

Effects of Cultural Factors on Cost Performance of Multinational Construction Organizations

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Abstract

Purpose: This study examines the effects of cultural factors on cost performance of multinational construction project organisations with a view towards identifying the most effective cost performance variables affected by the influence of cultural practices. Purposive sampling technique was adopted in deterring the number of construction professionals identified in construction companies with international market experience involved in the delivery of building, civil, and heavy engineering construction projects within the south-east geopolitical zone of Nigeria.

Outline: A well-structured questionnaire was used to sample respondent's opinion. Data analysis was through frequencies, percentile, and Mean Item Score (MIS).

Findings: Research findings proved that irrespective of the positive effects of educational culture which improves cost performance by ensuring that projects are executed at estimated cost and within client's budget (Mean = 4.34) and the result of effective communication culture which ensures value for money and return of customer as project is designed to suite client's budget while maintaining standard quality delivery (Mean = 4.16), political culture tends to have mixed effect on cost performance as project design cost, labour, material and equipment cost, profit and overhead cost, etc. (Mean = 4.30) is found to be responsible for cost overruns of construction projects.

Research Implication: The study recommends among others that multinational construction organisations pay great attention to the political style practiced in the host community / country in which they operate.

Paper Type: Research Paper.

Keywords: Construction Industry, Cost Performance, Cultural Factors, Multinational Construction Organisations, Project Delivery.

I. INTRODUCTION

Quoting Nguyen and Watanabe (2017), "culture is acknowledged as an agreed learned moral values / attitudes shared amongst groups of people". Ankrah *et al.* (2009) considered culture as a critical success factor (CSF) for organisations seeking to improve project output and delivery process as well as continuity. This proves that culture impacts project success or failure. In respect to the construction industry, culture is seen as a characteristic of the construction industry with regards to its approach to construction, experts and craftsmen competencies, strategies, goals and values guiding the operations of companies (Abeysekera, 2002). Cost performance is the ability of a project to confirm with clients budget, maintain quality standards, save cost of reworks and maintenance thereby achieving / improving customer satisfaction (Oakland, 2000). According to Ajayi *et al.* (2010), improved cost performance ensures that a project is executed at estimated cost and within client's budget and at the same time, gives value for money and return of customer as project is designed to suite client's budget while maintaining standard quality delivery. Since culture of organisation has a dominant influence on a lot of management decisions and organisational operations, cultural orientation is viewed in the construction industry as a critical consideration seeking to increase construction project productivity and performance (Ankrah, Proverbs, and Debrah, 2009). Hence, the cultural environment of multinational construction organization entails the various factors that affect significantly their operations, economic activities and performance of the companies in a particular geographical location.

Masovic (2018) found out that multiple cultural factors in advanced countries influence the cost performance of foreign subsidiaries. His study adopted a simple approach and assessed only the profit success of the managers of such firms. More so, cost performances of multinational construction companies are measured by certain Key Performance Indicators (KPIs) commonly used to evaluate the performance on construction projects. Cheung *et al.* (2012) opined that the project features associated with these factors are; project size, project complexity, client and main contractor influence, project location, variations, and cost of health and work safety.

With the view of 100 project managers via structured interview in Poland, Piwoszar-Sulej (2021) found that organisational culture influence the type of project management methodology adopted in an organisation. His study revealed that the type of managerial style practiced by an organization has a great influence on cost of project delivery. It was however not clear whether the sampled managers were from multinational or indigenous project organisations. In addition, his study was executed in a more advanced economy when compared to that of Nigeria. Ingosi and Juma (2020) investigated the link between different dimensions of organisational culture (Decision making culture, power distance culture, leadership culture, and shared values) on project cost performance in non-governmental organisations (NGOs). A positive link was found between decision making culture and leadership culture with project cost performance. A negative relationship was found between shared values and power distance culture with project cost performance. Although, this study was carried out in Kenya, its findings are critical in other developing African countries (Nigeria inclusive). Simple analytical tools and single instrument for data collection coupled with the sampling of NGOs and the lack of knowledge of whether the organisations were multinationals or not calls for a need for this present study.

Based on the above premises, in a bid to continue advancing cost performance of multinational construction organisations, and increasing attention and focus by researchers and academics on the subject area globally (Piwoszar-Sulej, 2021; Bako *et al.*, 2019; Masovic, 2018; Bitamba and An, 2020; Ingosi and Juma, 2020; Babalola *et al.*, 2015), this present study therefore examines the effects of cultural factors on cost performance of multinational construction organizations with a view towards identifying the most effective cost performance variables affected by the influence of cultural factors in construction.

Body Literature

Construction market is faced with profound transformation and changes owing to the high level of competition which occasion construction executives to continuously look for ways to remain relevant and competitive (Ali *et al.*, 2013). There exists a rapid global change in the operations of the business environment within which construction organisations thrive. This have in no small measure fuelled organisations to adjust to the complex environmental changes for survival purposes (Love and Heng, 2000). Hence, focus is given to organisational cultural practices as a driving policy for continues change within the general trend of globalization, worldwide economic cooperation and technological advancement. With regards to

construction management education on culture, quoting citations from earlier researchers, Edwin and Raymond (2003) stated that “it is now accepted that a culture of a society is its shared values, understandings, assumptions and goals learned from earlier generations which results in common attitudes, codes of conduct and expectations that guide behaviour.” Project organisational culture is recognized by Luong and Tsunemi (2018) significantly in influencing project success or failure.

Since projects involve interactions amides individuals globally, organisations and agencies from different national orientation and cultural backgrounds (Zhang and Liang, 2008), multinational organizations provide improved innovative goods and services in a bid to stay relevant and competitive in the fast-moving international economies (Aswathappa, 2008). Multinational construction companies are construction consultants handling international construction projects in host countries / communities. Hence, international construction projects are projects in which the contractor, the lead consultant, or the employer is not of the same domicile, and at least one of them is working outside his or her country of origin (Edwin and Raymond, 2003). This proves that developing and less-developed countries enjoy the benefits of international collaboration (Bako, Ogunremi, and Bako, 2019). However, performance evaluation has recorded continues challenges as proposed model methods have been developed by researchers to evaluation project cost performance. Valuable important variables depicting successful construction project from clients, consultant, and contractor’s perception are the overall project team performances (Heizer and Render, 2006). According to Ajayi *et al.* (2010), analytical procedures are mostly limited to selected measures to include cost, time schedule, and labour productivity. He further stated that construction performance embraces client’s satisfaction, time performance, cost performance, construction quality and sustainable development. It is therefore necessary to analyse the cost performances of construction projects executed by multinational construction organizations.

Cost performance of multinational construction organizations

According to Hillebrandt (2000), cost performance of any project depends mainly on a variety of factors to include organizational liquidity funds, labour, materials, design, and waste maintenance cost, market share and cash flow of project, profit and overhead, project overtime, cost of reworks and variation order, etc. On the other hand, Ajayi *et al.* (2010) suggested that improved cost performance ensures that the project is executed at estimated cost and within client’s budget. At the same time, gives value for money and return of customer as project is designed to suite client’s budget while

maintaining standard quality delivery. Cost overruns due to managerial and external influence resulting to delays and project abandonments, Fluctuation due to influence of foreign exchange rates which leads to change in market price of materials thereby affecting total cost of deliver, and Project design cost, labour cost, material and equipment cost, profit and overhead cost, etc. affects cost performance of a construction project (Heizer and Render, 2006).

Consequently, the performance of multinational construction companies and international construction projects declines rapidly. According to Serhat *et al.* (2016), there are so many factors affecting cost performances of multinational construction companies in the construction industry. His research outlined Societal Factors, Institutional Factors, Cultural Intelligence (CQ) factors, Organisational Factors, Team Factors, Management factors, Informational Diversity factors, Climate factors, amongst others as the most common factors affecting international construction projects. More so, there exist high complexities in contract execution with international construction companies caused by the cross-cultural management (Chen and Partington, 2004).

Cultural factors affecting cost performance of multinational construction organizations

Construction project is themed successful if completed on time, within budget, and in accordance with outlined quality specifications. House *et al.* (2004) and Lane *et al.* (2009) in their researches observed that national culture entails the beliefs and values which define the “should/should not” and the “ought(s)” of life. According to them, there exists a constant diversification in age brackets, religious lines, race, locality, or other spheres within nation’s communities. Therefore, cultural standards are societal factors which include a guiding principle regarded by members of a cultural community as their typical and obligatory norms (Halverson and Tirmizi, 2008). Hence, in line with the review of related literature (Zhang and Liang, 2008; Phua and Rowlinson, 2003; Chen and Partington, 2004; Chan and Tse, 2003; Ankarh and Langford, 2005), focus of this study is based on educational, political, and communication factors as the major cultural factors affecting cost performance of Multinational Construction Organizations.

Educational factor: Ankrah *et al.* (2009) opined that quality education guide construction stakeholders on the selection of suitable approaches and practices that will help contribute to sustainable and successful construction project delivery, workforce orientation, performance orientation, team orientation, client orientation, and project orientation. More so, Cebeci and Beskese (2002) opined that systematic training and education of organizational staff in quality management enhances employee empowerment as well as improving

organizational development framework. Therefore, exposure to globalization and technological modernization leads to better cost performance and improvement in construction output. Furthermore, the importance of training as outlined by Trehan and Trehan (2009) and McAdam and Kelly (2002) is to ensure that an understanding / attitude of quality is developed and maintained in a bid to ascertain that the skills of the workforce does not become obsolete in an environment of change.

Political factor: It’s no new philosophy that violent social and political unrest in third world countries results in economic meltdown, illiteracy, and exposure to gross security instabilities. In the contest of the construction industry Ling and Hoi (2006) outlined that political culture leads to strong sense of environment protection. According to Ehigiamusoe (2013) and Olaniyan (2015), wide range of political, economic, legal, socio-cultural and technological factors restrict smooth operations of multinational construction companies. This in turn affects cost delivery and performance of said projects. Politics influence a lot of management decisions and organisational operations / dealing. Olaniyan (2015) observed that it results to huge damage to organisations in an international market hence contributing to adversarial attitudes and construction. In Nigeria, Aaron (2010) and Jakobsen (2010), found out that political cabals and religious cartels highjack the activities of international construction companies operating in the North-Eastern (NE) areas to for their illegal consumption. Hence, the diversification of multinational construction projects to the northern poles of the country.

Communication factor: Effective communication is a key element to the success and failure of any organisation. According to Low and Leong (2000), “failure to appreciate the different style of communication practiced by cross-cultural business influence the project performance in an undesirable way”. This also leads to work scope creeping, misunderstanding, overestimate or underestimate of client’s demand. However, effects of communication on delivery of international construction projects include improving smoothness of handover, teamwork, issue resolution, joint decision making, people selection, and prioritization; build attributes of trust, good planning, and communication techniques among team members; helps in conflict reduction and minimisation of misunderstanding among stakeholders and lead managers; provide and strengthen insight on the implications of cultural variables of construction project characteristics; etc. (Teerajetgul and Charoenngam, 2006; Brochneret *et al.*, 2004).

II. METHODOLOGY

This research analyse the effects of cultural factors on cost performance of multinational construction organizations. It was expected to cover multinational construction projects in Nigeria but due to financial and locational of the researchers, the study focused on the south-eastern states of the country. The south-east comprises of five states (Abia, Anambra, Ebonyi, Enugu, and Imo States) which are major revenue hubs and confluence states of the nation based on the presence of on-going multinational construction projects therein. This calls for a research design to carry out structured investigations geared towards identifying variables and their existing relationships (Kothari, 2004).

Hence, this study harnessed survey research approach in predicting construction companies with international market experience involved in the delivery of building, civil, and heavy engineering construction projects. The purposive sampling method was applied to extract professional opinions within the construction industry (Architects, Builders, Civil Engineers, and Quantity Surveyors) in each identified construction company. A well-articulated questionnaire was sampled to top management and identified professionals within these companies to extract information for data analysis. These entails the background formation of respondents and their knowledge of cultural factors affecting cost performance of multinational construction organizations extracted through literature review on the subject area.

Seventy (70) questionnaires were administered to the respondents and 56 were retrieved. This represents 80% of the total number of questionnaire administered. Since the population is considered adequate and manageable, all retrieved questionnaires were analysed and discussed. Data analysis was through frequencies, percentile, and Mean Item Score (MIS) ranked on a 5 Likert scale to authenticate the research, while SPSS was employed for data processing.

III. ANALYSIS AND FINDINGS

Characteristics of respondents

A total number of 56 (80%) Questionnaires were successfully retrieved and analysed. 18 respondents were Quantity Surveyors accounting for 55%, 13 respondents were Engineers (30%), 10 respondents were Builders (17.9%), 9 respondents were Architects (16.1%) and the remaining 6 were Clients which represents 15% of the population.

Majority of the respondents possess B.Sc./B.Tech/B.Eng. (37.5%) while about 28.6%, 23.2%, and 10.7% have M.Sc./M.Tech/M.Eng, HND, and PhD degree respectively. No respondent possess OND in their academic qualification. Result shows that about 23.2% have below 6 years of working experience while others have 6 and above years of working experience. This proves that the result obtained can be relied upon as responds were made based on practicing experience.

More so, the most registered professional body of respondents is the Nigeria Institute of Quantity Surveyors (NIQS), accounting for 26.8% of the total respondents. Following the Quantity Surveyors is the Nigeria Society of Engineers (NSE) accounting for 17.8% of the total respondents; the Nigeria Institute of Architects (NIA) - 16.1%; Nigeria Institute of Builders (NIOB) - 12.5% showing a total of 41 respondents, representing 73.2% registered with their professional bodies and 15 (26.8%) respondents not registered with their professional bodies. Research result shows that all 56 respondents are aware of Cultural Factors affecting Performances of Multinational Construction Companies; thus, representing 100% responds rate. Based on this, all retrieved questionnaires were used in date analysis.

Table 1: Summary of Respondents Characteristics

CATEGORY	CLASSIFICATION	FREQUENCY	PERCENTAGE
Field of Specialization	Quantity Surveyors	18	32.1
	Builders	10	17.9
	Architects	9	16.1
	Engineers	13	23.2
	Clients	6	10.7
	Total	56	100.0
Membership of Professional Bodies	NIQS	15	26.8
	NIOB	9	12.5
	NIA	7	16.1
	NSE	10	17.8
	Total Members	41	73.2
	None Members	15	26.8
Academic Qualification.	Total	56	100.0
	HND	13	23.2
	B.Sc. / B.Tech	21	37.5
	M.Sc. / M.Tech	16	28.2

	PhD	6	10.7
	Total	56	100.0
Practicing Experience	0 - 5years	13	23.2
	6 - 10years	17	30.4
	11 - 15years	11	19.6
	16 - 20years	7	12.5
	21 - 25years	4	7.1
	25 - 30years	3	5.4
	Above 30years	1	1.8
	Total	56	100.0
Level of Awareness of the Cultural Factors affecting Cost Performances of Multinational Construction Organizations	Highly Aware	32	57.1
	Aware	15	26.8
	Fairly Aware	7	12.5
	Barely Aware	2	3.6
	Total	56	100

The finding of this research shows that the awareness level of cultural factors affecting cost performances of multinational construction organizations is high and on the increase. This shows an improvement in line with findings of Masovic (2018) and Bitamba and An (2020) which recommended an easing attention and focus by researchers and academics on the impact of cultural factors on cost performances of multinational construction companies / organisations globally. Irrespective of the recorded improvement, research findings prove that construction professionals still entertain fair level of awareness and these according to the perception of Piwowar-Sulej (2021) calls for more awareness in other to gain maximum improvement on the topic of context.

Effect of cultural factors on cost performance of multinational construction organizations

The outcome of the survey on the effects of cultural factors on cost performance of multinational construction organizations are evidenced in Table 2. Result shows the ranking of three (3) Cultural Factors (Education, Politics, and Communication) in relation to their impact on five (5) Cost Performance Indicators of multinational construction organizations for a successful construction project delivery. Each cost performance variable samples the opinion of the respondents in relations to the under-listed cultural factors.

Table 2: Effect of Cultural Factors (Education, Politics, and Communication) on Cost Performances of Multinational Construction Organizations

S/N	Cost Performance Indicators of Multinational Construction Organizations	Educational Factor		Political Factor		Communication Factor	
		Mean	Ranking	Mean	Ranking	Mean	Ranking
1	Improved cost performance by ensuring the project is executed at estimated cost and within client's budget.	4.34	1	4.21	3	4.01	2
2	Ensures value for money and return of customer as project is designed to suite client's budget while maintaining standard quality delivery.	4.30	2	4.13	4	4.16	1
3	Cost overruns due to managerial and external influence resulting to delays and project abandonments.	4.27	3	4.27	2	3.93	5
4	Fluctuation due to influence of foreign exchange rates which leads to change in market price of materials thereby affecting total cost of delivery	4.23	5	4.05	5	3.98	4
5	Project design cost, labour cost, material and equipment cost, profit and overhead cost, etc. that affects cost performance of a construction project.	4.25	4	4.30	1	4.00	3

Data analysis shows that the effects of educational factor on cost performance indicators ranges from 4.23 to 4.34 mean score. The result proved that in respect to cost performances of Multinational Construction Companies, improved cost performance by ensuring the project is executed at estimated cost and within client's budget is ranked highest with a mean score of 4.34 as educational factors. This confirms the findings of Ajayi *et al.* (2010) which proved that improved cost performance ensures that the project is executed at estimated

cost and within client's budget. Following this with a mean score of 4.30 is ensuring value for money and return of customer as project is designed to suite client's budget while maintaining standard quality delivery. This justifies earlier researchers' opinion that contraction organizations survival in diverse economic environment requires meeting client's need in every aspect, including a cost friendly quality availability that the client is ready and willing to pay (Bajaj *et al.*, 2018); and Hillebrandt, 2000). On the other hand, fluctuation due to

influence of foreign exchange rates which leads to change in market price of materials thereby affecting total cost of delivery is ranked lowest as educational factor with a mean score of 4.23. Although ranked low, it is in agreement with the research by Heizer and Render (2006) which entails that fluctuation leads to cost overruns and external influence resulting to delays and project abandonments. It is therefore necessary to keep training and re-training organizational staffs in order to ensure that the skills of the workforce do not become obsolete in an environment of change and an understanding and attitude of quality is developed and maintained (McAdam and Kelly, 2002).

Results of this research prove that the effects of political factor on cost performance indicators ranges from 4.05 to 4.30 mean score. Analysis above shows that the political practice of the host environment has the highest level of influence on project design cost, labour cost, material and equipment cost, profit and overhead costs that affects cost performance of a construction project with a mean score of 4.30. This proves that politics influence greatly the cost performance of multinational construction organizations and thus justifies the research by Aaron (2010) and Jakobsen (2010) who found out that international construction companies are plagued with political and religious interference with their work. More so, managerial and external influence resulting to delays, project abandonments, and cost overruns were ranked high (4.27 mean score). This is a negative result which shows the adverse influence of politics on cost performance of multinational construction organizations. It further justifies the observations of Olaniyan (2015) that politics influence a lot of management decisions and organisational operations / dealing which in turn results to huge damage to organisations in an international market hence contributing to adversarial attitudes in construction. The list ranked political factor affecting cost performance with a mean score of 4.05 is fluctuation due to influence of foreign exchange rates which leads to change in market price of materials thereby affecting total cost of delivery. This agrees with the findings of Kim et al (2008) which stated that “frequent exposure to serious external uncertainties such as political, economic, social, and cultural

risks, as well as internal risks from within the project results in complex and dynamic performance of international construction projects nature than domestic projects”.

Findings of research shows that effects of communication factor on cost performance indicators ranges from 3.93 to 4.16 mean score. It shows that ensuring value for money and return of customer as project is designed to suite client’s budget while maintaining standard quality delivery is the highest ranked communication factor (with a mean score of 4.16) affecting cost performance of multinational construction organizations. This proves that failure to appreciate the different style of communication in cross-cultural organizations (Low and Leong, 2000) apparently leads to misunderstanding, work scope creeping, and overestimate / underestimate of clients demand (Chen and Partington, 2004). Which may lead to project cost overruns for both client and contractor? Result of this research also shows that Improved cost performance by ensuring the project is executed at estimated cost and within client’s budget with a mean score of 4.01 was ranked second as communication factors affecting cost performance. This validates observation that effective communication helps in conflict reduction and minimisation of misunderstanding among stakeholders and lead managers (Teerajetgul and Charoenngam, 2006), and at the same time, creates consciousness that is relevant to making a suitable strategy for mitigating the negative consequences of cultural factors (Brochner et al., 2004). Cost overruns due to managerial and external influence resulting to delays and project abandonments were ranked lowest as communication factor with mean score 3.93. This entails that effective communication has low negative effect on cost performance of multinational construction organizations and hence, proves that effective communication is a key element to the success and failure of any organisation.

IV. CONCLUSION AND RECOMMENDATIONS

In conclusion, summary of Cultural Factors (Educational Factor, Political Factor, and Communication Factor) affecting Cost Performance of multinational construction organizations are analysed and presented below.

Table 3: Summary of Cultural Factors affecting Cost Performance of multinational construction organizations

CULTURAL FACTOR	COST PERFORMANCE INDICATORS OF MULTINATIONAL CONSTRUCTION ORGANIZATIONS	Mean	Ranking
Educational Factor	Improved cost performance by ensuring the project is executed at estimated cost and within client’s budget.	4.34	1
Political Factor	Project design cost, labor cost, material and equipment cost, profit and overhead cost, etc. that affects cost performance of a construction project.	4.30	2
Communication Factor	Ensures value for money and return of customer as project is designed to suite client’s budget while maintaining standard quality delivery.	4.16	3

With the expertise of high ranked professionals and stakeholders in the construction industry (Quantity Surveyors, Architects, Builders, Civil Engineers, and Clients), gathered through a well-structured questionnaire and analysed using appropriate analytical tools, it is hereby established through the outcome of this research that cultural factors affect greatly, the cost performance of multinational construction organizations, especially in the research area (South-Eastern Nigeria). The research further proves that irrespective of the positive effects of educational culture which improves cost performance by ensuring the project is executed at estimated cost and within client's budget and the result of effective communication culture which ensures value for money and return of customer as project is designed to suite client's budget while maintaining standard quality delivery, political culture tends to have mixed effect on cost performance as Project design cost, labour cost, material and equipment cost, profit and overhead cost, etc. is found to be responsible for cost performance of a construction project. This is rather an undeniable fact amongst third world countries especially in Nigeria where the chaos associated with political and religious imbalance attract devastating effects on the performance of organisations trading therein. More so, political influence has resulted to the diversification of multinational construction projects to the northern poles of Nigeria were international construction companies operating in within the North-eastern (NE) geo-political zone are limited by interference of political and religious actions with their works. This affects greatly, the type of project management methodology adopted by multinational construction project organisation; decision making culture, power distance culture, leadership culture, and shared values culture hindering smooth running of multinational construction companies' administration; wide range of political, economic, legal, socio-cultural and technological factors restricting smooth operations of multinational construction companies; influence on a lot of management decisions and organisational operations / dealing; and substantial damage to organisations in an international market which contribute to negative attitudes, and disputes eruption in international construction projects.

However, since cost performance is greatly affected by the effects of these three cultural factors (Education, Politics, and Communication) this study recommends that multinational construction organization pay kin interest to the political style practiced in the host community / country in which they practice. Migration towards supporting the ruling political party may be considered a great priority as contract award is greatly influenced by the ruling class. More so, increased attention should be given to training and retraining of company staffs and an effective communication developed. This will encourage teamwork, build confidence of employees, and bridge the gap of negative cultural factors as

cost performance and client satisfaction remain a top company policy in achieving successful delivery of construction project.

Furthermore, areas for further studies are outlined based on the limitations of this study as the study is limited to the impact of cultural factors on cost performance of multinational construction companies with focus on the south-eastern geo-political zone of Nigeria. Similar research is expected in other states / zones in other to have wider coverage of the research topic. This research finding proves that the awareness level of cultural factors influencing cost performances of multinational construction companies is on the increase. A constant creation of awareness medium is necessary to bring to limelight the subject matter which when compared to other foreign counterparts, Nigeria falling under the struggling categories of third world countries, is lagging behind. Finally, this research analysed the effects of three cultural factors (Education, Politics, and Communication) on cost performance of multinational construction organizations only. Another research should be carried out in other to analyse the effects of cultural factors on other performance indicators such as time performance, quality performance, etc. and other cultural factors peculiar to the construction industry.

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