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# IMPLEMENTATION OF ORGANISATIONAL CULTURAL PRACTICES AMONGST MULTINATIONAL CONSTRUCTION FIRMS IN SOUTH-EASTERN NIGERIA

***Anthony Chukwunedum Anumudu[1], Monday Otali[2], and Anthony Okwogume Ujene[3]***

[1]Department of Quantity Surveying, Federal University of Technology Owerri, Imo State, Nigeria

[2, 3]Department of Building, University of Uyo, Akwa Ibom State, Nigeria

## ABSTRACT

**Purpose:** Culture is a set of learned mores, values, beliefs, attitudes, and a vital Critical Success Factor (CSF) that impacts project success or failure. The major challenges facing Multinational Construction Firms (MCF's) working across borders are being able to develop cultural practices that balance global competitiveness and multinational flexibility. Hence MCF's must develop cultural sensitivity and ability to manage and leverage learning to build future capabilities. Therefore, this study aims to assess the level of implementation of organisational culture amongst MCF's in the South-Eastern region of Nigeria.

**Design/methodology/approach:** 307 well-structured questionnaires and 20 semi-structured interviews were administered to construction professionals and firm representatives randomly sampled amongst MCF's across the South-Eastern States of Nigeria. Data analysis was through frequencies, percentile, Mean Item Score (MIS), and Kruskal-Wallis H Test.

**Findings:** The study found that maintaining cultural standards and adhering strictly to due process (MS = 4.73), integrating the various subsystems of the organisation (MS = 4.52), and making significant changes to the organisation (MS = 4.47) were the top three (3) ranked overall Organisational Cultural Practices (OCP's) implemented by MCFs. The study also found that 7.14% of OCP's had very high level while 92.86% had high level of implementation. There is significant difference as firm location has great influence on the extent of implementation of OCP's among MCFs. However, the desired very high level implementation has not been met across all States in the South-East region of Nigeria.

**Research limitations/Implications**: The limitations include the insecurity situation in the South-Eastern region of Nigeria hindering frequent inter-State traveling of the researchers, difficulty in assessing staff and material documents from MCF's during the questionnaire and interview session, and difficulty in assessing confidential information from MCF's by non-company management staff.

**Practical implications:** The study recommends that MCF's ensure a very high level of implementation of OCP's is attained by directing the decisions and behaviour of management and employees, and focusing on excellent planning and control techniques (knowledge management) in the individual States of the South-East region of Nigeria.

**Originality/value**: The study complements existing literature on the subject area by bridging research gap on the level of implementation of OCP's amongst MCF's in the South-Eastern region of Nigeria.

**Keywords:** Construction Industry; Cultural Practices; Implementation; Multinational Construction Firm; Organisational Culture

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[1] Email: anthony.anumudu@futo.edu.ng

# 1. INTRODUCTION

The construction sector remains a major player influencing the economic growth and development of nations (Bicer, 2022). The rapid globalization of the world's economy has significant impact on the way construction project managers work by connecting them frequently with clients, suppliers, and peers that they have never worked with before (Low and Lau, 2019). The cultural values in which organisations operate vary from one country to another. Hence, what characterizes organisations values differs from their own home countries in which they operate (Oladinrin, *et al.,* 2012).

Culture, therefore, is a critical consideration in seeking to increase construction project productivity, sustainability, and performance (Mauchi, *et al.,* 2020; Low and Lau, 2019; and Nguyen and Watanabe, 2018). Culture has the tendency to influence crisis, litigation, and the attitudes and behaviour of employees towards health and safety (Ela, *et al.,* 2017). According to Nguyen and Watanabe (2017), "culture is acknowledged as a set of learned mores, values, beliefs, attitudes, and meanings that are shared within a group of people". Culture also influences every facet of human behaviours as well as helps establish orders to groups, society, individuals, and organisations as the cultural structure of the market where a firm has business dramatically affects its international marketing activities (Biyikli, 2024).

With regards to the construction industry, Culture is seen as the characteristics of the construction industry in relations to its approach to construction experts and craftsmen competencies, strategies, goals, and values guiding the operations of companies (Awolesi and Fabi, 2019; and Nguyen and Watanabe, 2018). Culture impact project success or failure, it is an essential element of management practices, and it is a vital Critical Success Factor (CSF) to Multinational Construction Firms (MCF's) (Cheung, *et al.* 2012; Heyecan, *et al.,* 2013; Sage, *et al.*, 2014; and Williams, *et al*., 2015). Therefore, Kim and Milner (2019) define MCF's as corporate organisations that owns or controls production of construction materials, goods, or services in at least two or more countries with global operational structure through outsourcing and offshoring activities that drives extensively the Global Value Chains (GVCs) prevalent in today's world economy.

As MCF's play significant roles in shaping the global economy, their transnational activities have transformed the nature of international trade, investments, and technology transfers in the era of globalization (Olowosile, *et al.,* 2019). Hence, international construction projects are the activities that involve multinational participants from different political, legal, economic, and cultural backgrounds (Nguyen and Watanabe, 2017 and 2018). However, the construction market is facing a 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 (Osman, *et al.,* 2023; Fasoulis and Kurt, 2019; and Ali, *et al.* 2013). In an era of globalization, projects in the construction industry face unique challenges in coordination among clients, financiers, developers, designers, and contractors from different countries (Fauzi, *et al.,* 2018; and Ochieng and Price, 2010). In addition, the construction sector is bedevilled by time overrun, cost overrun, disputes among parties and quality issues (Anumudu *et al.,* 2020). This is due to the critical/significant role the organisation and cultural environment play in the success or failure of foreign corporations in any nation (Otali, *et al.,* 2020).

These issues are blamed on the nature, the complexity of projects, multiple parties / participants, fragmented and high level of competition that is associated with the delivery of projects (Bitamba and An, 2020; and Babalola *et al.,* 2015). Therefore, MCF's need to cope with the complexities of both local institutions and cultural environments. Nigeria is one of the developing nations of the world that have a unique cultural environment that impacts both local and multinational construction companies doing business and executing various projects for both the public and the private sectors (Malik and Adeleke, 2018). Considering the critical role, the cultural environment plays in the success or otherwise of construction projects / organisations (Xia, *et al.,* 2018 and Teräväinen, *et al.,*

2018), coupled with the increasing attention and focus by researchers and academics on the cultural practices of multinational construction project organisations globally (Bako, *et al.,* 2019; Bitamba and An, 2020; and Babalola, *et al.,* 2015), this present study therefore aim to assess the level of implementation of OCP's of MCF's in the South-Eastern Nigeria with a view towards recommending necessary actions for attaining a very high level implementation of OCP's desired by construction organisations amongst all MCF's across the Five (5) South-Eastern States of Nigeria.

### 1.1. Objectives of the Study

Given the background above, the specific objectives are to:

i. Identify the Level of Awareness of OCP's among MCF's in South-East Region of Nigeria.
ii. Examine the Level of Implementation of OCP's among MCF's in South-East Region of Nigeria.

The outcome of this study is expected to create awareness of OCP's and ensure a very high level implementation of OCP's is attained amongst MCF's in the individual States of the South-East region of Nigeria.

### 1.2. Research Hypothesis

The hypothesis States that;

$H_{01}$: there is no significant difference in the level of implementation of OCP's among MCF's in South-East Region of Nigeria.

The results of hypotheses will provide an insight into the extent of implementation of OCP's amongst MCF's, and also validates the findings from the research questions.

## 2. LITERATURE REVIEW

The global recognition of the construction industry as the basic sector on which a nation's development depends upon can be attributed to its contributions to national economic growth and development (Awolesi and Fabi, 2019). Throughout the world, the business environment within which construction organisations operate continues to change rapidly. Organisations failing to adapt and respond to the complexity of the new environment tend to experience survival problems (Aghimien, *et al.,* 2019). Since global projects involve interactions among individuals, organisations and agencies from diverse national backgrounds and cultural context (Hoxha and Shala, 2019), problems arise inevitably from additional misunderstandings, increased transaction costs, friction between project participants and coordination and communication difficulties (Amarantou, *et al.,* 2018). 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 (Nwaki, *et al.,* 2021; and Ekolu and Quainoo, 2019).

### 2.1. The Construction Industry

Construction is defined as 'the mobilization and utilization of capital and specialized personnel, materials, tools, and equipment to assemble construction materials on a specific site in accordance with drawings, specifications, and contract documents prepared to serve the purposes of the client' (Matthew, 2019; Lin, *et al.,* 2018; Khan *et al.,* 2016; and Murphy, *et al.,* 2013). With the increasing higher users' requirements, environmental awareness, limited resources, and high competition for construction business market, contractors must be capable of continuously improving their performance to meet up with current standards (Loosemore and Lim, 2016). In relations to Hoxha and Shala (2019) on the interactions among individuals, organisations, and agencies from diverse national backgrounds and cultural context, Adros and Abidin (2019) posited that MCF's are constantly striving to break into international terrains and markets by providing improved and innovative goods and services in a bid to stay

relevant in fast-moving international economics. This means that international collaboration can be of particular benefit to least developed and developing countries (Bako, *et al.,* 2019). Based on the dynamicity and fragmentation of the construction industry, construction stakeholders are confronted with new / constant changes in the organisation's environment. Hence, Idrus and Sodangi (2010) argued that for construction clients and end users of completed facilities to realize best value for their invested resources, the concept of organisational culture must be critically evaluated in the construction industry to improve the quality of product and services.

### 2.2. Multinational Construction Firms (MCF's)

The construction industry is complex and multidimensional. According to Kim and Milner (2019), MCF's are construction consultants handling international construction projects in host countries / communities. Mok, *et al.* (2015) and Inuwa, *et al.* (2014) described multinational contractors as expatriate contractors who are mainly private firms that are jointly owned by local / indigenous contractors and foreigners but solely managed by expatriates. More so, Ogbu (2011) Stated that the Multinational Construction Companies (MCCs) are usually Multinational Enterprises (MNEs), or their affiliate private firms jointly owned by local contractors and foreigners but are mostly or fully managed by professionals.

To improve the situation of the construction industry, Hald, *et al.* (2020) and Patrick (2017) opined that the major construction projects in developing countries are often carried out in joint ventures with construction companies from developed countries. Therefore, international collaboration can be of particular benefit to less developed and developing areas (Bako, *et al.,* 2019). Also, Reid and Loosemore (2017) and Tunji-olayeni and Omuh (2018) Stated that MCCs are usually MNE's, or their affiliate private firms jointly owned by local and foreigners but are mostly or fully managed by foreigners. 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 (Ekolu and Quainoo, 2019).

### 2.3. Organisational Cultural Practices (OCP's) in the Construction Industry

According to Nguyen and Watanabe (2017), "culture is acknowledged as a set of learned mores, values, attitudes, and meanings that are shared within a group of people". Since culture of organisation has a dominant influence on a lot of management decisions and organisational operations, Pakdel (2016) considered culture as a Critical Success Factor (CSF) for organisations seeking to improve project output and delivery process as well as continuity. Organisational culture is therefore considered to guide individual communications within an organisation and to be a critical antecedent factor for the success of knowledge management initiatives (Pekkola, *et al.,* 2016). According to Boateng (2019), the value of project management is dependent on organisational culture when implementing projects. Hence, strategic initiatives are often implemented as projects to improve the performance of an organisation.

Writing from the Nigerian construction industry uncovers numerous issues which contrarily influence the intensity of development firms. These issues are for the most part as low quality of developed offices, delays, cost invades, poor customer fulfilment, expanded revise and low efficiency (Tunji-olayeni and Omuh, 2018 and Omonitan, *et al.,* 2024). Therefore, to enhance successful performance of construction projects, organisations need to develop a project-centred culture (Awolesi and Fabi, 2019). More so, Oberföll, *et al.* (2018) opined that failed projects are related to organisational and project cultures. Projects are identified, planned, and implemented in different social, cultural, economic, technological, legal, global, and political environments. More so, project managers need to adjust to such organisational environments surrounding their projects to bring the projects to fruition (Pekkola, *et al.,* 2016). Hence, project culture is essential to create an environment that is conducive to all project stakeholders and not hinder project managers to identify both intended and unintended positive and / or negative impacts for adjustments.

Therefore, for proper implementation of Organisational Culture, Masovic (2018), Bako, *et al.* (2019), Ingosi and Juma (2020), and Piwowar-Sulej (2021) opined that MCF's evaluate their policy in adopting and implementing the following cultural practices; maintain cultural standards and adhere strictly to due process, focuses on excellent planning and control techniques (knowledge management), adopt proper financial control on site (cash flow), hiring employees that will succeed in the organisation (recruitment, development, and human resource maintenance and management), create policies and assignments to increase profitability, growth, and respond to market demands, making significant changes to the organisation in response to real threats to its continued existence, facilitating mergers, joint ventures, and acquisitions, maintain adequate training and re-training of staff on quality performance (motivation), ensures management commitment to continual quality improvement, develop a unique management leadership dedicated for quality performance, upholding a high level of competition to enhance staff productivity, and engage competitors and identify intense rivalry between companies to improve on the level of competency.

Additionally, Tayeh, *et al.* (2018), Bitamba and An (2020), Elena and Elena (2013), and Piwowar-Sulej (2021) opined that MCF's adopts and implements the following cultural practices to enhance firm performance; avoid resource wastage on site, pays kin interest on previous experience of contractor to select the best contractor for the job, employ only technical and professional expertise and resources to perform task, prioritize high standard on education and training to drive the improvement process, pay kin interest on governance and economic policies of the host community, study the nature of the construction environment which has a cumulative impact on the quality of products, understand the legal condition allowing international construction organisations smooth running of their projects, engage strong political franchise with the ruling party to win / attract multimillion public contracts, ensure client satisfaction by evaluating clients' feedbacks and maintain quality standards, develop culture that can motivate and foster innovative behaviour amongst its members, achieving better organisational performance due to a strong organisational cultural policy, directs the decisions and behaviour of management and employees, upholding a unique organisational cultural policy as a main instrument of strategy implementation, allows the vision of organisational development to become transparent and common to all members of the organisation, determines the image of the organisation, and integrates the various subsystems of the organisation.

Hence, to continue improving the outputs of the construction industry and construction projects, construction companies / organisations (local and multinationals) must pay significant attention to the cultural practices implemented in the workplace environment (Pham, *et al.*, 2020 and Bogdanowicz, 2014). To understudy the cultural practices of MCF's / companies / organisations globally (Babalola, *et al.*, 2015; Masovic, 2018; Bako, *et al.*, 2019; Bitamba and An, 2020; Ingosi and Juma, 2020; and Piwowar-Sulej, 2021), with a view towards improving MCF's (Nasir, *et al.*, 2012; Liu, *et al.*, 2014; Bonanomi, *et al.*, 2016; and Nikpour, 2017), it is therefore necessary to assess the level of implementation of OCP's amongst MCF's in the South-Eastern region of Nigeria.

### 2.4. Area of the Study

This study covers the Implementation of OCP's among MCF's in the South-East Region of Nigeria. The South-Eastern region houses five (5) States (Abia, Anambra, Ebonyi, Enugu, and Imo States). The reason for choosing this study area is that the South-Eastern region is the major revenue-generation hub of the Government of Nigeria because of the presence of major construction works in the region (Obonadhuze, *et al.* 2021; and Onyejeakor, *et al.*, 2020). These States are rich in construction works, and they contribute significantly to the national revenue generation of Nigeria (Obonadhuze, *et al.*, 2021; and Nwaki, *et al.*, 2021). The States harbour a lot of building, civil and heavy engineering construction, and oil servicing companies (Eze, *et al.*, 2020), and a good proportion of these firms are multinational corporations. Also, a lot of multinationals have their head offices or annexes in some of these States in the region (Obunwo, 2016; and Eze, *et al.*, 2020). Lots of projects are also being undertaken by both the Federal and State

Government in these States. These projects include roads, buildings projects of both residential and commercial nature, dredging work and others infrastructure. The presence of construction and job opportunities attracts a lot of local and international companies, investors, construction experts, professionals, and artisans into the South-Eastern region. This makes the South-Eastern region of Nigeria suitable for this present study.

## 3. METHODOLOGY

This study was guided by the pragmatism philosophy which supports and enables the use of a mixed-methods approach (a combination of qualitative / semi-structured interviews and quantitative / structured questionnaire) survey research method for data collection and analysis which facilitates a comprehensive understanding of the phenomenon under investigation (Morgan, 2014 and Maarouf, 2019). This dual approach enhances the depth of the study by leveraging the strengths of both methodologies, enables cross-validation, and reinforces the reliability of findings (Tashakkori and Teddlie, 2010).

Therefore, a questionnaire survey and interviews were adopted to collect data from MCF's registered with the Ministry of Works across the Five (5) South-Eastern (Abia, Anambra, Ebonyi, Enugu, and Imo) States of Nigeria, actively engaged / involved in building, civil, and heavy engineering construction projects with at least 5 years of practicing experience and a rich pool of construction stakeholders / construction professionals (Quantity Surveyors, Architects, Builders, Project Managers, and Engineers) and firm managers knowledgeable in the field of construction management, OCP's, and firm performance. The target population consists of Fifteen (15) MCFs' with head offices (excluding their branches) across the Five (5) Sister States of the South-Eastern region of Nigeria. To achieve a good insight of the research concept, all the MCF's head offices and their branches across the South-Eastern State made up the research population.

To this effect, a total of Forty-Eight (48) MCF's (including their head offices and branches) were identified and sampled using total enumeration sampling strategy. This shows the rate of dominance of the firms in the local market and the level of patronage of their products and services across the Southeast. Given that the total population is manageable, a census approach was used to capture all relevant perspectives while stratified random sampling was used to ensure a balanced selection of respondents across the different firm representatives. This approach mitigated biasness and enhanced comprehensive representativeness in respondents' selection within each firm (Taherdoost, 2017 and Tan, 2011). Three Hundred and Eighty-Two (382) copies of questionnaire were randomly administered to the respondents across the Forty-Eight (48) identified MCF's in the study area. However, Three Hundred and Seven (307) copies were successfully retrieved. The researchers also interviewed Four (4) professional industrial stakeholders comprising of Architects, Builders, Engineers, Project Managers, and Quantity Surveyors across MCF's in the study area. To this effect, a total of Twenty (20) interviews were successfully conducted and used for data analysis. Since the total number of retrieved questionnaire and interviews fall within a manageable size, the entire data retrieved formed the sample size / frame used for the purpose of this research.

Data was collected through self-administration, electronic survey, and trained research field assistants for the structured questionnaire. The semi-structured interviews were conducted via one-on-one administration to the respondents. Data was analysed using Frequencies, Percentile, Mean Item Score – MIS, and Kruskal-Walis H test. Data processing was carried out with the aid of MS-Excel (for statistical analysis of quantitative data) and coded using Statistical Package for Social Science – SPSS (computer based statistical software) to validate the relationships between key variables in the study. Findings of this study were triangulated with quantitative results to enhance validity.

## 4. PRESENTATION AND DISCUSSION OF RESULTS

The response on demographic information is presented in Table 1. 51% of the sampled majority respondents were male, 95.9% fall within the age bracket of 41-50urs. 94.4% had first degree or higher national diploma. 35.4% majority of the respondent were associate of institution (ANIVS). 33.3% were registered estate surveyor and Valuers (ANIVS RSV) while 16.5% and 14.7% were registered fellow and probationers respectively. 94.4% majority of sampled respondents had between 16-20years working experience.

**Table 1:** Demographic Information of Respondents

| Demographic Information | | Frequency | Percent |
|---|---|---|---|
| | Male | 166 | 49.0 |
| Gender | Female | 173 | 51.0 |
| | Total | 339 | 100.0 |
| Age | 18-30yrs | - | - |
| | 31-40yrs | 14 | 4.1 |
| | 41-50yrs | 325 | 95.9 |
| | 51-60yrs | | |
| | 61yrs and above | | |
| | Total | 339 | 100.0 |
| Academic Qualification | ND | | |
| | HND/B.tech/Bsc | 320 | 94.4 |
| | Masters | 5 | 1.5 |
| | PhD | 14 | 4.1 |
| | Total | 339 | 100.0 |
| Professional Status | FELLOW | 56 | 16.5 |
| | ANIVS RSV | 113 | 33.3 |
| | ANIVIS | 120 | 35.4 |
| | PROBATIONER | 50 | 14.7 |
| | Total | 339 | 100.0 |
| Years of Experience in Built Industry | 10years and below | - | - |
| | 11-15yrs | 5 | 1.5 |
| | 16-20yrs | 320 | 94.4 |
| | 21yrs and above | 14 | 4.1 |
| | Total | 339 | 100.0 |

The descriptive analysis of level of awareness of feature of green building practices is presented in table 2. Low energy lighting design and better orientation is most aware feature of green building with highest relative awareness index of 0.928. Cost-effective and environmentally friendly technologies was the second most aware feature of green building practice with awareness index of 0.89. The use of renewable energy and natural resources along with effective use of existing landscape were the third and fourth the most aware features of green building at relative awareness index of 0.888 and 0.84 respectively. Quality air for human safety both indoor and outdoor air and proper control and efficient building management system had high awareness index at 0.802 and 0.714 respectively. There is low awareness of use of recycle building material for friendly environment and efficient use of water resource with as low awareness index was recorded at 0.67 and 0.689 respectively as compared to the awareness of other features. Finally, the result revealed that the relative awareness index for all the features of green

building were above 0.65. This indicates that there is high level of awareness of feature of green building across the sampled professionals.

**Table 2**: Awareness of Features of Green Building Features

| Features | Total (%) | MS | RII | RANK |
|---|---|---|---|---|
| The use of energy-saving efficient and eco-friendly equipment | 339(100) | 3.67 | 0.738 | 5 |
| Low-energy lighting design and better orientation | 339(100) | 4.64 | 0.928 | 1 |
| Use of recycle building materials for friendly environmentally. | 339(100) | 3.35 | 0.67 | 7 |
| Quality air for human safety both indoor air and outdoor air | 339(100) | 4.01 | 0.802 | 5 |
| Use of renewable energy and natural resources | 339(100) | 4.44 | 0.888 | 3 |
| Proper controls and efficient building management system. | 339(100) | 3.57 | 0.714 | 6 |
| Efficient use of water resources | 339(100) | 3.43 | 0.686 | 8 |
| Effective use of existing landscapes features | 339(100) | 4.20 | 0.840 | 4 |
| Cost-effective and environmentally-friendly technologies | 339(100) | 4.45 | 0.89 | 2 |

The result of perceived level of awareness of benefits associated with green building practice features is presented in Table 3. The Quality indoor air for human safety and comfort, maximum use of natural day-lighting and Low-cost building management system were ranked first the most aware benefits of green building practice by the professionals at 0.642 index. Awareness of benefit of low energy consumption through use of natural ventilation rather than air-conditioning was ranked second as the most aware benefit of green building practice at 0.640. lower environmental impact building materials and low cost of energy lighting design were ranked third and fourth the most aware benefit of green building practice at 0.638 relative index. Increase management productivity and effectiveness is ranked fifth at 0.63 relative index. Use of gray-water recycling for landscape and WCs and minimizing site impact through sensitivity to site ecology were ranked the same 6th at 0.612 each. There is relatively low level of awareness of benefits of green building practice as relative importance index is found below 0.65. By implication, there is low level of awareness of benefits of green building practice.

**Table 3:** Awareness of Benefits of Green Building Features

| Benefits | Total | MS | RII | Rank |
|---|---|---|---|---|
| Low energy consumption through use of natural ventilation rather than air-conditioning | 100(339) | 3.21 | 0.642 | 2 |
| Low cost of energy lighting design | 100(339) | 3.19 | 0.638 | 4 |
| Lower environmental impact building materials. | 100(339) | 3.20 | 0.64 | 3 |
| Quality indoor air for human safety and comfort | 100(339) | 3.23 | 0.646 | 1 |
| Maximum use of natural day-lighting | 100(339) | 3.23 | 0.646 | 1 |
| Low-cost building management system. | 100(339) | 3.23 | 0.646 | 1 |
| Use of gray-water recycling for landscape and WCs | 100(339) | 3.06 | 0.612 | 6 |
| Minimizing site impact through sensitivity to site ecology | 100(339) | 3.06 | 0.612 | 6 |
| Increase management productivity and effectiveness | 100(339) | 3.15 | 0.63 | 5 |

Table 4 revealed the factors affecting the effective management of green building features. The factors were measured on five Likert scale and result revealed that there is high level relative important index across the factors such that lack of technology specification had highest relative importance index and was ranked first at 0.79 relative important index. Inadequate designer ability is ranked second as the most important factor at 0.766 relative important index. low green team education training and low team motivation were ranked third and fourth at 0.75 and 0.752 respectively as most important factors affecting the effective management of green building features. Lack of Project Expert and ability was ranked fifth at 0.740. Poor Stakeholders' active participation and Poor cost management sixth 0.734 simultaneously.

Effective collaboration and communication; Good trust relationship among stakeholders; and Project management support were rated 7th, 8th and 9th with relative important index of 0.726, 0.72, and 0.716 respectively as important factors. Effective government policies and regulatory has relative important index of 0.718 and was ranked 10th. Owner active participation and commitment; Worker's experience and objectives; and effective Feedback had the same relative importance index of 0.71 and were ranked 11th the most successful factors for the adoption of green building practice initiative for mortgage finance. End user Participation and Advanced machinery and innovative technology had 0.708 relative important index and was ranked 12th position as the least important success factor. By implication, all the success factors had relative important index over and above 0.65 acceptability benchmark.

**Table 4:** Factors Affecting the effective management of Green Building Features

| Factors | Total | MS | RII | RK |
|---|---|---|---|---|
| Ineffective government policies and regulatory | 100(339) | 3.56 | 0.712 | 10 |
| Poor Owner participation and commitment | 100(339) | 3.55 | 0.710 | 11 |
| Lack Technology | 100(339) | 3.97 | 0.794 | 1 |
| Inadequate Project management support | 100(339) | 3.58 | 0.716 | 9 |
| Lack of Project Expert and ability | 100(339) | 3.70 | 0.74 | 5 |
| Inadequate qualified Designer | 100(339) | 3.83 | 0.766 | 2 |
| Worker's inexperience | 100(339) | 3.55 | 0.710 | 11 |
| Lack of Clear project goal and objectives | 100(339) | 3.60 | 0.72 | 8 |
| Low End user Participation | 100(339) | 3.54 | 0.708 | 12 |
| Poor Stakeholders' active participation | 100(339) | 3.67 | 0.734 | 6 |
| Poor Effective Collaboration and Communication | 100(339) | 3.63 | 0.726 | 7 |
| Lack Good trust relationship among stakeholders | 100(339) | 3.60 | 0.720 | 8 |
| Low Team motivation | 100(339) | 3.76 | 0.752 | 4 |
| Low Green team education and training | 100(339) | 3.77 | 0.754 | 3 |
| Ineffective Feedback | 100(339) | 3.57 | 0.710 | 11 |
| Poor cost management | 100(339) | 3.67 | 0.734 | 6 |
| Lack of machinery and innovative technology | 100(339) | 3.54 | 0.708 | 12 |
| Poor risk management | 100(339) | 3.55 | 0.710 | 11 |
| Low level of awareness | 100(339) | 3.83 | 0.766 | 2 |
| Shortage of GB designers | 100(339) | 3.55 | 0.710 | 11 |
| Inadequate grant for GB management | 100(339) | 3.60 | 0.72 | 8 |
| Inadequate Fund | 100(339) | 3.67 | 0.734 | 6 |
| Poor project planning and control | 100(339) | 3.80 | 0.726 | 7 |

The result of the suitability test of the data set is carried out using KMO and Bartlett's test as presented in Table 5. KMO value measures the proportion of variance in the variables

that might be caused by underlying factors. High values (close to 1.0) generally indicate that a factor analysis may be useful with the data. For this study, the result revealed that the p-value at 0.00 is less than 0.05 indicating that KMO value at 0.88 is statistically significant. In other word, it indicates that the data is normally distributed and adequate for factor analysis.

Bartlett's tests the hypothesis that correlation matrix is an identity matrix, which would indicate that your variables are unrelated and therefore unsuitable for structure detection. For this study, the result of chi-square revealed that the variables are correlated at p-value (0.00) less than 0.05 level of significance. Therefore, the value chi-square at 623.32 is statistically significant. By implication, the result is found suitable for the factor analysis.

The result of total variance explained is presented in Table 6. The result revealed that 87.016% variance in the factors can be explained by four components factors while the remaining 12.984% is due to loss of information. The components that have 1 and above eigen values were extracted. Out of 23 components, 4 components were extracted and the total cumulative variance of 87.016%

**Table 5:** KMO and Bartlett's test

| | | |
|---|---|---|
| Kaiser-Meyer Olkin measure of sampling adequacy | | 0.888 |
| Sig. | | 0.000 |
| Bartlett's test of sphericity | Approx. ChI square | 623.32 |
| | Df | 91 |
| | Sig | .000 |

**Table 6:** Total Variance Explained

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumul. % | Total | % of Variance | Cumul. % | Total | % of Var. | Cumul. % |
| 1 | 11.157 | 48.509 | 48.509 | 11.157 | 48.509 | 48.509 | 8.468 | 36.817 | 36.817 |
| 2 | 4.919 | 21.388 | 69.897 | 4.919 | 21.388 | 69.897 | 4.798 | 20.861 | 57.679 |
| 3 | 2.152 | 9.356 | 79.252 | 2.152 | 9.356 | 79.252 | 4.149 | 18.041 | 75.720 |
| 4 | 1.786 | 7.763 | 87.016 | 1.786 | 7.763 | 87.016 | 2.598 | 11.296 | 87.016 |
| 5 | .867 | 3.770 | 90.786 | | | | | | |
| 6 | .593 | 2.578 | 93.363 | | | | | | |
| 7 | .559 | 2.430 | 95.794 | | | | | | |
| 8 | .295 | 1.285 | 97.078 | | | | | | |
| 9 | .193 | .841 | 97.919 | | | | | | |
| 10 | .139 | .606 | 98.525 | | | | | | |
| 11 | .137 | .596 | 99.121 | | | | | | |
| 12 | .061 | .264 | 99.385 | | | | | | |
| 13 | .053 | .229 | 99.615 | | | | | | |
| 14 | .047 | .205 | 99.820 | | | | | | |
| 15 | .027 | .119 | 99.939 | | | | | | |
| 16 | .008 | .033 | 99.972 | | | | | | |
| 17 | .006 | .028 | 100.000 | | | | | | |
| 18 | 2.008E-015 | 8.729E-015 | 100.000 | | | | | | |
| 19 | 2.401E-017 | 1.044E-016 | 100.000 | | | | | | |
| 20 | 7.143E-019 | 3.106E-018 | 100.000 | | | | | | |
| 21 | -8.233E-018 | -3.580E-017 | 100.000 | | | | | | |
| 22 | -5.740E-017 | -2.496E-016 | 100.000 | | | | | | |
| 23 | -7.099E-016 | -3.087E-015 | 100.000 | | | | | | |

The result of rotated factors was presented in Table 7. There are components factors extracted at 1.0 and above. Component factor one comprises 10 variables, component factor two comprises of 6 variables, components factor 3 comprises of 5 variables while

component factor 4 comprises of 2 variables. There components' factors were renamed along with eigen values and percentage variance in Table 8.

The analysis of the rotated factor components is presented in Table 8. The first component factor is named technical know-how and manpower factor with highest eigen value and variance at 11.157 and 36.817. the second component factors is named technological and management factors with eigen value and rotated variance at 4.919 and 20.861 respectively. the third component factor is named Educational, Financial and Innovative Factors with eigen value and rotated variance at 2.152 and 18.041 respectively. While the fourth component factor is named low end-user knowledge and project planning factor with eigen value and rotated variance at 1.786 and 11.296 respectively. The total cumulative variance amounted to 87.016% of which first factor component comprised 36.817%, second component factor comprised 20.861%, third component factor comprised about 18.041%.

**Table 7:** Rotated Component Matrix

| Factors | Component | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| Ineffective government policies and regulatory | .900 | | | |
| Poor Owner participation and commitment | .926 | | | |
| Lack Technology | | .828 | | |
| Inadequate Project management support | .925 | | | |
| Lack of Project Expert and ability | .926 | | | |
| Inadequate qualified Designer | | .595 | | |
| Worker's inexperience | .928 | | | |

| Factors | Component | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| Lack of Clear project goal and objectives | .842 | | | |
| Low End user Participation | . | | | .832 |
| Poor Stakeholders' active participation | .876 | | | |
| Poor Effective Collaboration and Communication | | | .739 | |
| Lack Good trust relationship among stakeholders | . | .906 | | |
| Low Team motivation | .838 | | | |
| Low Green team education and training | | | .916 | |
| Ineffective Feedback | | .900 | | |
| Poor cost management | .838 | | | |
| Lack of machinery and innovative technology | | | .916 | |
| Poor risk management | | .900 | | |
| Low level of awareness | .931 | | | |
| Shortage of GB designers | | | .914 | |
| Inadequate grant for GB management | | .668 | | |
| Inadequate Fund | | | .650 | |
| Poor project planning and control | | | | .688 |

The result found that level of awareness of feature of green building features is high among the professional. the result further revealed that Low energy lighting design and better orientation is, cost-effective and environmentally friendly technologies the use of renewable energy and natural resources along with effective use of existing landscape among others were the most common feature of green building identified among respondents. The study showed that awareness of benefits associated with green building features is found high. the result further revealed that the Quality indoor air for human safety and comfort, maximum use of natural daylighting, Low-cost building management system, low energy consumption through use of natural ventilation and low cost of energy lighting design were the most aware benefits of green building features among others by the professionals.

**Tables 8:** Table Analysis of rotated factors affecting the effective management of Green Building Features

| Components | Rotated Group factors | Total | % Variance |
|---|---|---|---|
| Factor 1 | Technical know-How and Manpower factors | 11.157 | 36.817 |
| | Ineffective government policies and regulatory | | |
| | Poor Owner participation and commitment | | |
| | Inadequate Project management support | | |
| | Lack of Project Expert and ability | | |
| | Worker's inexperience | | |
| | Lack of Clear project goal and objectives | | |
| | Poor Stakeholders' active participation | | |
| | Low Team motivation | | |
| | Poor cost management | | |
| | Low level of awareness | | |
| Factor 2 | Technological and Management factors | 4.919 | 20.861 |
| | Lack Technology | | |
| | Inadequate qualified Designer | | |
| | Lack Good trust relationship among stakeholders | | |
| | Ineffective Feedback | | |
| | Poor risk management | | |
| | Inadequate grant for GB management | | |
| Factor 3 | Educational, Financial and Innovative Factors | 2.152 | 18.041 |
| | Poor Effective Collaboration and Communication | | |
| | Low Green team education and training | | |
| | Lack of machinery and innovative technology | | |
| | Shortage of GB designers | | |
| | Inadequate Fund | | |

| Components | Rotated Group factors | Total | % Variance |
|---|---|---|---|
| Factor 4 | Low user knowledge and project planning factor | 1.786 | 11.296 |
| | Low End user Participation | | |
| | Poor project planning and control | | |

The study revealed that lack of technology specification, Inadequate designer's ability, low green team education training, low team motivation, Lack of Project Expert ability, Poor Stakeholders' active participation and Poor cost management have been identified as important factors affecting the effective management of green building features among others and this finding is consistent with Olaleye, Ayodele and Komolafe (2015); Nwokoro and Onukwube (2011); and Otegbulu, (2011). The result of factor analysis identified four component factors that contributed about 87.016% variance in the factor loading. The result further revealed that technical know-how and manpower factor, technological and management factors, Educational, Financial and Innovative Factors, and low end-user knowledge and project planning factor were identified as component factors, this finding is therefore consistent with Darko *et al.,* (2017).

## 5. CONCLUSION AND RECOMMENDATIONS

This study assessed the level of implementation of OCP's among MCF's in the South-Eastern region of Nigeria, and found out that maintaining cultural standards and adhering strictly to due process, integrating the various subsystems of the organisation, making significant changes to the organisation in response to real threats to its continued existence, engaging competitors and identify intense rivalry between companies to improve on the level of competency, directing the decisions and behaviour of management and employees, and focusing on excellent planning and control techniques (knowledge management) were the overall OCP's implemented by the MCFs in the study area. This shows a high level of implementation of OCP's among MCF's. This study also found that there is significant difference in the extent of implementation of OCP's among MCF's which implies that firm characteristics such as location of the firms have significant influence on the extent of implementation of OCP's among the MCFs in the study area.

The study therefore concludes that the very high level implementation of OCP's desired by construction organizations have not been achieved by all the MCF's across all Five (5) States in the South-East region of Nigeria. This implies that there still exists risk of employees / staff not adhering to due process by cutting corners thereby compromising standards and poor quality delivery of construction projects, poor planning and control strategy, and lack of appropriate decision making techniques to identify and address real threats to organizational growth and overall sustainability and success of MCF's in the study area. Based on the limitations, findings, and conclusions made, the study recommends that all MCF's should ensure that a very high level of implementation of OCP's is attained by directing the decisions and behaviour of management and employees, and focusing on excellent planning and control techniques (knowledge management) in the individual States of the South-East and other geopolitical zones / regions of the country, Nigeria.

## 6. LIMITATION OF THE STUDY

The researchers encountered hindrances in assessing staffs and material documents from MCF's as majority of MCF's keep their organisation's information confidential and strictly prohibited from non-company management staff. Also, the insecurity situation in the South-Eastern poised a major limitation in frequent inter-State traveling of the researchers. To this effect, the researchers limited themselves to three (3) times traveling across each South-eastern States and also leveraged on electronic survey and trained research / field assistant for data collection. This method is faster, cost effective, and covers a wider horizon of respondents which the researchers may not have access to. More so, the research was limited to only MCF's in the Southeast Nigeria, the result could be improved by further studies on other geopolitical zones in Nigeria. In spite of these limitations, the study result has significant influence on effective and successful implementation of organisational cultural practices, and enhancement of the performance of construction firms in the study area. Furthermore, effective and successful project delivery will reduce disputes and incessant cases of construction project abandonment, and the relationship between implementation of organisational cultural practices and performance of MCF's thereby achieving and promoting a beautiful built environment in the South-Eastern region of Nigeria.

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