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TOTAL QUALITY MANAGEMENT AND EMPLOYEE ENGAGEMENT IN CONSTRUCTION COMPANIES IN PORT HARCOURT

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Abstract
This study examined the nexus between total quality management (continuous improvement, teamwork) and employee engagement within construction firms in Port Harcourt, Nigeria. The study was a correlational research design, data was collected from 249 employees of selected construction companies and analyzed using Pearson's correlation coefficient. The findings reveal that continuous improvement has a moderate impact on employee engagement, indicating that process optimization alone is insufficient to drive workforce commitment. However, teamwork demonstrates a significantly stronger correlation with engagement, highlighting the importance of collaborative work environments in enhancing productivity and project success. The study underscores the need for construction firms to integrate structured continuous improvement initiatives such as Lean Construction and Six Sigma methodologies while fostering a culture of teamwork through cross-functional collaboration and incentive-driven performance systems. Additionally, leadership commitment is crucial in embedding quality management practices into organizational strategy.

Keywords: Total Quality Management (TQM), Employee Engagement, Continuous Improvement, Teamwork, Construction Industry

Introduction

Organizational growth is a fundamental indicator of business success, reflecting a company's ability to expand its operations, improve revenue, and gain more market presence over time. Scholars and practitioners have defined organizational growth in various ways, often linking it to financial performance, market share expansion, workforce development, and operational efficiency. Penrose (1959) conceptualized growth as the dynamic process through which firms accumulate resources and capabilities, leading to competitive advantage. More contemporary perspectives, such as those of Hitt et al., (2020), emphasize both organic and inorganic growth strategies, including mergers,

acquisitions, and innovation-driven expansion. The importance of organizational growth cannot be overstated, as it fosters long-term sustainability, enhances stakeholder confidence, and enables firms to adapt to rapidly changing business environments. Particularly in highly competitive sectors such as construction, growth is critical for firms seeking to maintain relevance, secure larger contracts, and improve their service delivery.

Organizational growth is influenced by multiple factors, including technological advancements, regulatory compliance, workforce expertise, and quality management practices. Port Harcourt, as a major economic hub in Nigeria, has witnessed significant infrastructural development, necessitating the adoption of strategic growth mechanisms by construction firms operating in the region. However, despite the potential for growth, many construction organizations face challenges related to cost overruns, project delays, and suboptimal quality standards. These issues underscore the necessity for effective management strategies that not only promote expansion but also ensure sustainability and client satisfaction. One such strategic approach that has gained prominence in business literature and practice is Total Quality Management (TQM).

Total Quality Management (TQM) is a comprehensive management philosophy focused on continuous improvement, process optimization, overall customer satisfaction. Originating from the quality movement spearheaded by scholars such as Deming (1986) and Juran (1988), TQM emphasizes a holistic approach where every organizational function contributes to the overall quality objectives. According to Goetsch and Davis (2014), TQM is not merely a set of tools but a cultural transformation that fosters a commitment to excellence at all levels of an organization. The principles of TQM—such as continuous improvement, customer focus, employee involvement, and data-driven decision-making—have been widely adopted across industries to enhance performance and competitiveness. The importance of TQM lies in its ability to reduce defects, improve operational efficiency, and strengthen customer loyalty. Empirical studies have demonstrated that organizations implementing TQM practices experience enhanced financial performance, increased employee morale, and better market positioning (Talib, Rahman, & Qureshi, 2013). In the construction sector, where project quality directly impacts client satisfaction and business reputation, TQM serves as a crucial enabler of organizational growth. Research by Pheng and Teo (2004) highlighted that construction firms implementing TQM principles reported higher project success rates, reduced rework costs, and improved client retention. These findings suggest that integrating quality management frameworks within construction businesses can be instrumental in achieving sustainable growth.

The relationship between TQM and organizational growth has been studied extensively across different industries, revealing a strong correlation between quality improvement initiatives and business expansion. Sadikoglu and Zehir (2010) examined the impact of TQM practices on organizational performance across multiple sectors and found that firms adopting TQM experienced superior financial outcomes, operational efficiency, and innovation capabilities. Similarly, Prajogo and Sohal (2006) examined the relationship between TQM and business growth in manufacturing firms, concluding that quality

management significantly contributes to competitive advantage and market share expansion. In the context of service industries, Brah, Tee, and Rao (2002) conducted an empirical study on the impact of TQM on business performance in the banking sector, demonstrating that customer-focused quality strategies led to increased customer satisfaction and long-term profitability. These studies collectively suggest that TQM is not industry-specific but rather a universal management philosophy applicable to diverse business environments, including construction. However, while extensive research has explored the TQM-growth nexus in manufacturing and service-based industries, relatively fewer studies have focused on its implications within construction organizations, particularly in emerging economies such as Nigeria.

Despite the increase in literature on TQM and organizational growth, significant knowledge gaps remain, particularly regarding the contextual application of TQM in the construction industry of Port Harcourt. Many existing studies have predominantly focused on developed economies, where standardized quality management systems and advanced technologies are more prevalent. The extent to which TQM principles are effectively implemented in construction firms operating in developing regions remains underexplored. Additionally, while previous research has established a link between TQM and business performance, there is limited empirical evidence on how quality management influences specific growth metrics, such as employee engagement in the construction sector. Addressing these gaps becomes the core aim of this study.

Statement of the Problem

In many organizations, particularly in the construction industry, low employee engagement remains a persistent challenge, leading to inefficiencies, reduced work quality, and decreased competitiveness. The implementation of Total Quality Management (TQM) principles, which emphasize continuous improvement and teamwork, has been widely recognized as an effective strategy for addressing engagement-related issues. Despite this, many construction firms, including those in Port Harcourt, struggle to integrate TQM in a way that fosters sustained employee commitment, motivation, and participation in organizational growth initiatives. One of the key symptoms of poor employee engagement is declining productivity, as disengaged workers are less motivated to meet performance targets and contribute to organizational objectives. This often manifests in increased absenteeism, high turnover rates, and reduced work quality, all of which compromise business efficiency and project success. In construction firms, where teamwork and precision are essential, disengagement can result in project delays, cost overruns, and safety issues due to non-compliance with quality standards. Furthermore, a disengaged workforce tends to resist change and innovation, limiting the firm's ability to adopt new technologies, improve service delivery, and expand market presence.

The consequences of failing to address employee engagement extend beyond operational inefficiencies. Organizations with low engagement levels often experience higher recruitment and training costs due to frequent employee turnover, as well as reputational

damage that affects client trust and business opportunities. Additionally, disengaged employees are less likely to contribute to quality improvement initiatives, reducing the overall effectiveness of TQM programs and diminishing the firm's ability to achieve long-term growth. In the construction industry, where competition is intense and quality is a major differentiator, firms that do not actively engage their employees risk stagnation or decline in the marketplace.

Aim and Objectives of the Study

The aim of this study is to evaluate total quality management and employee engagement. The specific objectives were to

i. Examine the relationship between continuous improvement and employee engagement of construction companies in Port Harcourt

ii. Examine the relationship between teamwork and employee engagement of construction companies in Port Harcourt

Hypotheses

i. There is no significant relationship between continuous improvement and employee engagement of construction companies in Port Harcourt

ii. There is no significant relationship between teamwork and employee engagement of construction companies in Port Harcourt

Literature Review

Conceptual Review

Total Quality Management (TQM)

Total Quality Management (TQM) is defined as an organization-wide, integrative effort to continuously improve the quality of an organization's products or services and fully satisfy the needs and wants of their customers/clients (de Lancer Julnes, 2018). Dean & Bowen, (1994) defined it as a revolutionary approach to effective management. This highlights TQM's transformative impact on management practices, focusing on continuous improvement and customer satisfaction. Further, TQM has been defined as a revolutionary concept in the management of quality (Ross, 1993). This underscores the paradigm shift TQM introduces, moving from traditional quality control to a more comprehensive management philosophy. Building upon these definitions, TQM can be understood as a comprehensive management philosophy that involves all members of an organization in improving processes, products, services, and the culture in which they work, with the aim of achieving long-term success through customer satisfaction.

The evolution of TQM has seen it transition from basic quality control measures to a comprehensive management philosophy. Initially, quality efforts were reactive, focusing on identifying and correcting defects. Over time, the approach shifted towards prevention, emphasizing process improvements and employee involvement. This proactive stance is evident in the adoption of frameworks like ISO 9001:2015, which provides organizations

with a systematic approach to quality management, ensuring consistency and continual improvement (Muid and Setiadi, (2022). In practical applications, TQM principles have been instrumental in enhancing organizational performance. Recently, business organizations have increasingly recognized the importance of implementing TQM to improve service delivery and customer satisfaction (Ugochukwu et al., 2021). Training programs, such as the Certified Quality Management Professional Training, equip individuals with the skills to enforce TQM concepts effectively, thereby fostering efficiency within organizations. Furthermore, the implementation of Quality Management Systems (QMS) in business organizations has been facilitated through ISO 9001 Internal Auditor Training programs (Ali et al., 2024). These programs train individuals to conduct internal audits, ensuring adherence to quality standards and promoting continuous improvement within organizations.

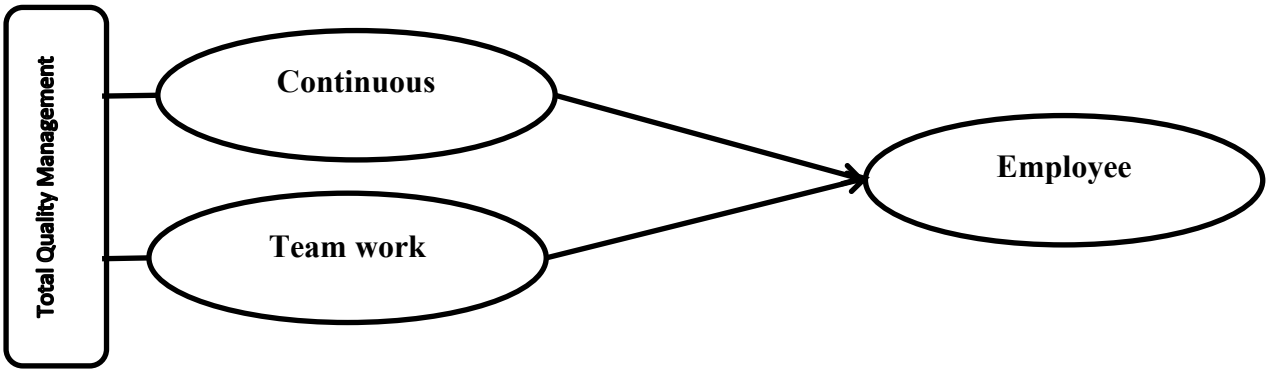
The integration of TQM principles into organizational culture necessitates a commitment to continuous improvement, customer focus, and employee involvement (Jayarathne et al., 2022). Organizations must foster an environment where quality is everyone's responsibility, encouraging collaboration and open communication. This cultural shift ensures that quality management becomes an integral part of daily operations, leading to sustained excellence (Alshammari et al., 2024).

Continuous Improvement: Continuous improvement emphasizes an ongoing effort to enhance processes, products, and services. According to Bhuiyan and Baghel (2018), continuous improvement is a structured, sustained effort to enhance organizational performance by systematically identifying inefficiencies and implementing incremental changes. Their definition aligns with the notion of continuous improvement as a methodical, long-term strategy rather than an ad-hoc intervention. Similarly, Imai (2017) describes continuous improvement as a process-driven approach that fosters a culture of gradual, consistent advancements within an organization. This perspective underscores the importance of organizational mindset and employee involvement in sustaining improvements over time. Another perspective is offered by Anand et al. (2019), who define continuous improvement as an iterative process of learning and adaptation that enhances operational capabilities through employee participation and data-driven decision-making. Again, Bortolotti et al., (2015) conceptualize continuous improvement as a system of interrelated activities that drive efficiency and innovation while integrating TQM principles such as customer focus and process optimization. Their view extends beyond operational enhancements to consider how improvement efforts align with broader quality management frameworks.

Drawing from these definitions, continuous improvement can be defined as a systematic, iterative process that enhances organizational efficiency and innovation through employee engagement, data-driven decision-making, and a culture of sustained progress. This definition captures the essential elements of process optimization, incremental learning, and alignment with TQM principles.

In manufacturing and healthcare industry, continuous improvement has been instrumental in enhancing efficiency and reducing waste and has played a crucial role in patient safety (Kaplan et al., 2020). A study by Netland and Ferdows (2016) examines how multinational manufacturers implement continuous improvement through standardized work practices and employee-driven problem-solving mechanisms. Their findings suggest that firms with a strong culture of continuous improvement achieve higher operational performance and customer satisfaction. Similarly, de Menezes et al. (2018) highlight how Lean manufacturing principles—rooted in continuous improvement—have led to significant productivity gains in automotive and electronics industries. Similarly, the service industry benefits from continuous improvement by optimizing customer experiences and operational workflows. A study by Bateman and David (2019) examines continuous improvement initiatives in financial services, demonstrating how data analytics and process automation contribute to service efficiency. Their research suggests that banks and insurance firms adopting continuous improvement frameworks report improved customer satisfaction and reduced operational risks. Unlike manufacturing, where process optimization focuses on tangible outputs, service-oriented continuous improvement emphasizes responsiveness, accuracy, and customer engagement.

When applied to the construction industry, continuous improvement presents unique challenges and opportunities. Unlike manufacturing, where processes are highly standardized, construction projects are often complex, dynamic, and site-specific. However, research by Aigbavboa, Oke, and Tyali (2017) highlights that continuous improvement practices such as Lean Construction and Six Sigma can enhance project efficiency, cost management, and safety outcomes. Further research by Ajayi et al. (2021) reinforces the need for a structured approach to continuous improvement in the construction sector in their study which suggest that integrating data-driven decision-making with quality management frameworks can lead to enhanced construction project outcomes. However, the success of these initiatives depends on workforce training, stakeholder collaboration, and an enabling organizational culture.



TQMOG MODEL

Source: Researcher's Conceptualization adapted from reviewed literature

Teamwork: Teamwork emphasizes collaboration among employees to achieve continuous improvement and organizational excellence. Salas et al (2018) defined team work as a coordinated effort among individuals with complementary skills who work interdependently toward a shared goal. Similarly, Katzenbach and Smith (2015) describe teamwork as a small number of individuals committed to a common purpose, with shared performance goals and mutual accountability. These perspectives emphasizes the structured nature of teamwork, where defined objectives and responsibilities drive performance. In another light, Kozlowski and Ilgen (2016) defined it as a dynamic process where members adapt to changing conditions, communicate effectively, and contribute toward achieving a shared vision. Furthermore, Edmondson (2019) conceptualizes teamwork as a collaborative process rooted in psychological safety, where members feel comfortable expressing ideas, taking risks, and engaging in constructive conflict. This perspective aligns with TQM principles, which advocate for open communication and a culture of continuous learning. Given the various definitions, a definition of teamwork was coined as a structured, dynamic, and interdependent process where individuals collaborate toward common objectives through shared responsibility, adaptive communication, and psychological safety. This definition captures the essential attributes of teamwork that contribute to the successful implementation of TQM in various industries.

The concept of teamwork within TQM has evolved significantly, drawing from early management theories such as Elton Mayo's Hawthorne Studies, which demonstrated the impact of social interactions on productivity (Chiaburu, 2017). As TQM principles gained prominence in the 20th century, teamwork became a key driver of quality improvement, particularly in Japanese manufacturing companies such as Toyota, where practices like Quality Circles and Lean methodologies reinforced the importance of collective problem-solving (Liker & Convis, 2017). Over time, teamwork has expanded beyond manufacturing into service industries, healthcare, and construction, where cross-functional collaboration enhances efficiency and innovation. Research by Nawanir et al., (2016) demonstrates that high-performance teams in Lean manufacturing environments lead to increased productivity, reduced defects, and enhanced employee engagement. Their study highlights how TQM-driven teamwork facilitates knowledge sharing, enabling organizations to sustain continuous improvement. Manser (2018) highlighted that interdisciplinary teamwork leads to better communication, fewer adverse events, and improved safety. Hughes et al. (2019) found that adopting TQM-based teamwork principles report will increase efficiency procedures, reduced wait times, and higher staff morale. Their study indicates that a culture of collaboration, supported by effective communication tools, strengthens the quality of healthcare services.

In the service sector, teamwork plays a crucial role in enhancing customer experience and operational performance. Research by Batt and Colvin (2016) on teamwork in the banking and telecommunications industries shows that organizations with strong team collaboration outperform those with hierarchical structures in terms of customer satisfaction and employee retention. Additionally, research by Salanova, Llorens et al.,

(2016) highlights that teamwork contributes to a positive work environment, reducing stress and burnout while fostering employee commitment. Fapohunda and Stephenson (2017) indicated in their study that effective teamwork in construction enhances project efficiency, reduces conflicts, and minimizes delays. Oke and Aigbavboa (2020) reinforced the importance of teamwork in mitigating project risks and improving stakeholder engagement by suggesting that technology-driven teamwork enhances transparency, reduces rework, and improves project outcomes. However, the study also identifies challenges such as resistance to change, lack of training, and cultural barriers that affect teamwork effectiveness in the industry.

Employee Engagement

In the current dynamic and competitive business environment, organizations are continuously seeking ways to improve performance and sustainability. One variable that has attracted significant attention in both academic and practical academic investigation is the concept of employee engagement. Employee engagement, although vastly accepted as a key driver of organizational success, lacks universally accepted definition. Various scholars and practitioners have offered unique interpretations of the concept, reflecting its multifaceted nature. Kahn (1990) defined it as the harnessing of organization members' selves to their work roles. A more recent definition by Shuck and Wollard (2010) described it as the degree to which employees are emotionally involved in their jobs, feel passionate about their work, and are motivated to contribute to organizational goals. Saks (2006), who proposes a more distinct approach defined job engagement a state where employees are mentally and physically absorbed in their work, while organizational engagement pertains to the degree to which employees identify with the organization itself. This distinction allows for a more nuanced understanding of how engagement can affect different aspects of the employee experience. Job engagement is often seen as a precursor to organizational engagement, highlighting the need for employees to first feel connected to their work before extending that connection to the broader organizational context. Hartern et al., (2002), defined employee engagement as the individual's involvement in, commitment to, and satisfaction with work.

In the 21st century, employee engagement has taken on even greater importance, particularly in the context of globalization and technological advancement. With the rise of remote work, digital communication, and flexible employment models, the way organizations engage employees has changed significantly. The focus has shifted toward creating an inclusive and empowering work environment that allows employees to thrive, fostering a sense of ownership and accountability. Research has shown that organizations that prioritize engagement see better financial performance, improved innovation, and stronger organizational cultures (Harter et al., 2002). In organizations, engaged employees are more likely to adhere to safety protocols, which is crucial in an industry known for its high-risk environment. Furthermore, employee engagement fosters a culture of collaboration, where workers are more likely to share knowledge and work together to solve

problems. This collaborative culture can result in improved project outcomes, such as reduced delays, cost overruns, and quality issues. Organizations that engage their employees in meaningful ways are also better positioned to attract and retain top talent, which is critical in a sector that often struggles with high turnover rates.

Empirical Review

Continuous Improvement and Employee Engagement

Mohammad Abul et al. (2021) examined how administrative empowerment relates with continuous improvement in Aqaba Special Economic Zone Authority in Jordan. The study adopted a quantitative research approach, questionnaire was developed and administered to a sample of 400 employees, retrieving 321 valid responses. Data was evaluated and analyzed with descriptive and analytical statistical tools. The findings of the study revealed a correlation between administrative empowerment and continuous improvement practices.

Lim, et al (2022) observed the mediating role of continuous improvement within workplace learning dimensions and sustainable lean manufacturing practices in Malaysia. The population of the study involved eight Lean manufacturing companies and collected data from 219 employees through surveys. The study utilized structural equation modeling to analyze the relationships among variables. Results revealed that continuous improvement significantly mediates the relationship between workplace learning dimensions and sustainable lean manufacturing, highlighting the importance of fostering a culture of continuous improvement to enhance employee engagement and commitment in lean environments.

Alqaraleh et al. (2022) conducted a study on the mediating effect of skills application on the relationship between learning and continuous improvement in a knowledge-intensive organization. This study analyzed data from a survey involving 3,730 employees and employed structural equation modeling for mediation analysis. The findings confirmed that effective learning positively influences continuous improvement through enhanced skills application, emphasizing that organizations must focus on practical application of learned skills to foster employee commitment towards continuous improvement efforts.

Teamwork and Employee Engagement

Bibi et al (2020) examined the effect of remuneration on employee commitment within the hotel industry in Malaysia. Utilizing a quantitative research design, the authors distributed a self-administered questionnaire to 165 customer contact employees. The findings revealed a positive and significant effect of remuneration on employee commitment, aligning with the Gift Exchange Model. This study highlights how appropriate remuneration can enhance employees' commitment levels, thereby suggesting that hotel management should focus on competitive compensation strategies to foster commitment among staff.

Al-Hawari (2022), which examined the relationship between adopting a servant leadership style and employee commitment in Jordanian governmental hospitals. This cross-sectional study utilized a quantitative data collection method, gathering responses from 389 hospital staff through simple random sampling. The analysis revealed a significant positive correlation between servant leadership practices by hospital managers and employee commitment.

Hidayat et al. in (2024) investigated the influence of communication, teamwork, and leadership on employee performance at PT Syncore Indonesia within the manufacturing sector. The study employed a quantitative approach with data analyzed using SPSS. The results indicated that effective communication, teamwork, and supportive leadership were positively correlated with enhanced employee performance. Specifically, teamwork was found to foster efficiency and innovation while supportive leadership contributed significantly to motivation and commitment among employees.

Methodology

The study adopted the correlational research design. In correlational research, the investigator deliberately seeks to examine links (or relationships) between variables without introducing an intervention. For this study, construction companies in Port Harcourt were studied. According to the Corporate Affairs Commission (2020), there are fifty three (53) construction companies in Port Harcourt city local government area and the Obio/Akpor local government areas. The 53 companies within the study area sited along the hearts of PHALGA and OBALGA. The employees in these construction companies form the targeted population of this research study. The researcher selected ten construction companies from Port Harcourt based on the criteria of staff strength and proper organizational structure. On the staff strength, only companies that have permanent staff strength of above 50 were examined. Below is a list of the companies and the number of management staff examined.

S/N	NAMES OF CONSTRUCTION COMPANIES	ADDRESS	STAFF STRENGTH
1	Mercury Engineering & Construction	OBALGA	65
2	Megastar Technical & Construction Company	OBALGA	73
3	Monier Construction Company Nig. Ltd.	OBALGA	82
4	Kon-X-Group	OBALGA	51
5	Setraco Nigeria Limited	OBALGA	91
6	Taitor Construction Services Limited	PHALGA	51
7	Lubrik Construction Company Limited	PHALGA	87
8	Handyman Construction Nigeria Limited	PHALGA	52
9	Germaine Construction Nigeria Limited	PHALGA	52
10	Metojen Construction Company Nigeria Limited	PHALGA	53
	TOTAL		**657**

The study adopted the simple random sampling technique and the proportionate sampling for questionnaire distribution. The study sample size would be arrived at using the Taro Yamen's 1970 formula:
The calculation is as following:

$$n = \frac{N}{1 + N(e)^2}$$

Where:
n = sample size (Number of employees)
N = population size (Total number of employees) = 657
1 = constant
e = level of significance at 0.05
The sample size for the study therefore would be 249.The sampling technique applied in this study would be the simple random technique in which every member has an equal chance of being selected. From the total sample size above, the individual firms sample size would be calculated using the Bowley's proportionate population allocation formula given as:

$$nh = \frac{nNh}{N}$$

Where,
$\mathbf{n_h}$= Sample size for each organization
$\mathbf{N_h}$= Population size for each organization
N= Population of the study
n= Total sample size

S/N	NAMES OF CONSTRUCTION COMPANIES	ADDRESS	STAFF	SAMPLE
1	Mercury Engineering & Construction	OBALGA	65	25
2	Megastar Technical & Construction Company	OBALGA	73	28
3	Monier Construction Company Nig. Ltd.	OBALGA	82	31
4	Kon-X-Group	OBALGA	51	19
5	Setraco Nigeria Limited	OBALGA	91	34
6	Taitor Construction Services Limited	PHALGA	51	19
7	Lubrik Construction Company Limited	PHALGA	87	33
8	Handyman Construction Nigeria Limited	PHALGA	52	20
9	Germaine Construction Nigeria Limited	PHALGA	52	20
10	Metojen Construction Company Nigeria Limited	PHALGA	53	20
	TOTAL		**657**	**249**

The data for this study was collected through the use of questionnaire. The questionnaire was structured in a simple and direct method, and also, complex questions were avoided. The variables of the study, both predictors and criterion variables, are measured using the 5-point Likert scale (where, 5 = very high extent, 4 = high extent, 3 = moderate extent, 2 = low extent, 1 = very low extent). Predictor variables, total quality management was made operational in continuous improvement and teamwork, while organizational growth is the

criterion variable. The organizational growth is made operational in employee engagement. The Pearson's product correlation was used to test the hypotheses raised through the use of the social science statistical package (SPSS), version 22.

Results and Discussion of Findings

First null hypothesis claims no relationship between continuous Improvement and employee engagement of construction companies in Port Harcourt.

Table 3 Pearson Correlation result

		Continuos Improvement	Employee Engagement
Continuous Improvement	Pearson Correlation	1	.543**
	Sig. (2-tailed)		.000
	N	249	249
Employee Engagement	Pearson Correlation	.543**	1
	Sig. (2-tailed)	.000	
	N	249	249

**. Correlation is significant at the 0.05 level (2-tailed).

Table 3 above reveals that there is a strong degree of positive association between continuous Improvement and employee engagement of construction companies in Port Harcourt. This is because the Pearson Correlation Co-efficient is 0.543 while P. value (2-tailed) is 0.000. Since P-value of 0.000 is less than 0.05, we therefore reject the null hypothesis and accept the alternative hypothesis. With a coefficient value of .543 which produced an r2 value of 0.285, it is agreed that 29% of organizational growth in terms of employee engagement can be traced to continuous improvement, leaving the remaining 61% to other contributory factors or variables. The findings showed though there is a relationship, the degree to which related was not very significant. This finding is in line with the earlier assertions of Abul et al. (2021) which revealed a correlation between administrative empowerment and continuous improvement practices. It also agrees with the postulations of Alqaraleh et al. (2022) whose findings confirmed that effective learning positively influences continuous improvement through enhanced skills application, emphasizing that organizations must focus on practical application of learned skills to foster employee commitment towards continuous improvement efforts.

Second null hypothesis claims no relationship between teamwork and employee engagement of construction companies in Port Harcourt.

Table 4 Correlations

		Teamwork	Employee Engagement
Teamwork	Pearson Correlation	1	.764**
	Sig. (2-tailed)		.000
	N	249	249
Employee Engagement	Pearson Correlation	.764**	1
	Sig. (2-tailed)	.000	
	N	249	249

Correlation is significant at the 0.05 level (2-tailed).

Table 4.9 above reveals that there is a positive relation between teamwork and employee engagement of construction companies in Port Harcourt. This is because the Pearson Correlation Co-efficient is 0.764 while P. value (2-tailed) is 0.000. Since P-value of 0.000 is less than 0.05, hence the rejection of the second null hypothesis and the alternate accepted. The r2 value of 0.583 derived from the r value of .764 implies that 58% of employee engagement can be determined by the degree of teamwork in an organization. This finding supports the findings of Al-Hawari (2022) which revealed a significant positive correlation between servant leadership practices by hospital managers and employee commitment. Also, the current finding upholds the earlier revelation of Hidayat et al. in (2024) which indicated that effective communication, teamwork, and supportive leadership were positively correlated with enhanced employee performance.

Conclusion and Recommendation

The findings of this study affirm that Total Quality Management (TQM) plays a significant role in driving organizational growth, particularly within the construction sector in Port Harcourt. By examining the relationship between continuous improvement, teamwork, and employee engagement, the study highlights the extent to which quality management practices influence business success. The results indicate that continuous improvement contributes to employee engagement, albeit moderately, suggesting that while process optimization enhances workforce motivation, additional factors must be considered to maximize its impact. On the other hand, teamwork demonstrates a stronger influence on engagement, underscoring the importance of fostering collaboration to improve productivity, project outcomes, and overall business performance. A critical implication of these findings is the need for construction firms to integrate structured continuous improvement strategies. Adopting Lean Construction and Six Sigma methodologies, coupled with regular training programs, can significantly enhance efficiency and project success rates. Additionally, fostering a culture of teamwork through quality circles, cross-functional collaboration, and incentive-driven performance structures can strengthen employee commitment and motivation. Equally important is the role of leadership in championing TQM principles. Senior management must take proactive steps to embed quality management into the organization's strategic vision, ensuring that it is not perceived as a one-off initiative but as an ongoing commitment to excellence.

Future research should explore the application of TQM in emerging economies, particularly within the Nigerian construction sector, to provide deeper insights into industry-specific challenges and tailored solutions. With the right approach, construction firms in Port Harcourt can leverage TQM to enhance competitiveness, improve employee engagement, and achieve long-term sustainable growth.

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