of adoption of competitive aggressiveness orientation and its impact on the performance of small and medium construction enterprises (CSMEs) in Nigeria. Using a quantitative approach, data was obtained from a sample of 139 Owners/CEOs and top managers of Nigerian CSMEs via a cross sectional questionnaire survey. Data collected was analyzed using SPSS and Structural Equation Modeling (SEM) using SMARTPLS 3.0 to test the hypothesized relationship between the studied constructs. The finding shows a significant level of adoption of competitive aggressiveness orientation among the studied samples. A positive and significant relationship was also established between competitive aggressiveness and financial performance of the CSMEs in the study. It was concluded from the study that competitive aggressive impacts positively on the financial performance of Nigerian CSMEs. It was therefore recommended that construction firms should adopt and encourage competitive aggressive approach in decision making in order to boost their performance and maintain relevance in the construction industry.

Keywords: Competitive Aggressiveness, Entrepreneurship Orientation, Firm Performance, Construction Small and Medium Enterprises (CSMEs)

INTRODUCTION

The business environment in the construction industry is characterized by intense competition and uncertainty. Hence, business performance and survival is one of the major challenges threatening construction organizations especially those in the small and medium size (SMEs) categories (Makhura 2011; Campos *et al*., 2013). These challenges are also more severe in developing countries like Nigeria where they come alongside a general situation of socio-economic stress, harsh business environment and a general perceived inability to deal with key issues (Dantata, 2008; Bala *et al.,* 2009; Ogunlana, 2010). Construction firms therefore, must deploy an effective competitive strategy in order to survive and maintain relevance in the industry. According to Lumpkin & Dess (1996) a competitive aggressive posture is one of the most appropriate corporate orientations for businesses in hostile environments or where competition for customers and

resources are intense. Competitive aggressiveness is one of the five dimensions of entrepreneurship orientation (EO); a concept that shows how individuals or firms apply entrepreneurship in the course of realizing their business objectives (Kraus *et al.*; 2012; Kraus, 2013). EO is focused on directing the attention of firms and organizations towards entrepreneurial behaviors that is regarded as inevitable for firm's success in the current competitive business environment (Madhoushi *et al.,* 2011; Zainol & Ayadurai, 2011; Arshad *et al.,* 2013). The concept of EO and its dimensions have been recognized as beneficial to firms especially those in the small and medium size (SMEs) category (Arshad *et al.,* 2013; Campos *et al*., 2013; Milovanovic & Wittine, 2014; Magaji *et al.,* 2015).

The role of SMEs as a viable means of generating employments as well as stimulating national economic growth and development is well reported among many researchers (Onugu, 2005; Phaladi & Thwala, 2008; Oteh, 2009; Odediran *et al.,* 2012; Ogechukwu *et al.,* 2013). Some authors have even inferred that the performance of SMEs is closely associated with the performance of a nation (Eniola, 2014). Studies have shown that majority of firms in the construction sector are small to medium size organizations. Because of increasing competition however, most construction SMEs (CSMEs) are reported to be having difficulties in playing this role effectively. Adopting a competitive aggressive strategy is therefore, considered an important means for overcoming some of these challenges. Hence, this paper is aimed at examining the level of adoption of competitive aggressive strategies and its impact on the performance of CSMEs in Nigeria with a view to encouraging the implementation of the orientation for improved performance among firms in the construction sector.

Competitive Aggressiveness

Competitive aggressiveness refers to the propensity of a firm to directly and intensely challenge its competitors to achieve entry or improve its position, i.e. to outperform rivals in its market domain (Vij & Vedi 2012). It is characterized by a strong offensive posture or aggressive responses to the actions of competitors. A strong competitively aggressive stance enables a firm to be a decisive player in a field of rivals and to act forcefully to safeguard or advance its position (Lumpkin & Dess 2001). Because of the competitive nature of construction business, scholars such as Abd-Hamid *et al.,* (2015) and Setiawan *et al.,* (2015) have advocated for a competitive attitude among contractors if they are to survive in the sector. Lumpkin & Dess (2001) have previously argued that a strong competitively aggressive stance enables a firm to be a decisive player in environments where competition for customers is high. Aggressive moves can include price-cutting, increased spending on marketing, quality and improved production capacity. This can happen when a firm either promotes its products in markets identified by competitors or through analyzing and attacking competitor's weaknesses. It is essentially a firm's response to competitive threats (Madhoushi *et al.,* 2011).

As earlier stated, because of its competitive environment, researchers have advocated for the adoption of competitive aggressiveness among organizations in the construction sector (Zain & Hassan 2007; Abd-Hamid *et al.,* 2015; Setiawan *et al.,* 2015). Despite this advocacy, however, there is still paucity of literatures on EO and its dimensions including competitive aggressiveness among construction organizations. In one of the few studies of EO in the construction sector, Okangi and Letmathe (2015) reported lack of significant adoption of EO dimensions including competitive aggressiveness among Tanzanian construction firms. In this respect, the current study

hypothesized that*: There is a significant level of adoption of competitive aggressiveness orientation among CSMEs in Nigeria.*

Competitive Aggressiveness and Firm Performance

Previous studies such as Madhoushi *et al.,* (2011), Arshad *et al.,* (2013) Koe, (2013) and Campos *et al.,* (2013) have reported positive correlations between competitive aggressiveness and firm performance in different economic sectors and contexts. Setiawan *et al.* (2015) have also established positive influence of competitive aggressiveness on Malaysian construction contractors. Some studies such as Hughes & Morgan (2007) and Casillas & Morino (2010) however, failed to establish positive correlations between competitive aggressiveness and firm performance. Similarly, a study among Tanzanian construction firms by Okangi & Letmathe (2015) also failed to establish any significant relationship between competitive aggressiveness and firm growth as a facet of firm performance. Based on these diverse findings, the current study therefore, hypothesized as follows: *There is a significant positive relationship between the competitive aggressiveness orientation and performance of CSMEs in Nigeria.*

METHOD

The data collection method employed in this study was cross sectional field survey with the aid of a structured questionnaire. Owners/CEOs and top-level managers of construction firms operating in Lagos and Abuja, Nigeria were the targeted population in the study. The choice of Lagos and Abuja was in view of their strategic importance to Nigeria and their being hosts to a large number of construction firms. Previous studies such as Adams (1997) and Adeleke *et al.,* (2017) have used these locations to base their analysis of construction firms in Nigeria for similar reasons. The list and addresses of construction firms on the database of the Federal Inland Revenue Service (FIRS) provided the sampling frame for the study. This database was considered credible because it captures firms that regularly pay their taxes, suggesting that they are active in the field. A total of 9,128 firms (5,124 in Lagos and 4,004 in Abuja) were registered on the database as at January 2017.

The sampling technique adopted in selecting the study samples was simple random sampling while the sample size selection was guided by Krejcie & Morgan (1970) table. A sample size of 370 respondents was selected as suggested by the table for a sampling frame of 9,128 firms. Although the questionnaires were administered to all categories of firms in the database, however, only the results for firms categorized as CSMEs were utilized for analysis. The study adopted the number of permanent employee's criteria as the basis for categorizing CSMEs where only firms employing less than 200 workers were considered. This was in accordance with the SMEDAN/NBS (2013) definition of SMEs in Nigeria. Most researchers according to Curran and Blackburn (2001) prefer using the number of employees to define SMEs because it is an objective measurement that is easier to obtain from firms than financial information. The questionnaires were self-administered by the researcher and other research assistants in the study area. Out of the 370 questionnaires distributed about 139 were returned valid and suitable for analysis. This represents 37.6% response rate in the study.

Variables and Measurements

The measures of competitive aggressiveness which represents the independent variables in this study was adopted from previous studies such as Lumpkin and Dess (1996), Dafel (2012) and

Okangi and Lethmathe, (2015) with slight modifications to suit the context of the construction industry. The scale contains 5 subjective statements measuring the competitive aggressive disposition of respondents in their business operations. The respondents were requested to indicate the extent of their agreement or disagreement with each statement on a five point Likert scale with "1=strongly disagree" and "5=strongly agree". Financial performance was measured using subjective indicators of profitability and growth. The measures were developed from ideas and suggestions of previous studies such as Zulkifli and Perera (2011), Santos and Brito (2012) and Selvam *et al.,* (2016). The choice of subjective measures was in recognition of the difficulties in obtaining objective financial data from businesses. A study by Zulkiffli & Perera, (2011) indicates that most firms often refuse to disclose accurate, objective data and even where such is made available; they tend to manipulate such data to avoid issues such as taxes. Profitability and growth indicators were represented by seven items namely: return on investment (*FNP1*), return on asset (*FNP2*), general profit (*FNP3*), growth in assets (*FNP4*), growth in market share (*FNP5*), growth in number of employees (*FNP6*) and growth in revenue (*FNP7*). Respondents in the study were requested to subjectively assess the performance of their firms over the last three years relative to other competitors on a 5-point Likert scale with "1= very low performance" and "5= very high performance".

Data Analysis

SPSS version 20.0 and SmartPLS version 3.0 softwares were used in analyzing the collected data. SPSS was used for descriptive statistics and one sample t-test while SmartPLS was used to conduct Structural Equation Modeling (SEM) in order to test the hypothesized relationship between the constructs in the study.

RESULTS

The mean values for indicators of competitive aggressiveness orientation is shown in Table 1. The result shows that all the five statements measuring competitive aggressiveness has total average mean of 3.684 with individual mean values ranging from 3.230 to 4.029. An examination of individual indicators shows that the tendency for aggressive actions among respondents when their survival is threatened as represented by *CPA 1*(Mean = 4.029) was ranked higher than all other statements. Cutting of prices in order to gain more markets *CPA 3* (Mean=3.791) and tendency to undo and out maneuver competitors *CPA 3* (Mean=3.727) were ranked second and third.

Table 1: Mean values for indicators of competitive aggressiveness.

Code	Indicators of Competitive Aggressiveness	Mean	Std. Deviation	**Ranking**
CPA1	Our firm adopts an aggressive posture to combat threats	4.029	0.577	1
CPA2	We try to Undo and out-maneuver competitors	3.727	0.599	3
CPA3	Our firm can cut prices to increase our market share	3.791	0.727	2
CPA4	We seek increased market share at the expense of profitability	3.230	0.674	5
CPA5	Our firm is very aggressive and intensely competitive	3.640	0.648	4
	Average Total Mean	3.684		

A one-sample t-test was carried out to test the level of significance of adoption of the competitive aggressiveness dimension among the sample of CSMEs in the study. A hypothesized mean value of 3.0 was used as a benchmark with the test set at 5% level of significance. Table 2 shows that,

the mean test (3.684) was higher than the hypothesized mean value of 3, a statistically significant difference of 0.684 (95% CI, 0.608 to 0.759), t (138) = 17.891, *p*= 0.000. Since the *p*-value is lower than 0.05, it was concluded that there was a significant level of adoption of the competitive aggressiveness orientation among CSMEs in the study.

Table 2: Result of one-sample test

Variable	Test Value = 3						
	T	Df	Sig. (2-tailed)	Mean	Mean Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Competitive Aggressiveness	17.891	138	.000	3.684	0.684	0.608	0.759

Relationship between competitive aggressiveness and firm performance

The hypothesized relationship between competitive aggressiveness and firm performance was examined through structural equation modeling (SEM) using SmartPLS 3.0 software. The model in figure 1 shows the direct relationship between the two constructs with the outer factor loadings, coefficient of determination (R^2) and the path coefficient highlighted.

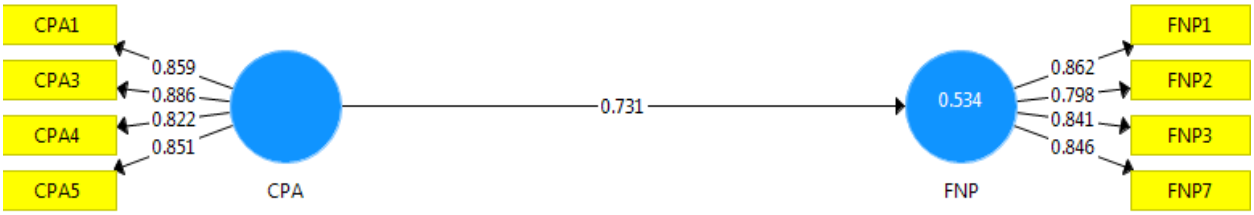

Figure 1: Study model-Relationship between competitive aggressiveness and firm performance
Legends: *CPA: Competitive aggressiveness, FNP: Financial performance*.

One item from the original five (5) on the competitive aggressiveness scale (*CPA 2*) and three items from the financial performance scale (*FNP4, FNP5 & FNP6*) were dropped for having factor loadings less than 0.7. The rule of thumb is that indicators with outer loadings less than 0.70 should be dropped to improve reliability and validity of measurement scales (Hair *et al.*, 2012). The first step in a PLS-SEM is to evaluate the measurement model by assessing the construct reliability and validity to ensure that the survey instrument used is reliable and valid.

Construct reliability

Cronbach alpha and composite reliability values were used to measure the internal consistency of the indicators used in the study. The values were extracted from the PLS-SEM algorithm. According to Hair Jr. *et al.* (2014) composite reliability and Chronbach's alpha values above 0.7 are considered reliable. Table 3 shows that the Chronbach's Alpha and Composite reliability figures for the two constructs are above 0.7. Hence, all values fall within the acceptable range to conclude that the measures used were reliable.

Convergent validity

The convergent validity of the measurement scales in the study was assessed using the factor loadings and the Average Variance Extracted (AVE). According to Hair Jr *et al.* (2014) the factor

loadings for measured indicators must exceed 0.70 while AVE values should be above 0.50 to confirm the convergent validity of measured constructs. The factor loadings for all measured items as shown in table 3 are all above 0.7 while AVE values also exceed the 0.5 cut off limit. This finding suggests that convergent validity is confirmed for all the constructs in the study.

Table 3: Internal consistency, construct reliability and convergent validity measures

Constructs/Items	Factor Loadings	Cronbach Alpha	Composite Reliability	Average Variance Extracted (AVE)
Competitive aggressiveness		0.879	0.916	0.731
CPA1	0.859			
CPA3	0.886			
CPA4	0.822			
CPA5	0.851			
Financial Performance		0.857	0.903	0.700
FNP1	0.862			
FNP2	0.798			
FNP3	0.841			
FNP7	0.846			

Discriminant validity

The Fornell and Larcker (1981) criterion for establishing discriminant validity was adopted in the study. The criteria requires that, the square root of AVE (*in bold*) for a construct must be greater than all correlations between that construct and other constructs in the study. The result in table 4 shows that the criteria was satisfied confirming the discriminant validity of the two study constructs.

Table 4. Discriminant validity: Fornell-Lacker Criterion

Constructs	CPA	FNP
CPA	**0.855**	
FNP	0.731	**0.837**

Legends: *CPA:competitive aggressiveness, FNP: Financial performance*

Assessment of structural inner model and hypothesis testing

The hypothesized relationship between competitive aggressiveness and performance was tested after establishing the reliability and validity of the measurement scales. Bootstrapping technique was used to achieve this objective as required by the PLS-SEM algorithm (Wong, 2013). One thousand (1000) bootstrapped samples were used to test the significance of the relationship between the two variables. For a 2-tailed test, at 5% level of significance, empirical t-values higher than 1.96 are considered statistically significant. The bootstrap result is shown in both figures 2 and table 5 respectively.

Table 5: Inner Path Coefficient and Hypothesis Testing

Hypothesis	Relationship	Path coefficient	T Statistics	P Values
H2	Competitive aggressiveness -> Firm performance	0.731	15.000	0.000

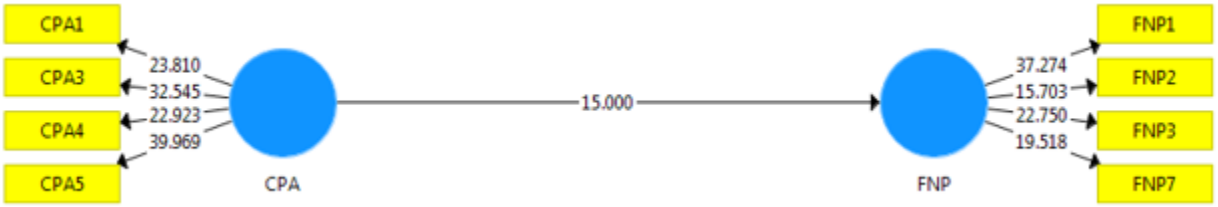

Figure 2: Significance of factor loadings and path coefficient
Legends: *CPA: Competitive aggressiveness, FNP: Financial performance*.

The result shows a positive and significant path coefficient between competitive aggressiveness and firm performance (β=0.731, t- value (15.000)>1.96). The finding indicates that competitive aggressiveness is statistically significantly related to the financial performance of Nigerian CSMEs in the study. This provides support for hypotheses H_2.

DISCUSSION AND CONCLUSION

The finding on the level of adoption of competitive aggressiveness suggests that the sample of Nigerian CSMEs in the study appreciates the significance of a strong response to competition in their business. Because of its competitive nature many scholars have advocated for a competitive aggressive attitude among construction firms if they are to survive and thrive successfully in the sector (Makhura, 2011; Abd-Hamid *et al.* 2015; Setiawan *et al.* 2015). It was therefore, not surprising that the samples of Nigerian CSMEs in the study have embraced aggressive competition as a strategic orientation for survival in the industry. Competitive aggressiveness allows a firm to act forcefully to secure or improve its position in a field of rivals (Lumpkin & Dess 2001).

The result also reveals a significant and positive correlation between competitive aggressiveness and firm performances with 53.4% of the variance in financial performance explained. This signifies a moderate predictive influence of competitive aggressiveness in explaining the financial performance of Nigerian CSMEs. A study by Arshad *et al.* (2013) among technology based SMEs in Malaysia has also reported positive correlation between competitive aggressiveness and firm performance. A similar finding by Magaji *et al.* (2015) was also reported among different SMEs in Kano, Nigeria. Other previous literatures such as Dafel, (2012), Koe, (2013) and Campos *et al.* (2013) have found positive relationship between competitive aggressiveness and firm performance in different sectors.

Based on the findings of this study, it was concluded that Nigerian CSMEs have shown an overwhelming disposition to engage in entrepreneurial behaviors by competing aggressively in order to thrive successfully in the construction sector. EO has been reported to be applicable to all organizations regardless of size, type or age (Dess & Lumpkin 2005; Covin & Wales, 2012). Moreover, the positive correlation between competitive aggressiveness and firm performance further confirms the beneficial impact of this orientation for firms in the construction sectors. It was therefore recommended that construction firms should adopt and nurture competitive aggressive strategies in order to boost their performance and maintain relevance in the construction industry.

One of the limitations of the study in spite of its theoretical and empirical contribution to knowledge concerns the use of subjective rather than objective measures of financial performance. Subjective measures may not necessarily provide accurate information on the actual financial performance of the surveyed CSMEs in the study. This limitation can provide direction for future studies in this area of research.

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