

The Implications of Political Factor on Construction Risk Management: The Perspectives of Construction Companies in Nigerian

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Abstract

Various inconsistent assertions has been opined by momentous previous studies concerning the influence of political factor on risk management in construction projects, with moderating effects of rules and regulations towards the inconsistency preceding results. Hence, this study examined the aforesaid statements grounded on organizational control theory. Structured survey questionnaires of 238 employees working in Nigeria construction companies was used to gather this data. PLS-SEM was used to analyse the data and a significant positive results was revealed between political factor and construction risk management. Similarly, a significant positive

relationship of rules and regulations as a moderator was revealed on political factor and construction risk management.

Keywords: Political factor, construction risk management, rules and regulations, Partial Least Squares – Structural Equation Modelling, Nigeria.

INTRODUCTION

In line with the Project Management Institute (2015), project risk was defined as an uncertain event that, if it occurs, will at least have a positive or negative outcome on project objectives like; scope, cost, time, and quality. Barber (2005) also viewed risk as threats to project success which are likely to occur when there is no proper management. With the inconsistency of risks literatures assertions. In this paper, risk was viewed as “the likelihood of any occurrence to an ignored or unforeseen upshot which may fetter the aims of project goals, that may be in the form of finance, design, management, materials, labour and equipment risks,” following (Adeleke et al., 2016).

In this research, risk management was perceived as a process of identifying and analysing risk elements, which may occur as a result of management, material, design, finance, labour and equipment risk and solving them in order to attain the project aims.

Risk management in the construction project has a broad perspective and is a systematic way of identifying, analyzing and responding to risk in achieving the project goals. The benefits of the risk management process include identifying and analyzing risk and improvement of construction project management processes with effective use of the resources (Zou, Zhang & Wang, 2007).

Risk management is an important role a project manager must undertake. However, project manager duty is predominantly difficult and wasteful if good risk management has not been put to practice from the initiation of the project till the closure (Adeleke et al. 2017). Efficient and effective risk management approach entails proper systematic methodology and, importantly from the aspect of experience and knowledge of the project manager. Previous research findings in Nigeria have disclosed that, owners, contractors and consultant do not systematically apply risk management practices in Nigeria construction industries which on a long-run result to negative penalties of the projects’ performance (Onyeizu & Yusof , 2012).

To make an efficient and effective risk management it is important to have a proper and systematic methodology and, more importantly, knowledge and experience of various types of project that has been handled before. For example, it requires knowledge of the unforeseen circumstances that may occur during the project execution, on the actions that work well or not when one of these events occurs, on methods to evaluate a risk or estimate the probability that it will occur as soon as possible (Adeleke et al. 2017; Alaghbari et al. 2007).

Likewise, Lewis et al. (2003) shows that lack of an effective project risk management function has a lot of bad consequences for participants in a project due to improper plan towards the risks and uncertainty that any project may leads to. For an instance, lack of prevention against the risk of defining the scope of a project, or environmental hazards or communication risks, poor site

management, slow decision making between others, leads to delays, significant increases in costs and contractual disputes and litigation among others.

Therefore, it was asserted by various literatures like (Karim Jallow *et al.*, 2014; Doloi, 2009; Moe & Pathranarakul, 2006; Simpkins, 2009; Lee-Kelley & Kutsch, 2010), that certain organizational external factor (political factor) have both positive and negative relationship on construction risk management with weak relationship, because of this weak and inconclusive assertion, Niu (2008) and Gibb (2011) suggested that rules and regulations as moderator could play a major role on these findings. However till this end, possible influence of rules and regulations as a moderator have perceived less attention, and such consideration will buffer this research theoretical understanding and provides more empirical proof on how rules and regulations can increase the relationship between political factor and construction risk management among construction companies in Nigeria.

LITERATURE REVIEW

Construction Risk Management

When equating the construction companies to other companies, it was perceived to be riskier. Therefore, projects within the construction companies are attributed to have severe inherent risks because of several parties that are demanded like the engineers, clients, designers, subcontractors and contractors (Onyeizu & Yusof, 2012). Construction projects are ascribed with certain uniqueness because they are ramped up just once. Not forgetting the unbalanced team in the project as one of parties that are gathered from diverse cultural heritage, industries and globes. Likewise, the construction projects in terms of sizes and complexity are moving drastically and on the long run contributed to the project risks (El-Sayegh, 2008).

Adeleke *et al.*, (2015) perceived that construction risks have been more devoted to by the construction parties due to time and cost overrun that are associated to construction project (Adeleke *et al.*, 2015). In line with the study of Aibinu & Odeyinka (2006) that figured out forty-four risk elements which contributes to project delay due to improper risk management procedures during the construction activities in Nigeria, and design, management, finance and material were the top leading risk elements revealed by the study.

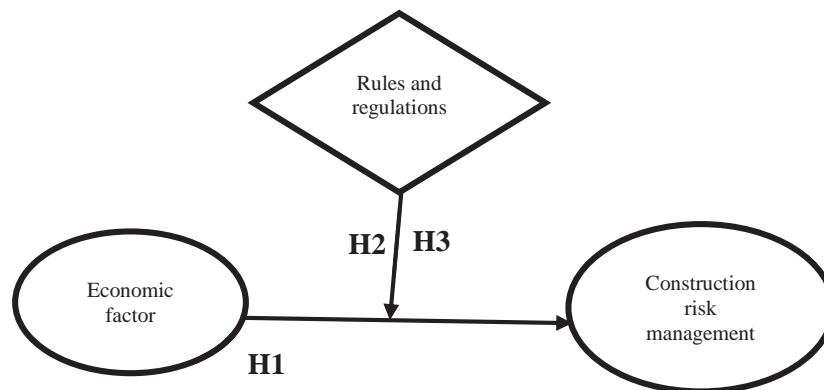


Figure 1: Conceptual Model

Political Factor

Israelsson & Hansson (2009) discovered that Sweden property stock, mostly in design of building project are affected with political decision, which in the process of making decision and flexibility in buildings are affected. Political decision positively influences construction risk management within the organization, by which some companies are politically connected to one another. The author further discussed that those who are connected to the ruling party in the political affairs tend to receive more capital, support and huge projects with experts and vice versa to those that do not belong to the ruling political party. Jaafari (2001) established a non-significant relationship between political factors with risk management in construction. In line with the findings of Ahmed *et al.*, (2002) in USA that also affirmed a significant association among political factor and construction risk management. This paper further conceptualized construction risk management with five (5) dimensions which are management, materials, design, finance, labour and equipment risks.

H1: Political factor have a positive relationship with construction risk management.

Rules and Regulations

Rules and regulations is perceived in this study as a standard or procedure of a general pertinence adopted by an organization board which address certain issues related to types of construction materials to be used, process and steps involve before project execution and safety of employee (Manavazhi & Adhikari, 2002). Rules and regulations is well- established factor that maintain a significance influence on several actions within an organization (Niu, 2008).

Research also suggested that rules and regulations is positively related to proper control at work. For an instance, rules and regulations has been connected with all aspect of construction activities such as all protocol or measures that involved before initiation and closure of a project. The following hypothesis were also formulated based on this assertion. As also depicted in Figure 1.

Hypothesis 2: Rules and regulation will positively moderate the association between political factor and construction risk management.

Hypothesis 3: Rules and regulations will positively moderate construction risk management.

METHODOLOGY

Cross-sectional design was employed in this paper, and the data were obtained from 238 contractors (i.e., engineers, executive director, project manager, marketing manager and contract manager) operating in Abuja and Lagos among the local, national and multinational construction companies in Nigeria just only once. Proportionate stratified random sample technique was used to determine the sample of this study. Contractors was selected as the suitable respondents for this study following the previous literatures because they are the best people who have the idea of what risk is all about in construction companies (Karim *et al.* 2012). More so, local, national and multinational construction companies were selected following (Adams, 1997; Ugochukwu, & Onyekwena, 2013).

Abuja and Lagos states were used in this study because these two states are the heart of construction actives in Nigeria, following (Ukoha & Beamish, 1996; Adams, 1997). Following

PMBOOK, (2000) and Adeleke et al., (2016), the scale ranging from 0.9 = ‘very high’ 0.7 = ‘high’ 0.5 = ‘medium’ 0.3 = ‘low’ 0.1 = ‘very low’ was used to ascertain the response from the questionnaires.

Before the actual analysis, various assumptions of Multicollinearity, linearity and normality were ascertained (Hair, Black, Babin, & Anderson, 2010; Tabachnick & Fidell, 2007). Since these assumptions were affirmed, the authors used partial least square (PLS) path modeling (Wold, 1974, 1985) with the use of Smart PLS 2.0 M3 software Ringle et al. (2005) to check the theoretical model. The PLS path modeling is seen as a statistical technique “entailed to evaluate a network of causal relationships, based on a theoretical model, connecting two or more latent composite concepts, which each are measured through a number of observable indicators” (Vinzi, Trinchera, & Amato, 2010).

The PLS path modeling is conceived to be the most appropriate technique in this study for respective reasons: First, PLS path modeling possess the potential of estimating the relationships between the constructs (structural model) and the relationships among the indicators and their matching latent constructs (measurement model) at the same time (Chin, Marcolin, & Newsted, 2003; Duarte & Raposo, 2010; Gerlach, Kowalski, & Wold, 1979; Lohmöller, 1989). Second, PLS path modeling is conceived proper because the authors aimed to forecast construction risk management, which is seen as the endogenous latent variable (Fornell & Bookstein, 1982; Hair, Ringle, & Sarstedt, 2011; Hulland, 1999; Ringle, Sarstedt, & Straub, 2012).

RESULT AND DISCUSSION

Measurement Model Results

In order to ascertain the psychometric characteristics of the scales adopted in the present study, individual item reliability, internal consistency reliability, and discriminant validity were determined. First, individual item reliability was determined by analysing the outer loadings of each construct’s measure (Hair et al., 2014, Bamgbade et al., 2017, Salimon et al., 2016, Waris et al., 2014).

Table 1: Factor Loadings and Reliability

Constructs Dimensions	Items	Loadings	Composite Reliability	AVE
Political factor	PL3	0.8062	0.8044	0.6729
	PL4	0.8341		
Management	MG12	0.6757	0.7999	0.5001
	MG7	0.7009		
	MG8	0.728		
	MG9	0.723		
Material	MT1	0.7585	0.7901	0.6538
	MT2	0.8557		
Design	DS4	0.8083	0.7992	0.5721
	DS5	0.6576		
	DS6	0.7942		
Finance	FI1	0.7878	0.7619	0.5178
	FI2	0.7213		

	FI4	0.6423		
Labour and equipment	LE2	0.7529	0.816	0.5259
	LE3	0.6976		
	LE6	0.726		
	LE7	0.7234		
Rules and regulations	RG2	0.596	0.7633	0.5217
	RG3	0.7988		
	RG4	0.7562		

As suggested by Fornell & Larcker (1981) discriminant validity is ascertained with the use of average variance extracted (AVE) as it was achieved in this study by equating the correlations between the latent constructs, which is achieved with the square root of the AVE with 0.6729, 0.5001, 0.6538, 0.5721, 0.5178, 0.5259, 0.5217 for political factor, rules and regulation, design finance, labour and equipment, management and material risk respectively, which all achieved the threshold of above 0.5, which indicated that all the construct in study possess a strong discriminant validity to further used for the structural model (Bamgbade et al., 2017, Salimon et al., 2017, Waris et al., 2014).

Structural Model Results

To ascertain a significance path of the coefficients for the actual model, the authors make use of a standard bootstrapping process with a number of 5,000 bootstrap samples and 238 cases (Hair et al., 2012).

As proposed in Hypothesis 1 that political factor have a positive relationship with construction risk management. Results disclosed that political factor had a significant positive relationship with construction risk management, ($\beta = .0426$, $p < .01$), t-value is 4.055. Therefore, Hypothesis 1 was strongly supported.

Hypothesis 2 predicted that rules and regulations positively moderate the association among political factor and construction risk management. Result disclosed a strong positive relationship among the variables with ($\beta = .0814$, $p < .1$) and t-value of 3.062 which was also supported. The direct effect of rules and regulations on construction risk management as the Hypothesis 3 was also supported with ($\beta = .3379$, $p < .01$) and t-value of 1.452.

Effect size of the endogenous variables are political factor 0.25 and 0.28 for rules and regulations, with small and medium effect respectively, this shows the level of *R*-squared values of the endogenous latent variable when a selected exogenous latent variable is included in or excluded from the model (Bamgbade *et al.*, 2017, Salimon *et al.*, 2017, Waris et al., 2014).

Moderating Effect Results

Hypothesis 2 anticipated that rules and regulations would moderate the relationship between political factor and construction risk management, such that the relationship between them would be stronger (i.e, positively significant) there was a significant interaction effect between political

factor and rules and regulations ($\beta = 0.0416$, $p >.1$). Therefore, Hypothesis 2 was supported (Adeleke *et al.*, 2017).

Note: **significant at 0.01 (1 -tailed), *significant at 0.1 (1 -tailed), CRM (construction risk management) endogenous variable.

CONCLUSION

Irrespective of the study limitations, the present research was able to show the moderating effects of rules and regulation on association among political factors and construction risk management. The findings from this study has ascertained the importance of political factor in increasing construction risk management among the Nigerian construction industries. Therefore, political factor as an organizational external factor influence construction risk management negatively, that is political issues like regional war, riots, changes in government and regional disturbance during construction activities affect most of the Nigerian construction industries from effective risk management. The findings also suggest a structure toward increasing construction risk management with compensation and motivation to the team members in every stages of construction process, which will enhance productivity within the construction industries and curb future risk occurrence on Nigerian industries construction projects.

Similarly, this study has revealed some understanding into the role of organizational external factors with rules and regulation on construction risk management, this is not without limitations. Since the present research adopted a cross-sectional design, underlying inferences cannot be made to the study population. Consequently, a longitudinal design can be used in the future research to ascertain changes over time. Future study can also increase the study area among Nigerian construction companies. Lastly, the future study are expected to investigate the factors that work in line with political factor in order to buffer effective construction risk management among the Nigerian construction industries.

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