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Procurement Strategies in Nigerian Ceramics Manufacturing

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This is to certify that the doctoral study by

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Abstract

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

Some developing nations struggle with a diminishing manufacturing output market share because of a lack of appropriate procurement strategies. The purpose of this single case study was to explore the procurement strategies that managers successfully developed and deployed to improve company performance. The strategic alignment model was the conceptual framework for the study. Data were collected through semistructured interviews of 6 members of a Nigerian ceramics manufacturing company, as well as from a review of publicly available documents related to the performance of the company. A thematic analysis of the data was conducted to identify codes, extract subthemes and themes from the codes, and develop a thematic map. The 5 themes that emerged from data analysis included the procurement strategies needed for cross-functional collaboration, emergencies and downturns, alternatives and competition, applications of information technologies in procurement functions, and control of stock level and vendors' performance. The results of the data analysis confirmed empirical evidence that linked strategic procurement alignment to organizational performance. The implementation of the findings of this study may be beneficial to individuals, communities, organizations, institutions, cultures, and society through employment creation, costs savings, waste reduction, value creation, crime reduction, and local development.

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Dedication

To my wife, soulmate, and partner, Dr. (Mrs) Tope S. Alege; indeed, you are the help meet made for me… To my Children, Prosper, Brightness, and Treasure; you are the seal of my strength, the excellency of God's dignity and power… To my dad and mum, Pastor & Mrs J. A. Alege; I cannot find adequate words to fully express your love, encouragement, and supports. You remain my role model… To my siblings and their spouses, my in-laws, friends, and families who tolerated the weakness of our bonds during the period of this doctoral study… To everyone who is proud of my doctoral degree attainment, do not stop studying!

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Section 1: Foundation of the Study

Procurement practices involve essential business functions in supply chain management for purchasing of resources for internal processes from external sources or the organization's environment (Rahim, 2008; Roberta Pereira, Christopher, & Silva, 2014; Wisner, Tan, & Leong, 2015). Despite the reported benefits derivable from effective procurement management, the significant challenges to its realization are a general lack of recognition of the potential value of strategic procurement and a lack of representation of the procurement function at a senior level in the organization (White, Parfitt, Lee, & Mason-Jones, 2016). The managers of ceramics manufacturing companies need to be equipped with an efficient managerial strategy to manage procurement complexities and optimize their companies' performance (Myerson, 2014).

Background of the Problem

The effects of strategic procurement and outsourcing on performance are remarkably pronounced because the degree of competitive intensity and market turbulence is high (Kim, Suresh, & Kocabasoglu-Hillmer, 2015). The effective management of the procurement of goods and services in a corporate company is not only an integral part of a successful company but also contributes greatly to enhance its competitive advantage (White et al., 2016). To confront today's growing competition in the business world, procurement managers, supply chain practitioners, and researchers are poised to explore issues of sustainability and performance in corporate companies, creating a robust procurement strategy, which would mitigate the complexities in the supply chain network remains a prime challenge (Govindan, Seuring, Zhu, & Azevedo,

2016; Seonga & Suhb, 2012). There could be a quick response to customer needs and expectations through cross-enterprise collaborations. Collaborative relationships help companies to share procurement risks and access complementary resources (Al-Hatmi, 2014).

The effective management of the procurement of goods and services in a corporate company is not only an integral part of a successful company but also enhances its competitive advantage (White et al., 2016). In the manufacturing sector, the use of information technology (IT) software to drive collaboration in the supply chain network has resulted in reduced inventory carrying costs amongst the supply chain actors, eliminated the delays in decision-making and information sharing processes, and improved organizational structure of the ceramics companies for competitive advantage (Habjan, Andriopoulos, & Gotsi, 2014). Responding to an increasing demand for durable, state-of-the-art building products, the ceramics product market in Nigeria is currently in a competitive stage. Moreover, unchecked activities of rival importers have further complicated the ceramics manufacturing business through an influx of cheaper products.

Problem Statement

Some developing nations are grappling with diminishing manufacturing output market share because of a lack of appropriate and sophisticated procurement and outsourcing strategies at the core of their manufacturing companies' activities (Al-Azad, Ahn, & Su, 2015). The 7.3% decline in the local and imported raw materials procurement among Nigerian manufacturing companies during the period 2011—2012 translated to a total manufacturing output share decline of 66.32% and 62.42% in 2011 and 2012

respectively (National Bureau of Statistics, 2015). The general business problem is that some manufacturing companies experience adverse effects of the increasing global competition because of the lack of strategies to turn their procurement challenges into dynamic opportunities for competitive advantages. The specific business problem is that some managers in the ceramics manufacturing companies lack procurement strategies to improve company performance.

Purpose Statement

The purpose of this qualitative single case study was to explore procurement strategies that some Nigerian ceramics managers use to improve company performance. The population comprised six procurement managers and practitioners in a ceramics manufacturing company in Nigeria, who had successfully developed and deployed procurement strategies to improve company performance. The implication for positive social change may include the potential to provide organizational strategies for value creation and customer satisfaction through lowered costs, affordable prices, and improved product quality (Gillespie & Rogers, 2016; Heckmann, Comes, & Nickel, 2015; Stevens & Johnson, 2016).

Nature of the Study

The purpose of this qualitative single case study was to explore the procurement strategies that Nigerian ceramics managers use to improve company performance. For this study, the qualitative reearch methodology was a better research approach for collecting a repertoire of rich data (e.g., from interviews, observations, and documents) than through the quantitative method (Sandelowski, 2015; Schwab & Syed, 2015;

Yilmaz, 2013). A quantitative research methodology was not appropriate for this study because I did not examine the relationship or difference among preselected variables nor test a hypothesis. In quantitative research methodology, examining the preset variables or testing the hypothesis form the basis for drawing conclusions from the statistical test results and assumptions (Yilmaz, 2013). Researchers can determine limited conclusions from the quantitative studies because their findings derive from statistical assumptions (Frels & Onwuegbuzie, 2013). A mixed-method research methodology involves quantitative and qualitative research questions (Fonseca, Redondo, & Villagrasa, 2015; Hussein, 2015). Although using the mixed-method approach may deliver more information than either single method, it takes more time to completely collect the required data and involves higher cost than either qualitative or quantitative methods.

The four key qualitative research designs applicable in the social, behavioral, and health sciences include: narrative research designs, ethnographic research designs, phenomenological research designs and case study research designs (Bernard, 2013; Naidu & Patel, 2013). A narrative research design was not appropriate for this study because narrative research designs involve reflections and meanings derived from individuals' life experiences or detailed stories of an event or a chain of events (Gergen, 2014; Yilmaz, 2013; Yin, 2014). An ethnographic research design was not appropriate for the study as this study did not involve observations of individual behavior or shared beliefs within a cultural group (Yilmaz, 2013). A phenomenological research design may include the description of a phenomenon from the perspectives of the participants (Yilmaz, 2013). A case study research design provides a method to understand a real-

world case (Yin, 2014). A researcher uses the case study to explore real-life activities, and it is appropriate to provide in-depth data (Yilmaz, 2013).

Research Question

The primary research question for this study was: What procurement strategies do managers in the Nigerian ceramics manufacturing companies use to improve company performance?

Interview Questions

1. What procurement strategies do you use to improve the performance of your company?
2. What downturns have your organization experienced in its procurement practices?
3. What strategies do you use to align your procurement functions with your business strategy?
4. How do you measure your suppliers' performance and reduce the costs of warehouse and logistics management?
5. What proactive systems have you put in place in your company to identify and control the market competitiveness, sourcing bottlenecks, supply risk, and price?
6. How have you deployed IT tools in your procurement practices?

Conceptual Framework

The conceptual framework for this study was based on Venkatraman, Henderson, and Oldach (1993) strategic alignment model (SAM). According to Venkatraman et al. 's (1993), SAM is a strategy-value creation model for understanding the links between strategic alignment, business performance, IT, and information systems (IS). The alignment between business strategy and IT strategy can affect the values realized from

IT investments (Henderson & Venkatraman, 1992; Wu, Straub, & Liang, 2015). Furthermore, Chan, Huff, Barclay, and Copeland (1997) postulated the importance of IS strategy while providing empirical evidence to support the positive effect of aligning IT and business strategy on organizational values and performance. De Haes and Van Grembergen (2009) illustrated the relationship between IT governance and strategic alignment. More recently, Van Grembergen and De Haes (2012) further emphasized that enterprise governance of IT address the definition and implementation of processes, structures, and relational mechanism. If business strategists apply an efficient concept of IT governance, they can support their corporate business to derive values from their investments in IT.

According to Venkatraman et al. (1993), the strategic management of information technology framework to align IT with business strategy emerged from the four dominant alignment perspectives. These four perspectives are: (a) business strategy, (b) information technology strategy, (c) organization infrastructure and processes, and (d) information technology infrastructure and processes. The model reflects two fundamental characteristics of strategic management: strategic fit and functional integration. The concept of SAM provided a useful foundation for the investigation of the procurement strategies for improving companies' performance. The concept of strategic alignment modeling as it relates to this study involves an approach to explore the procurement strategies that some managers in the Nigerian ceramics manufacturing companies used to improve company performance (Palmer & Markus, 2000; Presley, 2006).

Operational Definitions

This section provides definitions of the key business terms used in this study.

Procurement manager: is the leader of a unit of procurement or business operation, whose decisions, goal choice, actions, or inactions bear a direct impact on the business or companies' performance (Gielnik, Zacher, & Schmitt, 2016).

Procurement practitioner: is a person in the employment of a company, who is actively involved in the process of procuring or purchasing raw materials for smooth supply chain management in the company (Steinfeld, 2017).

Value chain: represents the totality of the practices and processes by which ceramics products are manufactured from raw materials sourced from procurement (Chen, 2016).

Assumptions, Limitations, and Delimitations

A researcher's choice of research methodology influences the research design and findings (Kirkwood & Price, 2013). Researchers need to understand thoroughly the assumptions and limitations of the approach for data collection. Whether intended or not, assumptions could lead to limitations (Turk, France, & Rumpe, 2014).

Assumptions

Assumptions are beliefs accepted as true without any proven authentication (Marshall & Rossman, 2015; Paul & Elder, 2013). The data I collected related to procurement strategies in the private sector. My first assumption was that the participants, who are procurement managers in a Nigerian ceramics company, had relevant knowledge and experience, and would not be reluctant to provide information that is unique to their

businesses. Furthermore, I assume that participants would provide honest and accurate data as they relate to the research questions. I assumed that returning the interpreted data to participants for member checking would improve credibility of the study and correct any errors and bias.

Limitations

Limitations of a study are the research gaps or weaknesses that are beyond the control of the researcher and may affect the study findings (Gibbons, 2015; Kirkwood & Price, 2013; Patton, 2014). The data for my qualitative study were collected through semistructured interviews of procurement managers in the Nigerian ceramics industry. A limitation of this study was the availability of the procurement managers for the conduct of the interviews. The inability of the participants to be physically present during the interviews could be a limitation to my study findings. Second, extent and depth of information that the participants were willing to share could be another limitation to this study. The participants may not want to reveal their procurement strategies extensively as the Nigerian ceramics manufacturing industry is highly competitive.

Delimitations

Delimitations were boundaries that researchers specify to establish the scope of a study (Mitchell & Jolley, 2014). The boundaries of this study are the procurement strategies in a Nigerian ceramic manufacturing company. I restricted the data to procurement strategies developed and deployed to improve company performance in a ceramics manufacturing company that is operating in Nigeria for more than 20 years. A few other ceramic companies exist in Nigeria but their businesses are relatively new. I

excluded these companies because their procurement strategies have not been proven over time. I did not include procurement strategies outside the case study company.

Significance of the Study

Contribution to Business Practice

This study may be potentially significant to business practice in identifying possible procurement strategies that managers could use to improve the performance of their companies or business organizations. The procurement managers can meet these demands when they build effectively on the findings and knowledge of cross-enterprise collaborations. Knowledge of these procurement strategies may add value to the organization and its products; through improving the competitiveness of companies, which can lead to cost-effective sourcing and optimized savings.

The current global economic prospects are unstable, and strategic adjustments are necessary in manufacturing companies. Manufacturers of goods and services must provide quick response to people's needs and expectations (Wolf, 2014). The results of this study may provide procurement mangers with useful tools for improved, just in time (JIT) delivery and logistic services. Customers tend to abandon suppliers who cannot effectively manage their supply chain in lieu of vendors who are more responsive to customer needs (Urbaniak, 2015). This study might also be significant to provide a better understanding of the possible interruptions within the procurement practice.

Implications for Social Change

The implication of this study for social change is the potential for this study to increase knowledge on the procurement strategies. The improvement in company

performance, through the use of appropriate procurement strategies, may influence the overall unemployment rate in the society. Furthermore, apart from the potential of procurement strategies to alleviate the rate of job loss and create employment opportunities through improved company performance, the increasingly affordable prices translating from the cost savings could enhance the quality of life of the low-income customers. Another beneficial social change may be the provision of a direction for further study.

A Review of the Professional and Academic Literature

The following section includes a review of the professional and academic literature on procurement management. The literature review is fundamental to a research study (Onwuegbuzie & Weinbaum, 2017). Researchers perform literature review through a systematic process of appraising relevant existing studies (Booth, Sutton, & Papaioannou, 2016; Kamdar Shah, Sakamuri, Kamdar, & Oh, 2015). The common sources of the review materials were print or electronic academic journal articles, conference proceedings, books, as well as documentaries. The researcher can extract resources from online sources to develop a critical assessment of scholarly literature pertinent to the research focus or topic (Kamdar et al., 2015; Onwuegbuzie & Weinbaum, 2017).

I used the following keywords to search the body of literature: *strategic alignment model, procurement, procurement practices, e-procurement and supply chain performance, strategic purchasing, company performance, and procurement strategies*. The major sources of materials for this review included the Walden University Library,

Google Scholar linked to Walden Library, with the custom range set to the 2014—2018 period, ScienceDirect, Emerald Management, ProQuest Central, EBSCOhost, IEEE Xplore Digital Library, and SAGE Publishing. I built this literature review on the SAM model, providing knowledge about alignment of information technology (IT), supply chain network (SCN) and business strategies.

After describing the strategic alignment model, I expatiated the concepts and practices of procurement strategies. I concluded the literature review with sections that addressed the interplay among the strategic alignment of IT and business strategies, procurement strategies and e-procurement practices, and company performance. Of the 211 journal articles and books I used in this review of the professional and academic literature, 204 or 97% of the materials included peer-reviewed journal articles, while 183 or 87% of the materials were published within 5 years of the expected completion of the study. The percentages of the references were above the stipulated 85% condition for articles being published within 5 years of expected date of completion of the study. The purpose of this qualitative single case study was to explore procurement strategies that some Nigerian managers use to improve company performance

Strategic Alignment Model (SAM): Business Strategy-IT alignment

Researchers, supply chain practitioners, and academics have growing interests in the study of strategic alignment and management due to its significance in today's business (Coltman, Tallon, Sharma, & Queiroz, 2015; Hiekkanen, 2015; Monday, Akinola, Ologbenla, & Aladeraji, 2015). Manufacturing companies encounter the multi-dimensional challenges of the contemporary business world (Eloranta & Turunen, 2016;

Pellissier, 2011, 2012; Ulaga & Loveland, 2014). Procurement managers in manufacturing companies must address economic variables, competition, and uncertainties in supply and demand (Borodin, Bourtembourg, Hnaien, & Labadie, 2016; Guetat & Dakhli, 2014; Pellissier, 2012). Business strategy-IT alignment in a manufacturing company is useful to leverage IT to help the company innovate and address competition that may result in better company performance (Henderson & Venkatraman, 1992; Hiekkanen, 2015; Kappelman, McLean, Luftman, & Johnson, 2013; Wu et al., 2015). Despite these distinctive roles of strategic alignment, some aspects of applied strategic management are rather unexplored, especially in Nigeria, largely because empirical studies of strategic IT alignment are still sparse (Coltman et al., 2015; Monday et al., 2015; Ogunyomi, & Bruning, 2016).

Hiekkanen (2015), Kaplan (2005), and Kathuria, Joshi, and Porth (2007) agreed that strategic IT alignment is significant for policy formation and execution. However, Hamel and Prahalad (1994), and Hagel and Singer (1999) argued that meaningful strategic alignment in manufacturing companies must involve customer relationship, product innovation, and organizational infrastructure. According to Hamel and Prahalad (1994), a company cannot succeed if its organizational strategies are not aligned with the organizational goals. Hagel and Singer (1999) further stressed that strategic alignment would be inefficient if the cost indicators of the business environment, whether internal or external, are not considered. In Kathuria et al. ‘s (2007) opinion, alignment under certain immoderate conditions could be counterproductive and give rise to adaption problems in a dynamic business environment. As a result, corporate organizations must

align their business strategies with both the internal and external infrastructures to enhance the company's performance (Kathuria et al., 2007).

The concept of organizational alignment involves the designing and execution of strategic managerial policies in the manufacturing companies (Prajogo, 2016; Ralston, Blackhurst, Cantor, & Crum, 2015). According to Njagi and Shalle (2016), manufacturing companies could leverage the advancement in information and communications technology (ICT) to align their company-wide procurement strategies for significant savings in logistics costs. In the contemporary organization, most business decision-makers have developed IT from the traditional backstage to the calculated frontline of strategic management (Cobb, 2016; Henderson & Venkatraman, 1993; Mirabi, Akbariyeh, & Tahmasebifard, 2015). Procurement managers focus on the business values that could accrue from IT investment and strategic alignment. To attain and maintain frontline in the manufacturing sector, Mwangi and Kagiri (2016) posited that managers must accept and match swift technological changes with their organizational strategies. Procurement practitioners must establish a strategic interplay among business strategy, technology potential, and organizational infrastructure to create business value from IT investment and positively influence the performance and competitiveness of their companies.

Strategic alignment has effects on procurement practices, and in turn, on the level of competition and performance of manufacturing companies (Chan, Ngai, & Moon, 2017; Shirokova, Bogatyreva, Beliaeva, & Puffer, 2016; Zhao, Fisher, Lounsbury, & Miller, 2017). In the logistics sector, buyer-supplier relationship management has impacts

on procurement performance (Narayanan, Narasimhan, & Schoenherr, 2015; Ochido & Ochiri, 2014). Procurement is an important function within the supply chain network of a manufacturing industry. Over 80% of the total manufacturing cost comprised direct and indirect materials procured in manufacturing companies (Koskei & Kagiri, 2015; Njagi & Shalle, 2016).

E-Procurement involves the employment of internet-based systems for sourcing, contract negotiation, ordering, e-invoicing, accounts payable (AP) and accounts receivable (AR) processes, post-purchase review, and other functions within the procurement process (Barngetuny & Kimutai, 2015; Ibem, & Laryea, 2015). Procurement activities, whether strategic or tactical, direct or indirect, comprise the acquisition of IT services, and are vital for corporate-wide savings, productivity, and long-term competitiveness of companies (Barngetuny & Kimutai, 2015; Koskei & Kagiri, 2015). In manufacturing companies where procurement functions are driven by internet-based IT, procurement managers can easily keep track of their contracts and transactions, control workflow to increase productivity and improve business efficiency (Kusi, Antwi, Nani, Mensah, & Akomeah, 2016; Mohd Nawi, Deraman, Adewale Bamgbade, Zulhumadi, & Mehdi Riazi, 2017; Mwangi & Kagiri, 2016; Vaidya & Campbell, 2016).

To create value and enhance company performance, managers can align their IT infrastructures with business strategy (Hiekkanen, 2015; Matthyssens, Bocconcelli, Pagano, & Quintens, 2016; Zakery et al., 2017). According to Van Grembergen and De Haes (2012), and Gerow, Thatcher, and Grover (2015), the alignment of two or more domains can be done to achieve consistency either along the structures or within the

components of the domains. The SAM provides the fundamental framework for this qualitative study. The concept of SAM depicts, regulates and organizes the connection between strategic management and information technology (De Haes & Van Grembergen, 2009; Hiekkanen, 2015; Venkatraman et al., 1993).

According to Venkatraman et al. (1993), and Chan et al. (1997), the SAM is a useful strategy-value creation model for corporate organizations because the model provides a two-pronged approach to align IT and business strategy (Venkatraman et al., 1993). Pellissier (2001) described these two approaches as strategic alignment and administrative integration. In Pellissier's (2001) opinion, neither of the two approaches can achieve the purpose for alignment in isolation; organizations must develop alignment along both approaches. The Nigerian ceramics manufacturing companies can develop their procurement strategies along both of the analytical and administrative approaches of the SAM to improve their companies' performance (Majstorović, 2016; Pati & Bandyopadhyay, 2017). For instance, the manufacturing companies can align their procurement strategies with the domains of strategic choices and alignment mechanisms to effectively create value for their IT investment and gain competitive advantage.

The analytical approach in the SAM model comprises the four basic domains of strategic choice, which are business strategy or strategy execution, information technology strategy or technology potential, organization infrastructure and processes or competitive potential, and information technology infrastructure and processes or service level (Gerow et al., 2015; Henderson & Venkatraman, 1993). The administrative approach of the SAM is set in some alignment mechanisms, which include governance

process, technology capabilities, human resource capabilities and value management (Chan & Reich, 2007; Venkatraman et al., 1993). Pellissier (2001), and Henderson and Venkatraman (1999) believed that through the functional or administrative integration, procurement managers could competently govern the alignment process. The business managers in ceramics manufacturing companies can support overall organizational goals with proper governance of an alliance between procurement functions and IT strategies.

According to Kathuria et al. (2007), managers can apply either horizontal alignment or vertical alignment in their organization. In horizontal alignment, the linkages are at the same level of the pyramid of strategy alignment (Chan & Reich, 2007; Kathuria et al., 2007). The measure of the strategic interplay between business scope, governance and competencies, and IT scope, governance and competencies represent an example of a horizontal organizational alignment. The attainment of both the behavioral alignment and intellectual alignment among employees, for instance, is an example of a two-way horizontal alignment (Gerow et al., 2015). However, a cross-domain relationship from the higher, strategic business level to the lower, operational business level is an example of a vertical alignment (Gerow et al., 2015; Kathuria et al., 2007). Henderson and Venkatraman (1993) classified strategy execution, technology transformation, competitive potential, and service level as the four vertical alignments of strategy and infrastructure.

To effectively transform organizational strategies into strategic competitiveness in ceramics manufacturing companies, procurement managers must clearly understand and develop alignment along the three levels and four components of alignment. Gerow et al.

(2015) defined the three levels of alignment as: (a) strategies, (b) infrastructures, and (c) strategies and infrastructures. The four components of alignment are: (a) business strategy, (b) IT strategy, (c) business infrastructure and processes, and (d) IT infrastructure and processes (Gerow et al., 2015; Tarhini, Al-Dmour, & Obeidat, 2015). As procurement functions include huge share of a ceramics manufacturing company's investment, understanding the dimensions of strategic alignment must be primary to procurement practitioners.

Gerow et al. (2015) identified six types of alignment: (a) business alignment, (b) intellectual alignment, (c) IT alignment, (d) operational alignment, (e) business strategy on IS cross-domain alignment, and (f) IT strategy on organizational infrastructure cross-domain alignment. The strategic alignment describes the relationship at the strategic level, while operational alignment defines the relationship at the operational level of infrastructure and processes (Chan & Reich, 2007; Gerow et al., 2015). The two cross-domain alignments are similar as they both relate the linkage between the externally focused strategies and the internally focused infrastructure and processes. strategic alignment measures the weight of business strategy on IT infrastructure and processes, while operational alignment measures the weight of IT and IS infrastructure and processes on business strategy (Gerow et al., 2015). In manufacturing companies, procurement consists the externally driven strategies and internally motivated infrastructural processes (Carbonara & Pellegrino, 2017; Rafati & Poels, 2017). As a result, procurement managers design strategic performance scorecards to measure the effects of organizational strategies on IT and IS infrastructures.

Apart from the SAM model, procurement managers use other frameworks to demonstrate the effects of IT applications and IS on business strategies. Al-Hatmi (2014) argued that the enterprise architecture frameworks are useful strategic tools for the integration of IT and IS in the architectural design of public or private business goals. The integrated architectural framework is an instrument for improving companies' performance through the positioning of the IT team and the business executives on the same level of partnership (Al-Hatmi, 2014; Reynolds & Yetton, 2015). The critical success factor (CSP) is an important model for classifying the analytical issues of IT resources and management information system planning, implementation and activities (Al-Hatmi, 2014). The balanced scorecard provides a framework for measuring performance with regards to strategic direction, organizational resources, and IT investments (Al-Hatmi, 2014). In today's fast-changing, complex business environment, managers in ceramics manufacturing industries need to adapt and apply more than one of the methodologies for strategic procurement management, to gain competitive advantage and optimize overall performance.

Tan and Theodorou (2009) noted that these frameworks rely on one another, as no framework is completely isolated. The IT strategic grid model is another framework, which is similar in application to SAM and that can measure and demonstrate the strategic applicability of IT investment in business strategy (Jafari, 2014; McFarlan, McKenney, & Pyburn, 1983; Pellissier, 2001). Jafari (2014) has noted that the IT strategic grid framework (SGF) is a functional approach to evaluating the significance of IT designs and application. McFarlan et al. (1983) first proposed the SGF as a

contingency approach with four quadrants: (a) strategic, (b) turnaround, (c) factory, and (d) support. More recently, Nolan and McFarlan (2005) developed an IT strategic impact grid and regrouped the four quadrants of SGF into two strategic aspects of defensive or low need of new IT, and offensive or high need of new IT. Typical procurement practices in manufacturing companies involve multistage sourcing and distribution services for value chain analysis and optimization.

From the SGF, companies in the strategic mode are offensive, depending highly on new and reliable IT, and aggressively embracing innovation opportunities. Companies in the turnaround mode are also offensive, while those in the factory and support modes are defensive (Nolan & McFarlan, 2005). Regardless of their quadrant in the strategic grid, Neugebauer, Figge, and Hahn (2016) contended that managers of companies must give precedence to the development and support activities of IT application. In formulating or designing any substitute strategy, companies must reassess the possible gains, the needed means, and the impending risks (Neugebauer et al., 2016). The SAM model provides the underlying framework for this study and the best approach to understating the procurement strategies of manufacturing companies (Palmer & Markus, 2000; Presley, 2006). Strategic alignment model is a balanced framework, which explores organizational strategies from both the internal and external business environment.

Alignment of IT and SCM Strategies

The supply chain network of manufacturing companies comprised several stages of operations from the upstream suppliers to the downstream customers, (Bertazzi, Bosco, & Laganà, 2016). With increasing business complexities and marketplace

competitions at all facets of supply chain management and product manufacturing processes, business managers must appoint technologies of business intelligence (Donovan, Sullivan, Donovan, Bruton, & Sullivan, 2016; Zeppetella, Gebennini, Grassi, & Rimini, 2017). Researchers described business intelligence as a suite of designs and technologies for handling and converting datasets into applicable information to support business functionality (Chang, 2014; Debortoli, Müller, & vom Brocke, 2014). Wu, Chen, and Olson (2014) postulated that business intelligence tools apply in enhancing the process of mitigating the identified uncertainties in investment decision-making or risk management. In ceramics manufacturing industries, the application of business intelligence technologies is at the core of procurement strategies for behavioral analysis of the suppliers, customers, marketplace, and company capabilities (Aruldoss, Lakshmi Travis, & Prasanna Venkatesan, 2014; Khan & Quadri, 2014). To support IT strategic plans and achieve organizational goals, procurement team experts in manufacturing companies must devise practicable procurement-market intelligence frameworks.

Complexities within the SCN have negative consequences on company performance (Eckstein, Goellner, Blome, & Henke, 2015; Gunasekaran, Hong, & Fujimoto, 2014). In the manufacturing sector, customers have transformed from the traditional, passive buyer into an active player (Grainer, Noble, Bitner, & Broetzmann, 2014; Khurana, 2014). To secure the right level of patronage, managers in the manufacturing companies relate with all the consumers of their products as high-value customers (Muturi, Wadawi, & Owino, 2014). The supply chain practitioners have changed their corporate priority from strategies of mass production to quality assurance

and customer satisfaction, thereby increasing the need for integration and collaboration within the supply chain network (Boyce, Mano, & Kent, 2016; Iyer, Srivastava, & Rawwas, 2014). In consequence, procurement managers in ceramics manufacturing companies must map vendors' performance for strategic ordering and responsible inventory control systems.

The strategies for supply chain management integration and collaboration may exist in any of the two forms in the supply chain: vertical collaboration between suppliers and customers, and horizontal collaboration among competitors and other supply chain vendors (Blanquart, & Carbone, 2014; Boyce et al., 2016; Ramsden, 2015). Supply chain managers focus on their core capabilities of outsourcing to harness cost related benefits and develop the competitive advantage of their companies (White et al., 2016). Procurement is an integral component of the supply chain network of a ceramics manufacturing company. As such, procurement strategies include cross-domain integration and collaboration within the supply chain network of manufacturing companies.

Auramo, Kauremaa, and Tanskanen (2005) identified five benefits derivable from the alignment of IT with supply chain management strategies. These benefits include: (a) enhancement of service level, (b) improvement of operational efficiency, (c) improvement of information quality, (d) provision of agile supply chain operating models, and (e) assurance of strategic benefits when IT couples with process redesign. Croom (2005) modeled the evolution, cumulative development and implementation of e-business in integrated supply chain management using a 5-stage normative model. The

stages of this model are: (a) the acquisition and sales management, (b) the customer relationship management, (c) operations process management, (d) supply base management, and (e) material management. Croom (2005) also identified procurement management, customer relationship management, and the fulfillment process as the three strategic capacities for the analysis of the impact of IT on supply chain management. For efficient procurement management, managers in ceramics manufacturing companies must relate the benefits of IT investment with cost analysis.

Project Management Approaches to Business Practices

Effective project management is not only complex and uncertain but also challenging (Wysocki, 2014). There is no single specific tool that can effectively manage or solve all the problems in a project at all times. According to Kozak-Holland and Procter (2014), the project manager must prepare to learn from every problem encountered during the project lifecycle. In every project, there are opportunities to learn and understand the key drivers of project management success (Kozak-Holland & Procter, 2014).

A project management life cycle is a sequence of five process groups that project managers perform in phases, from the beginning to the close of the project. These five process groups comprise: (a) scoping, (b) planning, (c) launching, (d) monitoring and controlling, and (e) closing. According to Wysocki (2014), there are four approaches to the project management. These four approaches are: (a) the traditional project management, (b) agile project management (c) extreme project management, and (d) emertxe project management. According to Kotaiah and Khalil (2017), and Wysocki

(2014), there are five models included in the project management life cycle. These five models include: (a) linear model, (b) incremental model, (c) iterative model, (d) adaptive, and (e) extreme model. Managers can choose among the five models to solve the project problems (Kotaiah & Khalil, 2017; Wysocki, 2014). An effective model in manufacturing projects include appropriate procurement planning to acquire direct materials through outsourcing services.

The project support office is an organizational unit that includes a portfolio of services to support project teams that are responsible for a specific portfolio of projects (Scott, 2014). The project support office is one of the most significant organizational contributions to the success of project management (Wysocki, 2014). Every organization with a plan to develop or grow its project support office must seek to relate with the gap between its portfolio's current state and the future state or goals (Wysocki, 2014). In carrying out its numerous and significant roles, the project support office personnel encourage the project team to embrace an innovation mindset, which could bring innovative ideas to full bloom. In the wake of innovation, and because of numerical growth, maturity, and complexity of the projects in its portfolio, an organization may need to engage the project support office to adopt formal procedures for managing the volume and diversity of projects (Wysocki, 2014). For efficient procurement management in many creation projects, especially those involving the ceramics manufacturing process, upper management engages project support office as a strategic management approach to drive innovation or new product development (Aubry, M.

(2015; Darling & Whitty, 2016; Jalal & Koosha, 2015; Tsaturyan & Müller, 2015; Wysocki, 2014).

Project portfolio management typifies a strategic approach to aligning project portfolio with organizational goals for the enhancement of portfolio's overall benefit (Kaiser, El Arbi, & Ahlemann, 2015). Strategic preparation, execution, and performance management are three elements at the core of a typical project portfolio management (Kozak-Holland & Procter, 2014). The concept of project portfolio management connects with strategy execution through modification of project management practices and management of strategy implementation projects (Kaiser et al., 2015). In Kaiser et al. (2015) view, the practice of employing organizational alignment is arguably more imperative than the adoption of cutting-edge project prioritization approaches. In project-based product creation companies, Kaiser et al. (2015) maintained that strategy management or alignment is significant because of the regular need for the modification of project selection and management approaches. In order to evolve reliable strategies in the competitive environment of any manufacturing project, managers of procurement divisions must draw up enterprise-wide plans to optimize the overall gains of an aligned project portfolio.

Procurement Strategies in Supply Chain Management

In modern businesses, the procurement manager of a manufacturing company has moved to a principal strategic position (Nadeem, bin Mohamad, & bin Nik Abdullah, 2017; Shin, Lee, & Ko, 2016). The strategic activities of the procurement practitioners have a key role in determining the level of competitiveness and performance of their

companies' business (Eriksson, Lingegård, Borg, & Nyström, 2017; Shin et al., 2016). In most manufacturing companies, procurement management strategies, through sustainable and socially responsible procurement activities, remains the primary enabler of sustainability and competitiveness while ensuring proper operations management and promoting regulatory compliance (Brewer & Arnette, 2017; Venkatesh & Luthra, 2016). Collaboration and effective communication among managers can also help a company to achieve the organizational goals (Burki & Buvik, 2017). The procurement managers are central in the supply chain network of the ceramics manufacturing companies, especially to execute sustainable procurement initiatives for business success.

Procurement is a business term with many substitutable pseudonyms (Roberta Pereira et al., 2014). Some authors coined purchasing (Aldenius & Khan, 2017; Hesping & Schiele, 2015; Weele & Raaij, 2014), sourcing (Sawik, 2014), outsourcing (Brewer, Wallin, & Ashenbaum, 2014; Kang, Wu, Hong, Park, & Park, 2014) to define procurement in business. According to Tatoglu et al. (2016), the strategic procurement or supply chain management and information technology or information system approaches adopted in small- and medium-sized enterprises largely influence long-term success and survival of such organizations. Researchers argued, however, that procurement is broader than purchasing because of the inclusion of certain other logistics activities in procurement functions (Roberta Pereira et al., 2014; Wisner et al., 2015). These additional activities may include the processes that lead to analysis and selection of value, managing of vendors and quality control, administration of various contracts, terms of payment determination, appraisal of procurement strategies and procedures, and

management of supplier performance (Wisner et al., 2015). In the Nigerian ceramics-manufacturing context, both procurement and purchasing functions overlap and rarely exist as two distinct departments.

Procurement is a broad, multifaceted business function that requires the practitioner's analytical competencies for internal and external resource management (Edler & Yeow, 2016; Weele & Raaij, 2014). Procurement is a primary business function, which is employed usually in supply chain management for the purchase of both direct and indirect materials in a manufacturing company (Rahim, 2008; Roberta Pereira et al., 2014; Wisner et al., 2015). Ordanini and Rubera (2008) classified corporate procurement practices into direct procurement, relating to direct goods or materials used in manufacturing the products, and indirect procurement, relating to supply used in everyday operations other than in production or manufacturing processes. In fact, global sourcing competencies are in high demand by large manufacturing companies for the procurement of an array of advertising, maintenance, information and communication technology related, marketing, and logistics services (Muhammad, Adamu, & Ladi, 2015). In the Nigerian manufacturing industry, procurement operations transcend sourcing through the two overlapping processes of direct materials for production and indirect materials for day-to-day, non-production services. In addition to the traditional direct and indirect procurement roles, procurement personnel in Nigerian ceramics companies perform sourcing functions, fleet and travel management, and marketing related services.

The primary focus of this study is to explore the procurement strategies in a manufacturing company. The manufacturing process is the systemic practices or set of coherent procedures that companies engage in converting organizational resources in the form of raw materials to finished or semi-finished products that have market value to meet customer demands (Donovan et al., 2016; Wu, Tseng, Chiu, & Lim, 2017; Zeppetella et al., 2017). In large ceramics manufacturing company, appropriate strategic management processes are required for successful procurement functions from upstream business level where production takes place to the downstream business level where products are delivered to the end user. At the upstream level of ceramic manufacturing business, for instance, mechanized mining method is used to extract the industrial minerals required for the production process. (Hu, Wang, & Liu, 2016). Companies' investments on sourcing processes are huge because the resources used in ceramic manufacturing are hard to procure (Echeverrigaray, Emiliano, Segadães, & Cruz, 2016; Ptáček, Šoukal, Opravil, Bartoníčková, & Wasserbauer, 2016). The upper management of ceramics manufacturing companies knows that procurement strategies and ethical professional practices are fundamental to enhance company performance, and achieve business success and excellence.

He, Huang, and Yuan (2016) identified optimal allocation strategy and emergency strategy as the two types of procurement strategies applied in ceramics manufacturing companies. Through the *McKinsey Seven S model*, Chong and Preece (2014) demonstrated that various procurement systems require applicable organizational strategies. For instance, projectized organizations need project managers with effective

resource allocation strategies since the authority and control are with project managers, while non-projectized organizations requires effective communication strategies among the functional managers (Chong & Preece, 2014). Roberta Pereira et al. (2014) indicated that the procurement function of a company's internal team involves the purchasing activities or resource-sourcing practices from the company's external environment. While matching internal sourcing efforts with available resources at the external environment, managers can use an optimization model that could ensure a minimized cost of logistics (Deng, Qiu, Liu, & Xiao, 2014; Úbeda, Alsua, & Carrasco, 2015). With a focus on the business goals of the ceramics manufacturing companies, procurement practitioners must deploy the right procedures to acquire external resources to meet the internal requirements, and achieve sustainable competitive advantage.

Strategies of Global Sourcing and Supply Chain Resilience

Global sourcing is popular as an effective tool of supply chain management strategies to achieve competitiveness in manufacturing companies (Gunasekaran, Irani, Choy, Filippi, & Papadopoulos, 2015; Kotula Kotula, Ho,Dey, & Lee, 2015). Global sourcing helps to achieve technological innovation, shorten product life cycle, reduce end product prices and total cost of ownership, reduce the number of suppliers and establish a strategic relationship (Gunasekaran, Subramanian, & Rahman, 2015; Haartman & Bengtsson, 2015). Sourcing operations, especially in the Nigerian manufacturing sector, include a suite of procurement functions, which span between the internal and external stakeholders, and serve as an operational linkage between the two business environments of the competitive and unstable business world (Roberta Pereira et al., 2014). The

discounted costs resulting from these dividends of sourcing from different countries is beneficial to the businesses of ceramics companies in Nigerian.

In both private and public sectors, procurement functions are important and expensive practices at the core of business activities in corporate companies (Rahim, 2008). Global sourcing may likely have some inherent challenges; supply chain managers must competently devise appropriate strategies for every challenge. According to SaidaAbass and Okibo (2014), the most important barrier to strategy implementation is ineffective procurement processes. Gunasekaran, Irani, et al. (2015) stressed that the four stages of preparation, supplier selection, transition, and supplier management are effective tools to tackle the complexities of global sourcing. Strategic global sourcing involves practices that procurement managers in the ceramics manufacturing companies use to manage the units of their procurement network in multiple locations (Brandon-Jones, Squire, Autry, & Petersen, 2014; Gunasekaran, Hong, & Fujimoto, 2014).

Supply chain resilience is an effective strategy for capacity building, resource planning and reconfiguring, and disaster management (Ambulkar, Blackhurst, & Grawe, 2015; Roberta Pereira et al., 2014; Scholten, Scott, & Fynes, 2014). Supply chain resilience is a reliable tool for prompt response to sudden risks and other organizational issues (Hohenstein, Feisel, Hartmann, & Giunipero, 2015). Roberta Pereira et al. (2014) argued that supply chain resilience is a trusted solution for managing both the procurement-related complexities and SCN disruptions provoked by present-day business turbulence. Procurement practices, in Roberta Pereira et al. (2014) opinion, initiate

supply chain resilience, and provide an efficient platform for intra- and inter-organizational interactions, especially for quick and effective communication of changes within the buyer-supplier relationship network. Managers in Nigerian ceramics manufacturing companies must contrive supply chain resilience models to competently manage supply chain risks and procurement distortions.

Strategic Procurement Management and Performance Measurement

The uncertainties of the business world and complexities of globalization constitute a major challenge to procurement management. Supply chain risks connect with triggering effects of uncertain events, which could result in diminishing business performance (Heckmann et al., 2015). Procurement managers have devised many strategies to manage the disruptions in the supply network environment effectively. For sustainable competitiveness, survival, and profit, company managers engage different approaches of strategic procurement. Procurement superintendents in Nigerian ceramics companies need to carefully explore the competitive advantages of not only rival companies but also their allied companies.

Martek and Chen (2016) identified four generic procurement strategies customary to foreign companies. These four strategies include: (a) procurement as a competitive edge, (b) procurement as value chain niche, (c) procurement as technology transfer, and (d) procurement as global leverage. According to He, Huang and Yuan (2015), and Deng et al. (2014), strategic procurement management approaches comprised dual-sourcing, emergency sourcing, backup supply, demand management, increasing safety stock, and improving supplier process. Depending on supplier capacity reliability, supplier costs,

and capacity limits, Li and Zhang (2015) proposed that single sourcing and dual sourcing could serve as emergency procurement strategies during competition and supply disruption. In particular, the procurement manager in Nigerian ceramics manufacturing companies need to know that a simple cost-effective step of automating supplier data is significant to adjust business overhead, largely minimize costs, and optimize savings.

He et al. (2016) reasoned that in the modern-day competitive market, one of the strategies to manage the risks embedded in supply disruption of differentiated products is using strategic and sustainable procurement practices. For proper integration of sustainable procurement, Adebayo (2015) suggested that authorities must initiate and execute procurement policies and processes that consider and encourage awareness of the significance of sustainability for better performance. The implementation of sustainable procurement strategies has attendant challenges and inherent gains. Ruparathna and Hewage (2015) characterized the challenges such as the lack of funding, awareness, understanding, information, commitment, managership, and demand as well as insufficient policies, regulations, and incentives. Some of the inherent benefits of executing procurement activities through a sustainable approach include the reduction of emissions of harmful substances and waste generation as well as the long-term cost benefits (Ruparathna & Hewage, 2015). If procurement managers desire to draw long-term cost benefits for Nigerian ceramics manufacturing companies, they must realign their organizational strategies for sustainable suppliers to achieve a sustainable supply chain network.

Moreover, Vyklický, Man, Heidu, & Jurčík (2016) observed that the public procurement legislation in some nations, especially as it relates to the qualification requirement for foreign tenders, are complex. If the government of such nations desires to open up the procurement market, an amendment that will allow easy submission of tenders for a public contract from the foreign supplier is crucial (Vyklický et al., 2016). With strategic procurement function in public procurement performance measurement, procurement officials could extend the key performance indicators beyond the geographies regulatory policies, and the performance area could comprise cost, quality, time, compliance, innovation, and sustainability. Yan, Chien and Yang (2016) acknowledged the triple objectives of social, environmental, and economic requirements as the benchmarks for industrial applications of component procurement collaborations and sustainable supply chain management. As a corporate strategy in Nigerian ceramics companies, the adoption of supply chain collaborations for improving green component procurement has the potential of improving overall company performance (Yan et al., 2016). For procurement managers of the companies to leverage such levels of collaborations, it is important that they streamline their strategies with regard to business agility, lean manufacturing, and business flexibility.

Strategic performance measurement system is a strategic management tool used to evaluate and regulate a company's performance (Bento, Bento, & White, 2014; Silvi, Bartolini, Raffoni, & Visani, 2015). An effective management control structure includes robust strategic performance measurement procedures for organizational strategy formulation, development and implementation (Ramish & Aslam, 2016; Silvi et al.,

2015; Ülgen & Forslund, 2015). Bento et al. (2014) stressed that business managers embraced strategic performance measurement systems because it provides a reliable way to transform organizational strategies into lucid financial and nonfinancial performance measurement. Bento et al. (2014) emphasized that strategic alignment is possible when organizations engage strategic performance measurement systems at the levels of strategic decision making and resource allocation for business performance. The significance of strategic performance measurement systems in facilitating business results and shareholder values, both in the period of stability and turbulence, cannot be overstressed (Afonina, 2015; Bento et al., 2014). The procurement managers must enhance their strategies of performance measurement to control both their financial and nonfinancial dealings in Nigeria's competitive ceramics manufacturing terrain.

Public Procurement Strategies

Public procurement is a significant aspect of management science, and a central tool for public administration and service delivery (Flynn & Davis, 2014; Patrucco, Luzzini, & Ronchi, 2016; Plantinga & Dorée, 2016). Procedures for procurement practices in the public sector may be different in some ways from the procedures in the private sector, especially in ceramics manufacturing companies. However, the procurement strategies in both sectors share many similarities. Procurement practices in both sectors have budgetary constrictions, are driven by vendors' participation, dependent on technology (IT and IS), and are susceptible to complexities and liable to fail in the face of poor procurement practices and strategies. More important, procurement activities in both the public and private sectors involve rightly procuring merchandise or services at

well-negotiated prices at best possible cost savings. Since both public and private procurement involves finding values for investment through appropriate procurement strategies, a review from both perspectives of public and private sectors will definitely advance a balanced insight.

For the procurement of certain projects like the procurement of power plant projects, Atmo, Duffield and Wilson (2015) argued that public-private partnerships are preferred to the traditional public procurement because of public-private partnerships' timely delivery and better performance. Hasselbalch, Costa, and Blecken (2014) reasoned that lack of training and professionalism are critical barriers to achieving sustainability. Testa, Annunziata, Iraldo and Frey (2016) used a logistic regression model to demonstrate the strong factors that stimulate the inclusion of green criteria in public tenders and to prove that information and training initiatives could increase the knowledge of green public procurement practices. Van (2016), and Testa et al. (2016) demonstrated that continuous quality training process, technical knowledge and expertise in environment-friendly public tenders is primary for government officials to prepare a standard contract and effectively manage the procurement trajectories of public–private partnerships. In other words, procurement executives in both the public sector and private manufacturing companies could grow corporate procurement practices and performance with nonstop on-the-job training of their procurement officers.

According to Jin and Yu (2015), procurement auction is a market mechanism for transmitting the intentions of buyers for the procurement of certain products or services to the suppliers. Essig, Glas and Gutsmiedl (2015) proposed a decision framework from

the stakeholder perspective for the procurement of low-value and high-volume product category, that is, the *C-parts*. Essig et al. (2015) identified the two elements of the decision framework for C-parts information and management system as: Utility analysis applying a scoring model and the consideration of economic efficiency. The concept of utility analysis and consideration of economic efficiency is significant in both public and private procurement transactions. The cost–utility analysis (CUA) provides a decision guide to procurement managers in manufacturing companies (Diwakar et al., 2016).

The concept of organizational justice provides the measurement of people's generalized perception about the fairness of organizational events and decisions (Heffernan & Dundon, 2016). According to Jain and Jain (2015), there are three scales of organizational justice. The three justice scales are: (a) distributive justice, (b) procedural justice, and (c) interactional justice. In the context of performance measurement, organizational justice affects both the individual employee performance and organizational performance (Heffernan & Dundon, 2016). The administration of justice and fairness of opportunity in supplier selection is crucial in strategic procurement management, especially for the administration of purchaser–supplier relationship in large purchasing organizations (Luo et al., 2015; Theodorakopoulos, Ram & Kakabadse, 2015).

Procedural justice is an essential relational tool to guide the issues of partnerships, mergers, and acquisitions (Eriksson & Lind, 2016). Furthermore, managers can control the risks associated with moral hazard by ensuring the exercise of fairness and justice within the workplace (Edwards & Edwards, 2015). Procurement managers in the

Nigerian ceramics manufacturing industries must uphold organizational justice as a crucial procurement management approach to manage supplies from the raw materials vendors.

For manufacturing companies that operate in third-world economies, Tukuta and Saruchera (2015) identified poor corporate governance and practitioners' low level of professionalism as a major procurement challenge. Unjust and unethical procurement practices could increase tensions and weaken the buyer-supplier relationship, thereby pulling down company performance (Caldwell, 2014; Lent, 2014; Olçer, 2015; Verburg & Schueler, 2014). Upper level of management can incorporate the practice of procedural justice modules in staff training programmers, to promote the culture of equal opportunities and fairness in strategic management of supplier diversity and selection (Theodorakopoulos et al., 2015).

According to Wisner et al. (2015), the foundation of supply chain management is in supply, operations, logistics, and integration. In other words, effective material management, through successful management of buyer-supplier relationship, is a key requirement for the enhancement of organizational performance in manufacturing companies (Inyang, Inyang & Glory, 2013). Improving knowledge at the supply base about material handling and storage, quality requirement, production processes, and other areas is important for company-wide improvement across the supply chain network (Tukuta & Saruchera, 2015). In view of the production requirement for high quality and quantity of raw materials in ceramics manufacturing companies, procurement

superintendents connect with supplier relationship management as a vital key to business excellence.

Moderating the procurement-related costs, which include logistics, purchasing, as well as operations in large multi-division, manufacturing companies, procurement professionals design optimization models that integrates both the company-wide and divisional needs (Balakrishnan & Natarajan, 2014; Brahm & Tarziján, 2015). Talluri and Narasimhan (2005) reasoned that supply base optimization is a major challenge for companies determined to obtain and align IT investment with proficient sourcing strategy. Strategic use of IT has increased tremendously in the past few years as the business activities of more organizations began to depend more on information system and related technology (Azar & Ciabuschi, 2017). Costs and risks analysis are the main areas for consideration to assess and optimize the supplier base of a global organization. To achieve profitability and sustainable competitiveness in Nigerian ceramics manufacturing industries, such assessment is critical given the huge capital involved in the companies' procurement transactions.

Managers needs the appropriate strategies of supplier relationship management to stimulate vendors performance (Foerstl, Hartmann, Wynstra, & Moser, 2013; Razavi, Abdi, Amirnequiee, & Ghasemi, 2016; Wisner et al., 2015). In Oelze, Hoejmose, Habisch, and Millington (2016) opinion, supply base must be kept agile, and the supplier management strategies must be flexible to respond to organizational needs effectively. Vachon and Hajmohammad (2016) stressed that determining the optimal number of the supplier is not as important as designing a regular and flexible evaluation of the supplier

base for optimization and diversification in line with the organizational goals. Regardless of the complexities of the multi-echelon procurement structure in the Nigerian ceramics manufacturing industries, managers could develop flexible and agile strategies to optimize the gains of the companies' typical supplier base.

Procurement Management and the Environment

In the supply-chain management context, procurement functions and responsible procurement management are closely related. In fact, Ferri, Oelze, Habisch, and Molteni (2016) demonstrated that responsible procurement management does not only influence supply chain management but also determines the organization's approach to corporate social responsibility. For sustainable competitive advantage, Gillespie and Rogers (2016) suggested that business managers must ensure that the corporate social responsibility is implemented in a manner that is socially and environmentally acceptable, especially from the consumer perceptions. When multinational manufacturing companies practice sustainable development, their supply chain risks are reduced, and corporate image is enhanced (Urbaniak, 2015).

Managers use responsible procurement management to set the pace for effective organizational change management (Börjeson, Gilek, & Karlsson, 2015; Ferri et al., 2016). The strategy of socially responsible sourcing includes performance management from the social, environment, and economic effects of procurement functions (Loosemore, 2016; Zorzini, Hendry, Huq, & Stevenson, 2015). Wolf (2014) indicated that sustainable supply chain management has the potential to improve both the corporate sustainability performance and organizational reputation. Essig et al. (2015) classified the

moral hazard problems of strategic procurement management to include: 1) the internal moral hazard, and 2) external moral hazard. The internal moral hazard could be within the client's companies or the contractor's companies, while an external moral hazard could exist between client and contractor (Eriksson & Lind, 2016; Essig et al., 2015). Managers in the manufacturing industries use socially responsible sourcing not only as a procurement strategy but also as a reliable means to managing the corporate image of their organization (Ferri et al., 2016; Wolf, 2014).

Zorzini et al. (2015) classified the strategies of socially responsible sourcing that managers use to relate with their stakeholders into four approaches, which includes: (a) reactive approach, (b) defensive approach, (c) accommodative approach, and (d) proactive approach. Although any of these four approaches of socially responsible sourcing could become relevant in diverse situations, Zorzini et al. (2015) posited that the proactive approach is the most common approach of socially responsible sourcing for building the reputation of a corporate organization. Börjeson et al. (2015) indicated that responsible supply chain management is necessary for sharing and transferring knowledge for procurement functions within a supply chain. Responsible supply chain management includes organizational capabilities and supplier-base commitments, as well as provide support for enhanced performance and business excellence (Börjeson et al., 2015). In large Nigerian manufacturing companies, procurement experts relate the proactive approach of socially responsible sourcing to manage various environmental, ethical, and communal issues.

Significance of IT in Procurement and SCN Practices

Practitioners have leveraged globalization to strengthen partnerships and collaboration across their supply chain networks (Stevens & Johnson, 2016). Stevens and Johnson (2016) predicted that the supply chain-operating model would still be more atomized and adaptive. Although there are usual, inherent complexities within almost every supply chain network, real-time response and collaboration among players provide the desirable solution (Gunasekaran et al., 2014; Samaranayake & Laosirihongthong, 2016).

In general, a manufacturing business involves the procurement of inbound raw materials, addition of values through the production processes at the core of the business, and marketing of the finished product through outbound logistics. The *supply chain mix* include a collection of commercial functions that are necessary for the successful operation of the business within the scope of supply chain management (Arora, Arora, & Sivakumar, 2016). The relational supply-chain management strategy proposed by Arora, Arora, and Sivakumar (2016) offered a framework to model the impact of IT through three components of supply chain mix, that is, strategies for collaboration, integration, and transformation on an organization's performance. With the relational supply chain management strategy, Arora et al. (2016) demonstrated that the supply chain mix influences both the internal environment of a company and the external environment of its stakeholders, customers, competitors, suppliers and supply chain partners, leading to supply chain management effectiveness, organizational performance, and sustainable competitive advantage. A solid procurement relationship management practice is significant for managing project risks, maintaining alignment with project goals, and

achieving project success (Handfield, Primo, & de Oliveira, 2015; Nair, Jayaram, & Das, 2015)

In today's global manufacturing field, procurement managers face many supply complexities and downturns. The current drift to outsourcing and preference for offshoring in procurement, the changing demands of the customers, and competitive forces at the globalized marketplace are some of the forces acknowledged in the suite of supply chain network complexities (Gaudenzi & Christopher, 2016). In the midst of these complexities, business managers embrace regulated supply chain integration practices to mitigate the risks of carrying out business activities even in a high-risk environment with weak rule-of-law (Wiengarten, Humphreys, Gimenez, & McIvor, 2016). Procurement practitioners in project-based organizations must be *leagile*, a term used to describe lean and agile approaches to project management (Fayezi, Zutshi, & O'Loughlin, 2016; Gaudenzi & Christopher, 2016). Practitioners can also develop programs to combine leagility with flexibility. Furthermore, procurement stakeholders can resolve issues of relationship integration using agility and flexibility to boost company performance.

Power and Gruner (2016) postulated that managers can combine a calculative model with the IT implementation model when organizations face supply chain complexities. The two leading IT implementation models are the progressive model and the situational model (Power & Gruner, 2016). Practitioners can apply the calculative IT implementation model to boost the understanding of difficulties and complexities of IT implementation decisions among supply chain partners (Power & Gruner, 2016). An adaptable procurement practice is the heart of a viable supply chain network (Bag, 2016;

Knoppen & Sáenz, 2015). Bag (2016) identified certain constituents of a flexible procurement system for business excellence. These constituents include supplier integration, supplier responsiveness, skills of flexible procurement workforce, strategic sourcing, flexible transportation, eco-friendly packaging, ISO 14001 certification, operational cost, environmental cost, and customer satisfaction (Bag, 2016). With the current business dynamics, managers must deploy appropriate constituents of a flexible procurement system or strategic procurement practices to accommodate issues of changing orders and pricing.

The information technology portfolio management (ITPM) is a technique that managers in the manufacturing companies can use to continuously monitor, control, and guide IT investment in the supply chain (Ajjan, Kumar, & Subramaniam, 2016; Dolci, Maçada, & Grant, 2014; Maroofi, 2016). Ajjan et al. (2016) also agreed that the ITPM is significant to rank IT initiatives, which are limited by resource and based on costs, gains, and risks factors. The practices of ITPM in manufacturing companies is still unpopular; the IT sections in some companies are not yet structured in line with ITPM dimensions (Dolci et al., 2014). Jeffery, Norton and Yung (2017) described ITPM as a significant global IT tool to complement the corporate transformation strategy for timely execution of project goals. The ITPM has the potential to connect with and support other business divisions within and outside a company's SCN (Maroofi, 2016).

Intermediation provides a procurement link between the creators of innovation and user of innovation (Leeuwis & Aarts, 2016). According to Edler and Yeow (2016), innovation intermediaries are organizations that serve as brokers of the innovation

process, providing information and mediation between parties interested in buying or selling the product of innovation. Managers can use intermediaries to achieve strategic sourcing and negotiation, especially in manufacturing companies where large volumes of a wide range of raw materials are required for an innovative production process within a fixed project time (Georghiou, Edler, Uyarra, & Yeow, 2014; Landoni 2016). Effective innovation intermediation, according to Edler and Yeow (2016), involves the seven functions for the purchase of technology. These functions comprise recognition of requirements for the technology, exploring the range of solutions, comparison of solutions, selection, acquisition, implementation, and operating and learning (Georghiou, et al., 2014; Edler & Yeow, 2016).

Collaboration within the supply chain network is necessary for business success (Blanquart & Carbone, 2014). In Kauremaa and Tanskanen (2016) view, inter-organizational information systems, whether the unilateral or bilateral modes, hold the potential to foster supply chain integration. From both the managerial viewpoints and the technical viewpoints, Kauremaa and Tanskanen (2016) proposed a framework to harness the inter-organizational information system's central components, purpose and scope, design principles, and technical framework for supply-chain integration design theory. The strategy of intercompany partnerships for mutual performance gains, through the alignment of supply chain relational strategy with the prevailing market forces, is significant to impact companies' operational performance (Gobbi & Hsuan, 2015; Iyer et al., 2014). In ceramics companies, where the production processes involve the transformation of raw materials into finished products, the strategy of multistage

collaboration and partnership for sourcing among suppliers is essential for enhanced operational performance.

E-Procurement and Company Performance

The management of public institutions trails the private sector companies in migrating their governance and procurement functions to the internet (Fernandes & Vieira, 2015). In corporate organizations, e-procurement is used to perform procurement functions in faster and easier manner (Zhou, Chong, Zhen, & Bao, 2016). Managers in such organization rely on internet technology tools for the administration of internet ordering, management of inventory and payment processes, and other integrated automatic procurement activities (Kusi et al., 2016). Triki, C. (2014) identified business, consumers, and government as the three most important players in any electronic market. Chomchaiya and Esichaikul (2016) framework for government e-procurement performance measurement provides an approach to understand how the fundamental elements of the performance measurement initiatives relate. A meaningful government e-procurement performance measurement must include the internal stakeholders with respect to their roles and responsibilities, and constitute their performance metrics (Chomchaiya & Esichaikul, 2016; Fernandes & Vieira, 2015). Among the important factors that influence the acceptance of e-procurement systems are the perceived usefulness, perceived ease of use, employee involvement, reliability, customized training, vendor support and management support (Barngetuny & Kimutai, 2015; Rahim, 2008). For the manufacturing companies to minimize the effects of distortions in raw materials

sourcing, practitioners need to create a way to link procurement measurements with technology.

The electronic procurement practices, especially in the business-to-business model, has the potential for the holistic upgrading of procurement practices in a manufacturing company (Ordanini & Rubera, 2008). The electronic business-to-business model is an automated online form of e-commerce for strategic procurement of goods and services through online transactions portals to mitigate disruptions, and achieve smooth operations between businesses (Gordini & Veglio, 2017; Kusi et al., 2016; Van der Valk, & Wynstra, 2014; Wang et al., 2016). According to Ordanini and Rubera (2008), the two fundamental capabilities in the purview of procurement practices are the process efficiency capability and process integration capability. Fernandes and Vieira (2015) identified the reduction of transaction costs and contracting time, and increased transparency, competitiveness and tenders value as some of the benefits of a public e-procurement platform. Ordanini and Rubera (2008) demonstrated a positive and significant connection between internet resources and company performance. The procurement managers in the Nigerian ceramics manufacturing companies can harness applications of the e-based business-to-business model to contrive the interorganization transactions among stakeholders and partners for optimal procurement operation.

Successful corporate companies build organizational strategies not only on their direct capabilities but also on indirect capabilities provided by the abilities of other organizations (Spring & Araujo, 2014). According to Szwejczewski, Sweeney, and Cousens (2016), the upper management of such companies understand and exploit the

benefits of indirect capabilities to complement and upgrade their organizational capabilities. Organizational strategy involves the formulation of strategies through the complementary approach of indirect capabilities' assessment, which involves the critical valuing of the abilities and inabilities of the suppliers and rivals or competing companies (Spring & Araujo, 2014; Story, Raddats, Burton, Zolkiewski, & Baines, 2017).

Spring and Araujo (2014) indicated that the six interconnected components of indirect capabilities include: (a) IT infrastructure, (b) boundary management practices, (c) contracting, (d) interface artefacts, (e) valuing others' capabilities, and (f) relating direct to indirect capabilities. Raddats, Zolkiewski, Story, Burton, Baines, and Ziaee Bigdeli (2017) stressed that the ability of managers to leverage the synergy of their organizational capabilities and partners' capabilities is in itself a capability. In the manufacturing environment, Story et al. (2017) suggested that procurement practitioners could explore and utilize these capabilities from the proportions of manufacturers, intermediaries, and customers. In the Nigerian manufacturing context, the indirect capabilities afford an excellent and smart route to market dominance and competitiveness in the face of supply chain risks and uncertainties, and procurement complexities (Spring & Araujo, 2014; Van der Valk & Wynstra, 2014).

Vendor managed inventory system is a supply chain collaborative initiative for SCN coordination and retailers' inventories management, which involves the exchange of information (Lee, Cho, & Paik, 2016; Salem & Elomri, 2017). Practitioners of procurement functions in the SCN apply vendor-managed inventory and other electronic based order-processing technology for different purposes. Adebanjo and

Laosirihongthong (2014) demonstrated that the application of web-based order-processing technology in buyer-supplier relationship management would reduce direct costs, and improve customer satisfaction and SCN process efficiency. Apart from response time reduction and efficiency of SCN collaboration, vendor managed inventory reduces costs (Kaasgari, Imani, & Mahmoodjanloo, 2017; Lee et al., 2016). In relation to the predetermined inventory level of a typical vendor management inventory policy, the vendor performs a dual role of supplying the customers' orders while managing his own inventory (Pasandideh, Niaki, & Ahmadi, 2018; Zhang et al., 2016). A good example of a competitive business environment, where procurement managers could engage vendor-managed inventory systems to reduce waste and maintain a strong balance sheet through lean supply chain and integrated supply plan is the Nigerian ceramics manufacturing companies.

Transition

Section 1 included an introductory discussion of the foundation and background of this study. In successions, the problem statement, purpose statement, nature of the study, research questions, and interview questions were discussed. The conceptual framework, which provided the underlying theory for this study is the strategic alignment model. The next sections included the operational definitions, assumptions, limitations, delimitations, and the significance of the study. Section 1 ended with a review of the professional and academic literature, which comprised critical analysis and synthesis of relevant literature on the concept of strategic alignment and strategic procurement practices. Section 2 is the next segment of the study, which will provide detailed

discussions on the methodology of data collection, data organization, and data analysis, intending to provide a reliable and valid answer to the research question. In section 3, I will discuss the results from data analysis of section 2 and draw recommendations for further studies from the conclusions.

Section 2: The Project

My goal for this qualitative single case study was to explore the procurement strategies that could help to improve company performance. Strategic procurement management is a vital function at the hub of business activities for the enhancement of business excellence and performance of a manufacturing company (Tatoglu et al., 2016). Section 2 includes a thorough explanation of the approaches adopted for data collection, data organization, and data analysis.

Purpose Statement

The purpose of this qualitative single case study was to explore procurement strategies that some Nigerian ceramics managers use to improve company performance. The population comprised six procurement managers and practitioners in a large ceramics manufacturing company in Nigeria, who have successfully developed and deployed procurement strategies to improve company performance. Managers can initiate social change by applying the appropriate procurement strategies in their companies (Gillespie & Rogers, 2016; Heckmann et al., 2015; Stevens & Johnson, 2016). The implications for positive social change may include the potential to provide organizational strategies to improve procurement practices thereby helping manufacturing companies to address inefficiencies they may have in their procurement processes.

Role of the Researcher

My role as a researcher of this qualitative case study was to select the suitable methodology, design, participants, and analyze the data collected from the participants,

and to explore procurement strategies that the Nigerian ceramics managers use to improve the procurement process and its effects on supply, products, and company performance. I used a qualitative research methodology for this study and used interview questions in interviews with the participants to address the research question of how managers use procurement strategies to improve performance in Nigerian ceramics manufacturing companies (Antwi & Hamza, 2015; Schwab & Syed, 2015). Although I worked in a manufacturing company some years ago, I have never explored the topic of this study, and have no former knowledge of or relationship with any of the participants for this study.

To design the study, I adhered to the ethical principles in the Belmont Report and Walden University's Institutional Review Board (IRB) regulations and obtained approval from the IRB before conducting my research and contacting participants. Researchers must observe the ethical guidelines in the Belmont Report to protect and respect the participants, explain the participants' roles, ensure that participants fully understand the purpose of the research study, and obtain informed consent from each participant (U.S. Department of Health and Human Services, 1979). After the participants agreed to participate in this study and sign the informed consent form, I collected and recorded data through face-to-face interviews with procurement managers and protected the rights of the participants to privacy. For the data analysis, I used Atlas.ti software.

Researchers can mitigate bias and avoid viewing data through a personal perspective by engaging member checking and triangulation, creating audit trails and maintaining a passive presence to minimize personal influence (Berger, 2015; Irvine,

Drew, & Sainsbury, 2013). The researcher and the participants should set their preconceptions aside, as researcher's preconceptions could influence data collection, analysis, interpretation, and presentation; in certain cases, these biases have discounted sources (Marshall & Rossman, 2015; Nazir, 2016). I maintained an interview protocol to guide participants and repress any prospective prejudice, kept a research diary for self-supervision, and created an audit trail of my reasoning, judgment and emotional reactions to ensure reflexivity and bracketing of any unnoticed preconception from myself or the participants. I minimized personal influence by making my presence as passive as possible. Through the use of an interview protocol, member checking and triangulation at the stages of data collection, analysis, and interpretation, I ensured that my work experience did not introduce any biases or personal influences into the research.

Participants

Consistent with the research question of this qualitative single case study, the participants consisted of managers in the Nigerian ceramics manufacturing industry who had acquired and used procurement strategies to improve company performance (Katz, 2015; Padgett, 2017). I used the purposive sampling technique to select participants who were knowledgeable of the procurement strategies in the Nigeria ceramics company. Purposive sampling is a non-probability sampling strategy that involves the use of specific eligibility criteria, based on the sound judgement of the researcher, to choose a set of representatives from a population to participate in a study (Huerta-Barrientos, Elizondo-Cortés, & de la Mota, 2014; Palinkas et al., 2015). Eligibility criteria for participation in this study included managers in the full-time employment of the ceramics

company that are involved in initiating and implementing strategic plans for successful procurement in the Nigeria ceramics company. Participants had to have knowledge (Ambe, 2014; Berger, 2015; Koekemoer, 2014) and experience of procurement strategies, and be willing to provide data for the research question.

Koekemoer (2014) suggested that the researcher must engage with strategies of effective communications in order to build trust with participants. I made initial face-to-face contact with individual participant, to explain the study, discuss the consent form, solicit interest, and agree on the date, venue and location for the research. To build the participant's trust and for a strong working relationship, I refrained from gathering data and contacting participants until I received IRB approval from Walden University. I maintained communication with participants through emails and scheduled phone calls. The participant's right to privacy, voluntary participation, and retraction is in keeping with Walden University's IRB regulations and the ethical principles of respect of persons, beneficence, and justice in the Belmont Report (Aldridge, 2014; Lewis, Adriopolulos, & Smith, 2014; U.S. Department of Health and Human Services, 1979).

Research Method and Design

Research Method

According to Schwab and Syed (2015), the qualitative research methodology is part of the social constructionist tradition, while the quantitative research methodology is part of the positivist tradition. A third research method, which is known as the mixed-method approach, is also applicable to an improved understanding of the issue, especially when quantitative or qualitative research alone may not sufficiently answer the research

question (Naidu & Patel, 2013). Researchers consider the research question and research focus in selecting the appropriate research methodology and design (Bernard, 2013; Schwab & Syed, 2015; Yilmaz, 2013).

I chose a qualitative research methodology for this study because the approach is appropriate for exploring the procurement strategies some managers in the Nigerian ceramics manufacturing companies used to improve company performance. Researchers use the qualitative methodology to explore management strategies and experiences by asking why, what, how, when, and where, about the research focus (Bergdahl & Berterö, 2015; Moon et al., 2013). The qualitative approach that I selected for this business-related study was suitable to provide a flexible research framework and replicable steps to collect research data from human experiences (Antwi & Hamza, 2015; Bernard, 2013). This qualitative research approach provides an inductive way to explore people's knowledge by examining and analyzing specific experiences of such people from their perspectives and formulating conclusions (Antwi & Hamza, 2015; Bergdahl & Berterö, 2015; Moon et al., 2013). The qualitative research method allows participants to express their experience in their words (Bergdahl & Berterö, 2015; Moon et al., 2013), and best aligns with the purpose of this study, thereby providing immense insights about procurement strategies being explored.

The quantitative research method was not appropriate for this exploratory study because the methodology involves deductive approach of statistical investigations, which the researcher uses to determine if a theory is true (Antwi & Hamza, 2015; Moon et al., 2013). Researchers use the measurement strategies of quantitative method to develop

knowledge from surveys and experiments, based on the cause and effect relationship among variables (Bernard, 2013). Quantitative research included the objective interpretation of quantifiable, statistical data to test hypotheses, whereas a subjective interpretation of verbal and observational data was more appropriate to provide insights on the business-related problems in my study (Antwi & Hamza, 2015). While the intent of a researcher is to explain a phenomenon in a quantitative study (Moon et al., 2013), this study includes systematic construction of knowledge.

A mixed method research methodology requires a multimethod approach that combines both the qualitative and quantitative methodologies. A researcher can combine two research paradigms to answer a broader and more complete range of research questions (Johnson & Onwuegbuzie, 2004). However, both a quantitative and mixed method approaches were not suitable for this study because I did not collect quantifiable, statistical data to test hypotheses (Birchall, 2014).

Research Design

A research design provides a fundamental model for relating research components to the research questions to discover findings and draw conclusions in an empirical study (Bernard, 2013; Eriksson & Kovalainen, 2015; Leedy & Ormrod, 2013). The research designs commonly considered for qualitative inquiry in the social and behavioral sciences are case study research design, phenomenological research design, ethnographic design, and narrative design (Bernard, 2013; Lewis, 2015; Naidu & Patel, 2013). I selected case study research design for this study to explore procurement strategies that the Nigerian ceramics managers use to improve company performance. In determining the sample size

of a qualitative study, the depth or quality of the data is important (Robinson, 2014). A single case study is a suitable research design to provide in-depth observations and enable the researcher to capture much details about the context of the studied phenomenon (Gobbi & Hsuan, 2015).

A phenomenological research design was not appropriate for this study because the study did not involve discovering nor describing the participants' lived experiences through an iterative analysis process (DeFelice & Janesick, 2015). The ethnographic research design involves the examination of cultural groups, artifacts, and other similar field subjects in the natural environment (Doherty, 2015). An ethnographic study was not suitable because this study did not engage with data rooted in cultural anthropology and was not meant to discover the culture-sharing behavior of individuals or groups (Cruz & Higginbottom, 2013; Yilmaz, 2013). A narrative design was not an appropriate design, as this study did not include recounting the lived experience or chronological narration of life stories and experiences of an individual or a group of individuals (Hunt, 2014; McMullen & Braithwaite, 2013). Data saturation is the point at which additional information from an interview does not yield new information, concepts, themes, or ideas (Cronin, 2014; Fusch & Ness, 2015; Robinson, 2014). I used a single case study design to collect adequate data until data saturation and for this study to be replicable.

Population and Sampling

The population of this study comprised managers who had developed and deployed procurement strategies in the Nigerian ceramics manufacturing company and were willing to freely provide data for this qualitative study. Selecting the right research

participant from a population is an important step for an exploratory study (Ambe, 2014; Palinkas et al., 2015). Purposive sampling includes a technique of selecting the qualified participants within a population for a qualitative case study (Davis, 2014; Quinn-Nilas, Benson, Milhausen, Buchholz, & Goncalves, 2016; Sapsaglam & Omeroglu, 2016). I used homogeneous purposive sampling to select managers in the Nigerian ceramics manufacturing company who shared similar traits and characteristics of experience with procurement strategies for this case study. The population included six managers who had implemented successful procurement strategies within the supply chain network of the large manufacturing company. I collected sufficient information from my participants until data saturation occurred (Fusch & Ness, 2015; Robinson, 2014).

The participants' eligibility criteria included being a manager in the employment of the manufacturing company, and participation in the successful initiation and execution of the strategic plan of procurement in the company. In planning the sampling strategies, the eligibility criteria can be used to decide the sampling design and sample size ((Etikan, Musa, & Alkassim, 2016; Huerta-Barrientos et al., 2014; Palinkas et al., 2015). I used the eligibility criteria to classify a sample size for data saturation. Dikko (2016), and Tonkin-Crine et al. (2015) indicated that researchers and participants should agree on a conducive interview setting with minimal interference, distractions, and background noise, to ensure best quality recording of the interview. For mutual trust, participants' privacy and quality of interview recordings, the participants and I agreed on the appropriate time and location for the interviews.

Ethical Research

The Belmont Report includes the three ethical principles of justice, respect for persons, and beneficence (U.S. Department of Health and Human Services, 1979). In line with these ethical principles, I issued informed consent forms to participants to request their voluntary participation and introduce the nature and purpose of the study to them. Hammer (2016) indicated that researchers must ensure that participants that are willing to participate understand the purpose of the study. I explained the risks and benefits involved, the interviews duration and the member checking process to the participants. I also informed participants that no financial reward was involved, and any participant was free to withdraw their voluntary participation at any point, by email or phone call, without any penal consequences. Information related to participants that chose to withdraw must be removed (Roulston & Shelton, 2015). I stored data from willing participants in privacy and destroyed the information about participants who elected to freely withdraw their participation.

I completed the online National Institutes of Health (NIH) training for the protection of human research participants. I obtained IRB approval (IRB approval #03-13-18-0598110) for this study and adhered to all Walden IRB requirements. Participants signed and returned the informed consent form to me hand-to-hand and in a few cases, through email. The face-to-face interviews took place on the dates and at places agreed with each participant and lasted for an average of 60 minutes. During the interviews, I asked the participants if they understand the reason for the interview, the nature and purpose of the study, and explained the interview procedure, audio recording process, and

the liberty to refuse to answer any of the interview questions. I used the interview protocol (Appendix C) to ensure that all participants were asked the same questions.

With an electronic audio recorder, I recorded and backed up the face-to-face interviews, aptly coding each interview in a way that the transcriber will only have access to the de-identified data. I coded participants to provide anonymity, assigning unique codes P1, P2, P3, P4, P5 and P6 to all six participants based upon the interview sequence. Davis (2014), Shrivastava, Shrivastava, and Ramasamy (2015) stated that the safe keeping the research data is essential should keep preserve the integrity of the research and protect the privacy of the participant. I keep electronic data secured with password in two hard disks, with other written notes and documents in a locked safe, maintaining the confidentiality of all participants. I will destroy all stored data and files after 5 years of safekeeping and shred all documents using a paper-shredding device.

Data Collection Instruments

Selecting the appropriate data collection instrument and techniques is essential for the quality of research data and results of the study (Rimando et al., 2015). I was the primary data collection instrument for this qualitative study. An interviewer can obtain valid information from participants with semistructured interview questions to examine and expand the knowledge of the subject being studied (Alshenqeeti, 2014; Schmidt, Richter, Sender, & Geue, 2016). The interview questions for the data collection process comprised a total of six interview questions from three categories, which are: 1) initial probe questions, 2) targeted concept and follow-up questions, and 3) the wrap-up questions. This primary data collection process of semistructured interviews was

appropriate for the research methodology and design I used in the study (Fusch & Ness, 2015). I drew participants from a population of experienced managers that have a developed and deployed successful procurement strategies at the Nigerian ceramics manufacturing company.

A researcher can use interviews, member checking, observations, and multiple data sources to collect information until when additional information does not yield new concepts or themes (Cronin, 2014; Gobbi & Hsuan, 2015; Fusch & Ness, 2015). The participants were willing to provide quality research data for this study until data saturation. I continued with recruitment and interviews until data reached saturation, when no new information emerged (Tonkin-Crine et al., 2015). For a qualitative study, according to Brédart, Marrel, Abetz-Webb, Lasch, and Acquadro (2014), a researcher can prepare interview questions to effectively capture relevant research data for the empirical exploration of strategies in corporate companies. I recorded the audio interview session all participants' responses to the interview questions and forwarded the de-identified recordings to the transcriber.

I interpreted the interview transcript and condensed the findings into a summary which I took to the participants for member checking during a second interview. After the initial interview, member checking includes a research approach to obtain more data and insights from participants' experiences (Brit, Scott, Cavers, Campbell, & Walter, 2016; Cronin, 2014; Neuman, 2014). According to Marshall, and Rossman 2015), member checking is an essential instrument that a researcher uses to increase the credibility of research data, validity and quality of the case study. During the member checking

process, the participants verified the correctness of my summary of their responses, to validate my interpretations and findings, and provide response to some follow-up questions that emerged during data organization and analysis.

The secondary data collection instruments I used for this single case study included on-site observations, official reports and publications. To validate a qualitative study and increase the credibility of its results, Reimer and McLean (2015) suggested that researchers can use data triangulation techniques to obtain and connect research data on the same study focus but from multiple sources. Using the methodical triangulation, I collected and cross-checked data from interviews, on-site observations, personal notes during interviews, and other available official journals and reports. Researchers can reduce both implicit and explicit biases when they complement the interviews with other secondary instruments for the study of a social-cultural phenomenon, (Reinhold, Järvis, & Tint, 2015; Rivas & Light, 2016).

Data Collection Techniques

The data collection techniques I used to collect information are the face-to-face, semistructured interviews and documents reviews. The semistructured interview is a technique to learn through subjective responses with adequate objective knowledge for a qualitative study (McIntosh & Morse, 2015). The participants were 6 procurement managers who have successfully developed and deployed procurement strategies to improve performance in a Nigerian ceramic manufacturing company. The semistructured interviews comprised open-ended interview questions (see Appendix C), which are consistent with the research question and study focus. The open-ended questions for

semistructured interview questions are tools to create a rich communication, obtain unstructured responses for a qualitative study (McIntosh & Morse, 2015; Piercy, 2015).

For a qualitative case study, asking open-ended questions during a face-to-face interview allow the researcher to obtain relevant data from participants' responses (Karataş & Oral, 2015; Piercy, 2015). An advantage of face-to-face as a data collection technique included an opportunity to exploit the gains of both verbal and non-verbal communication through eye contacts with the participants. During a face-to-face interview, the researcher can deploy relevant perceptive skills to capture relevant data from participants (Karataş & Oral, 2015; Mojtahed, Nunes, Martins, & Peng, 2014). Another advantage of this technique of data collection was that participants gave more attention during face to face than possibly over the telephone or any other technique. The researcher can also request for further explanations of any unclear response and get greater commitment from each participant (Fink & Anderson, 2015).

When conducting a face-to-face interview, researcher use illustrations, where necessary, to ensure participants' comprehension and response (McIntosh & Morse, 2015; Yin, 2014). Furthermore, for efficient alignment between the probing questions and follow-up questions, I was able to discern uneasiness and monitor fascinations as the interviewee responds. Where the participant's response has not sufficiently addressed the initial probe or targeted concept questions, I rephrased the follow-up or wrap-up strategies to inspire targeted response.

A main disadvantage of the face-to-face technique is the likelihood of spending more time on conducting the interviews as researcher may tend to seek more

clarifications and explanations than in other techniques (Mojtahed et al., 2014). McIntosh and Morse (2015) argued that participants might give logically acceptable but incorrect responses when they feel inhibited by sensitive questions. To ensure that I did not exceed 60 minutes while conducting each interview, I strictly adhered to the interview protocol (see Appendix C) in asking participants the same interview questions, in the same way, and systematic order. Before each face-to-face interview session, I checked the condition of the audio recorder and the level of background noise at the interview site, to have a good quality recording for easy transcription afterward.

After receiving the University's IRB approval for this study, I emailed the invitation letters to eligible participants and obtained their endorsement through informed consent forms. I conducted and audio recorded the semistructured interviews, with each lasting between 40 to 60 minutes. I engaged a transcribing service to transcribe all the 6 audio interviews and summarized the data in text form, At the data analysis stage, I took the interpreted and summarized data to each participant for member checking. Within an average of 10 minutes, participants reviewed the preliminary results of their respective interviews and validated the interview data. Conducting a second interview, a researcher uses the member checking approach to verify the accuracy of the data, explore the credibility of results and strengthen the validity, reliability and trustworthiness of the research findings (Birt et al., 2016; Roulston, 2014; Zheng, Guo, Dong, & Owens, 2015).

After the data verification via member checking, I listened to the interview repeatedly, to compare the emerging patterns and code the information into themes,

predicated upon the research question. In the next stage of data organization, I inputted the checked data into a software tool, Atlas.ti, to organize and analyze the data.

Data Organization Technique

Data organization is essential to structure the volume of rich data involved in a case study for researchers' understanding, and to preclude inaccuracies during labeling or coding, analysis, and interpretation of data (Garcia-Mila, Marti, Gilabert, & Castells, 2014; Marshall & Rossman, 2015). During the semistructured interview, I utilized a voice recorder to capture the participants' responses. I transferred the audio clips of the recorded interviews to my laptop and de-identified them by removing all information that could reasonably connect with the identity of any or all participants from the downloaded audio clips. Classifying and labeling every recorded interview response and the transcripts separately, with unique, generic codes is necessary (Elo et al., 2014; Markov & Crestani, 2014; Williams, 2015).

To further protect participants' identities and ensure the confidentiality of the information obtained, I labeled each of the audio clips with unique codes before allowing the transcriber to have access. Jones et al. (2014) recommended that participants' information and identities must be kept in privacy. Therefore, I transferred the audio clips into two passworded removable disks as data backup. I keep the passworded disks along with the official documents and personal notes used as secondary data inside a locked safe. After preserving the data for 5 years, I will wipe out the research data from my storage drives and shred all documents and handwritten notes that I have taken.

Upon receiving the transcribed data, I carefully sorted and coded the data into sub-themes and themes. Scholars develop themes and codes to ensure the confidentiality of participants' information and classify research data into sub-themes and themes for data analysis (Jones, Beynon-Davies, Pickernell, & Packham, 2014; Markov & Crestani, 2014). I utilized the Mendeley program to manage my references, while I used qualitative data analysis software (QDAS) to aid coding and grouping of data into themes. The QDAS I used is Atlas Software, which is commonly known as Atlas.ti. The Atlas software is a QDAS program that qualitative researchers use to obtain central themes that relate to the research focus, support data analysis and reporting of study result (Markov & Crestani, 2014; Paulus, Woods, Atkins, & Macklin, 2017).

Data Analysis

Data analysis involves a systematic evaluation of research data to derive an interpretation and create a new meaning or understanding in line with the study focus (Salajeghe, Nejad, & Soleimani, 2014; St. Pierre & Jackson, 2014). For this qualitative study, interview data of six managers who had successfully developed and deployed procurement strategies to improve the performance of a large ceramics manufacturing company in Nigeria was collected and analyzed. Marques, Camacho, and Alcantara (2015) indicated that data analysis usually include data presentation, discussion and interpretation. A researcher deploys the appropriate procedure to categorize the data collected and enhance the quality of study (Gaya & Smith, 2016). To effectively interpret participants' meaning, qualitative researchers analyze the research data using an iterative process to extract and summarize the meanings and interpretations throughout the data

collection and analysis processes (Ponelis, 2015; Salajeghe et al., 2014). According to Lewis (2015), and Robinson (2014), researchers can examine the research data to discover and generate codes and themes from the inherent meanings, segments and patterns of the data.

Triangulation involves the collection of data from multiple sources to support the consistency of the researcher's findings (Hussein, 2015). Consistent with Fusch and Ness (2015), and Yin (2014) procedure for triangulation, I related primary interview data with other secondary data. For qualitative study, researchers utilize the data triangulation approach not only to ensure validation of the study but also to minimize bias and deepen understanding on the phenomenon being studied (Brown et al., 2017; Fusch & Ness, 2015; Hussein, 2015; Kok & Jarodzka, 2017). With data triangulation, I mixed different data types to reduce biases likely embedded in a single data type. During data analysis, researchers can refer to field notes taken during interviews for proper data organization, analysis and interpretation (Tonkin-Crine et al., 2015). Therefore, I integrated the research data from personal field notes, documents and other sources with the interview data from the transcribed text.

For a qualitative case study, the process of data analysis included the development and naming of data themes, otherwise known as categories and sub-categories (Gaya & Smith, 2016; St. Pierre & Jackson, 2014). In content analysis, the researcher examines transcribed data, field notes, archival documents, and other secondary data, and bracket similar themes and codes to generate findings consistent with the research and interview questions (Marques et al., 2015; Pasila, Elo, & Kaariainen, 2017; Ponelis, 2015).

Following, I carefully read the interview transcript to extract all emerging themes and generate necessary codes from the research data. I examined and reviewed the transcript repeatedly to compare the data from the primary and secondary sources, refined the themes, and where necessary, regrouped the codes and themes, until no new themes emerge.

The QDAS I used for the data analysis of this study is the Atlas.ti software. The Atlas.ti could assist the researcher in the coding process by creating a quotation and assigning a code to it through open coding, code by list, in-vivo coding, coding with drag and drop, and automatic coding (Friese, 2014). In agreement with Friese (2014) procedures, where necessary, I edited, defined, renamed, unlinked, and deleted codes, using Atlas.ti. Researchers could also utilize Atlas.ti to link and unlink two or more nodes in the code list (Friese, 2014).

Reliability and Validity

Reliability

Evaluation of the quality and credibility of research work is important, especially if the results and conclusions of the research have potentials for application in practice (Noble & Smith, 2015). Reliability, otherwise known as dependability, is of particular importance because it establishes a basis for validity. Reliability includes consistencies or regularities of data analysis, while validity applies to integrity and accuracy of findings from the data (Marshall & Rossman, 2015). To guarantee neutrality and consistencies of data for this case study, I carefully minimized data analysis errors and biases by obtaining multiple data types for this study. Fusch and Ness (2015), and Noble and Smith (2015)

indicated that triangulation of different data types or data from multiple sources is essential to differentiate participant's accounts in interviews from the researcher's experience and perspectives. I connected the transcribed data, field notes and observations, archival documents, and other secondary data, and bracket similar themes and codes to generate findings consistent with the research and interview questions (Marques et al., 2015; Pasila, Elo, & Kaariainen, 2017; Ponelis, 2015).

Following the procedure of any *credible* study, Noble and Smith (2015) indicated that a future research must be able to yield a similar result or comparable conclusion. The researcher must ensure the reliability or dependability of the research by ascertaining the appropriateness of the research methodology and the integrity of the conclusions drawn (Erlingsson & Brysiewicz, 2013; Garside, 2014). For consistency and trustworthiness, especially during data collection, I utilized an interview protocol for all participants. I also created audit-trails of my on-the-field challenges, reasoning and judgement to maintain the transparency and clarity of my decisions.

Furthermore, I strictly kept the data records in a safe lock. Both of the electronic and hardcopy data will be preserved in privacy for 5 years. For reliability of the study finding, I also ensured that member checking and data triangulation was unambiguous and consistent with the regular, acceptable standard procedure and practices. Zheng et al. (2015) postulated that member checking is useful for collecting more data from the participant's perception until there are no more information to share. Member checking is an effective way of verifying the trustworthiness and dependability of a research (Kornbluh, 2015; Roulston, 2014; Simpson & Quigley, 2016). In using the member

checking approach to ensure the trustworthiness of this study, I compared data from the initial and final interviews; I maintained an open attitude to change as I incorporated participants' revisions in the findings' summary.

Validity

In qualitative studies, validity is associated with the *truth-value*; the truth-value of a qualitative research represents a vital mark of trustworthiness and credibility, which ties to the richness of data quality and participants' level of knowledge (Noble and Smith, 2015). According to Leung (2015), the credibility, transferability and confirmability of a study are fundamental aspects of the validity of a study. At the preliminary stage of data analysis, I gave the summary of interpreted transcript to the participants for validation through the approach of member checking. To the researcher, member checking is an essential tool for confirming the quality of participants' information (Birt et al., 2016; Roulston, 2014). To enhance the validity of this study, I maintained a reflexive journal and an interview protocol to reduce any likely personal biases or errors. To maintain the integrity of the data, I used triangulation to connect the different data types.

The credibility is a test of how believably, the researcher captured the participant's responses, excluding the researcher's bias (Williams, 2015). Therefore, I utilized member checking, data triangulation and interview protocol to ensure the credibility of this qualitative study. Apart from being a tool for dependability in a qualitative study, Barber et al. (2015) stressed that member checking also includes the criteria to preserve the credibility of a research. I also adhered strictly to the interview

protocol during all participants' interview. For the quality of trustworthiness, I ensured that my decisions are clear and transparent by keeping an audit trail (Zheng et al., 2015).

Transferability of a study is the ability of others to understand and transfer the findings to other similar settings (Garside, 2014; Noble & Smith, 2015). Transferability can be guaranteed through a rich description of the adequate sampling strategy and sufficient sample size. Quinn-Nilas et al. (2016) indicated that purposive sampling is an appropriate technique for the selection of qualified participants within a population for a qualitative study. For the quality of transferability in this case study, I used the homogeneous purposive sampling to select managers in the Nigerian ceramics manufacturing company who shared similar traits and characteristics of experience with procurement strategies.

If the outcome of any future research must be similar to findings of an inital study on the same phenomenon, De Massis and Kotlar (2014) recommended that researchers must clearly describe and strictly adhere to the techniques adopted for data collection, organization and analysis. Using the same interview protocol, I interviewed all participants, asking them the same set of interview questions in the same sequence. I continued with the interviews until when additional information does not yield any new concepts or themes. An important component of transferability is the researcher's ability to describe the eligibility criteria for selecting the population for the study (Erlingsson & Brysiewicz, 2013; Houghton, Casey, Shaw, & Murphy, 2013).

Confirmability of a research depicts its quality of being demonstrable or verifiable by other researchers (Houghton et al., 2013). A confirmable research will reflect the

authentic research findings without the tinge of the researcher's preferences and prejudices (Petty, Thompson, & Stew, 2011). To achieve confirmability, I used audit trail, probing and prolonged engagement during interviews, follow up and member checking. The audit trail portrays the research process followed to arrive at the findings, implication, interpretations and conclusions. Triangulation, using multiple sources of data and different data types, is a significant tool to reach confirmability (Andraski, Chandler, Powell, Humes, & Wakefield, 2014).

Data saturation occurs when no new information is possible from data collection instrument (Marshall & Rossman, 2015; McGuire et al., 2013). In keeping with Marshall, Cardon, Poddar, and Fontenot (2013) recommendations for data saturation, I continued with the interviews until information shared by the interviewees provided no new information. Furthermore, I persisted with data analysis procedures up to the state where no fresh codes, themes, nor data develops. During member checking, a follow-up interview could generate data saturation (Gentles, Charles, Ploeg, & McKibbon, 2015; Roy, Zvonkovic, Goldberg, Sharp, & LaRossa, 2015).

Transition and Summary

Section 2 included the presentation of the research techniques from data collection to data analysis. From the identification of the role of the researcher and the participant, the study advanced to describe the research method in details. This section also spelled out the steps taken to ensure the reliability and validity of the study findings. Section 3 includes the findings or results of the analysis of the data, applications to

professional practice, implications for social change, and recommendations for action and future researches.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative single case study was to explore the procurement strategies that some Nigerian ceramics managers use to improve company performance. For this single case study, I collected data to identify strategies used by six managers who had successfully developed and deployed procurement strategies to improve company performance in a Nigerian ceramics manufacturing company. I used homogeneous purposive sampling to select managers in the Nigerian ceramics manufacturing company who shared similar traits and characteristics of experience with procurement strategies. I collected primary data for this study using face-to-face semistructured interviews with six open-ended questions. My secondary data sources included public documents supplied by the participants and personal notes taken during the interview sessions. During data analysis, I connected the interview data, field notes and observations, archival documents, and other secondary data, using member checking and triangulation.

Presentation of the Findings

The primary research question for this study was: What procurement strategies do managers in the Nigerian ceramics manufacturing companies use to improve company performance? Using the interview protocol, I asked individual participants the same open-ended questions during the semistructured interview. I recorded the interviews, coded all six participants' interviews as PI, P2, P3, P4, P5 and P6, and transcribed the audio recording of each interview to text. For data analysis, I created code keys using the research question and interview questions, and I imported the transcripts into the QDAS

used, which was Atlas software.

From the analysis of the codes, I derived five themes. The first theme that emerged was strategies of cross-functional collaboration. The next theme was procurement strategies for emergencies and downturns. The third theme was strategies of alternatives and competition. The fourth theme was applications of IT in procurement functions. The fifth theme was the strategic control of stock level and vendors' performance.

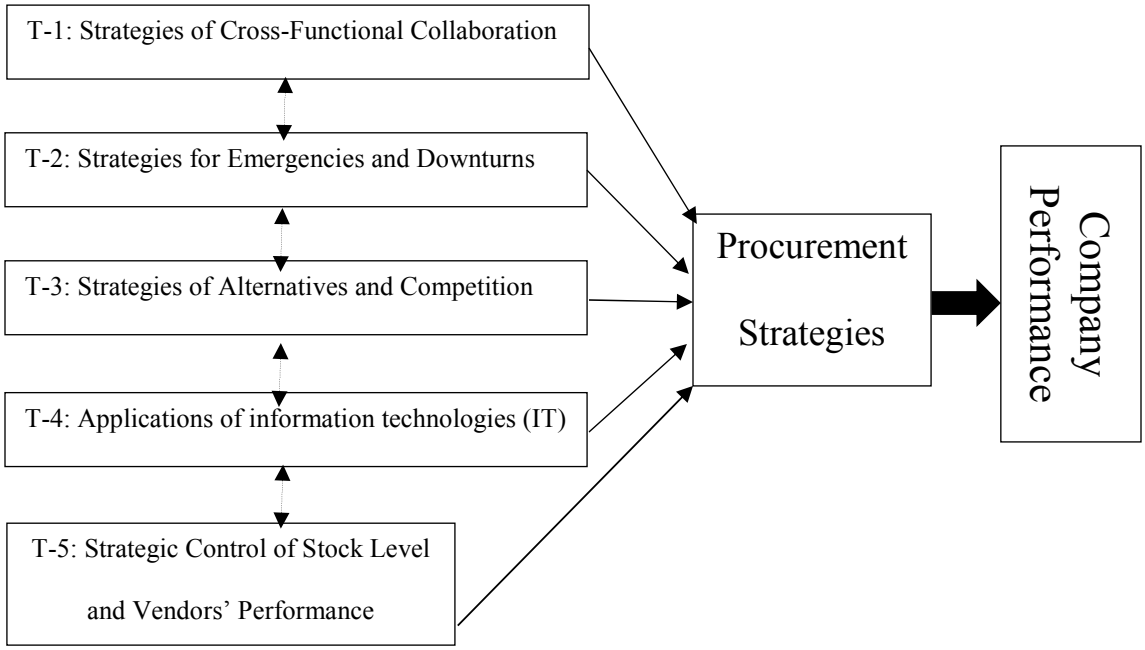

Figure 1. Thematic Map: Strategic Alignment for Procurement in a Nigerian Ceramics Manufacturing Company.

Theme 1: Strategies of Cross-Functional Collaboration

Theme 1 revealed the strategies of cross-functional collaboration both among the unit heads and across various departments for procurement functions in the Nigerian

ceramics company. Participants emphasized the constructive impacts of efficient intradepartmental and interdepartmental communications in efficiently performing procurement functions. Some participants also stressed the significance of relational collaborations within the procurement network and other related functions.

P2, P3, and P5 stated that procurement practitioners leverage operational teamwork across the company's departments. P3 stated, "the level of coordination among the various departments of raw material, quality control, maintenance, purchasing and logistics for efficient procurement is like a chain management." P5 further affirmed that communication is essential for successful procurement practice. The strategic alignment of relationships within the supply chain stakeholders with the interorganizational partnerships is essential to impact companies' operational performance (Gobbi & Hsuan, 2015; Iyer et al., 2014).

For optimized performance in a competitive business environment, Gerow et al. (2015), and Kathuria et al. (2007) suggested that procurement practitioners can apply the strategies of horizontal alignment and vertical alignment in their organization. Managers use horizontal organizational alignment when they deploy intellectual alignment and behavioral alignment among procurement personnel (Gerow et al., 2015). Collaboration from the higher, strategic business level to the lower, operational business level is a way to connect a manufacturing company to the benefits of vertical alignment. Horizontal collaboration may also exist among competitors and other supply chain vendors, while vertical collaboration may exist between suppliers and customers (Blanquart, & Carbone, 2014; Boyce et al., 2016; Ramsden, 2015). Procurement managers ensure a minimized

cost of logistics by applying strategies of resource allocation and emergency management to match internal sourcing practice with available resources at the external environment (Deng, Qiu, Liu, & Xiao, 2014; Úbeda, Alsua, & Carrasco, 2015)

P2 explained that the managers of the procurement department in the manufacturing company create solutions to procurement challenges quickly when they collaborate with other functional managers. P1, P3 and P4 indicated that procurement function is end-user dependent. P2 and P3 explained that the typical progression for direct procurement, for instance, initiates with handlers purchase requests (PRs) from end-users at the production department or maintenance department to the stores department. At some points, this procurement cycle involves input from the research and development (R&D) department, geology and mining, laboratory, stores, transport and logistics, and purchasing departments. After evaluating the inventory levels, practitioners in the stores division promptly forwards PRs to the procurement department through the R&D department, to uphold quality specifications and ensure timely delivery or response. Burki and Buvik (2017) highlighted firm-wide coordination as a useful tool that procurement managers can use to check questionable practices inherent in procurement complexities of manufacturing companies. To ensure that the response to end-user requisition is timely and as true-to-specification as possible, department heads in the Nigerian ceramic manufacturing company maintained cross-departmental communication and collaboration across the company.

Theme 2: Procurement Strategies for Emergencies and Downturns

The participants' responses centered on proactive strategies or reactive initiatives employed to manage emergencies and downturns witnessed within procurement practices. In manufacturing companies, direct procurement includes raw materials used expressly for production purposes, while indirect procurement relates to other deliveries used in day-to-day ancillary purposes outside the production operations (Ordanini & Rubera, 2008). Efficient handling of procurement distortions and crises is central to managing risks and improving company performance in the face of supplies downturns (He et al., 2016; Li & Wang, 2015). Participants identified equipment breakdown, failure from vendors' suppliers, delays due to shipment and local transport, excess import duties, and gaps in planning as the common settings of procurement emergencies and downturns. Findings revealed that strategies adopted by the procurement experts in this Nigerian ceramic manufacturing company include avoiding or minimizing downturns.

According to participants, practitioners will encounter various downturns at some points in procurement process. P3 indicated that planning is a key strategy to proactively forestall downturns that could ultimately affect production. Beyond planning, however, P5 believed that the procurement of both regularly required manufacturing materials and items for new projects requires developing carefully designed, company-specific procurement initiatives and procedures. Procurement managers leverage vendor capabilities to engage single or multiple sourcing strategies during downturns (Li & Zhang, 2015). To efficiently respond to emergent downturns, P5 further posited that the deployment of the correct vendor selection is essential. P6 recalled that the source of

some manufacturing items procured in the company has been repeatedly adjusted to meet up with the requirement for supply of such materials. P2 elaborated,

> Many times, vendors have disappointed us. At such cases, we called them to find out what the problem was. Most of the times, their challenges revolved round equipment failure or disappointment from their suppliers too. What we did in such instance was to first consider if we could solve vendors' problems immediately. There were occasions we had to deploy some equipment there to help them get the materials. When immediate solutions to their problems were not possible that way, we contacted other vendors. We have many vendors that supply the same kind of raw materials. The challenges have not been too much to handle as we took these steps.

Participants perceived that procurement strategies in an organization must be a step ahead of emergencies and ensure that procurement functions are not at the mercy of downturns. As these procurement bottlenecks and downturns are not confined to the company, P1 and P2 hypothesized that the proactive system is more beneficial and preferred to reactive responses. However, P2 emphasized that some procurement emergencies in the production pipeline could result from machine breakdown or other causes that could be unstoppable. When emergency machinery breakdown occurs, P1 explained that the procurement of the items for replacement or repair is designated as urgent and shipped through the fastest available delivery service. Managers largely influence organizational performance through strategic procurement management

because the degree of competitive intensity and market turbulence is high (Kim et al., 2015).

P4 indicated that logistics administration is principal to managing the impact of procurement downturns. The company is in control of its logistics having put a great deal of efforts and resources into purchasing its trucks for the dual services of hauling raw materials needed for production from vendors or mines and moving finished product to the market for JIT delivery. To control logistics and transport costs, as well as purchase orders, procurement is determined and controlled by a cost-efficient appraisal of repair parameters or end users' alternatives. P6 confirmed that the management decision to either replace a faulty component or repair the component depends on the cost of refurbishing a faulty plant.

Downturns associated with procurement practices are most commonly related to sourcing bottlenecks and supply risks connected to logistics management and emergencies management. According to P4, downturns due to equipment failure could be minimized by component repair or item replacement. Through appraisal of the extent of needed repair to fix a failed equipment or truck, P4 differentiated between a component repair and item replacement. When the computed total cost of maintenance falls within 10% to 20% of cost of new component, it is a minor fix and the faulty component could be refurbished or repaired. However, when the computed total cost of maintenance is above 50% of cost of new component, it is a major fix and the technicians must replace the faulty item.

Theme 3: Strategies of Alternatives and Competition

Theme 3 was the strategies of alternatives and competition. Participants explained that they leverage alternatives to select direct materials and substitution to vendors. The strategy of keeping alternatives to certain key raw materials has helped the Nigerian ceramics manufacturing company to meet production demands during periods of procurement distortions. In the manufacturing company, vendor substitution is a strategy of maintaining a pool of two or more vendors supplying a particular commodity within a given delivery time. Decision makers in the procurement department of manufacturing companies can use client-vendor management strategies as a systematic process for building trust and inter-dependence (Mukhopadhyay & Goswami, 2017).

P2 and P3 emphasized the significance of retaining alternative materials for scarce original components to forestall full-blown production breakdown in the face of shipping delays without compromising quality assurance. P3 indicated,

> Some of the chemicals we use are imported. There are alternative chemicals that have been tested by the R&D department and found to meet the standards and specification of the original material. When we have some delays in their procurement, we purchase these alternatives from a local source. One of the examples is effluent treatment plant (ETP). The ETP chemical is like polyaluminiumchloride, which is mixed with industrial effluent to settle some substances down. So, we procured 1 ton of Aluminium Sulfate locally for the

same purpose. This way, we handle such problems so that production work does not stop and we fulfill the purchase requirement.

As outsourcing strategy has no foolproof against failure to meet important deadlines, P2 indicated that the company procurement team ensures that certain level of substitute materials is kept and maintained by the company's mining team through an insourcing process. P5 stressed the importance of vendors substitution. According to P5, two or three vendors are usually required for the procurement of new entries or innovation products. For this manufacturing company, procurement personnel verify the vendors' quotes and capabilities by making personal vendor site visits.

The manufacturing company is able to maintain a big market share in the Nigerian ceramics manufacturing sector through the creation of value while keeping production cost minimal through effective procurement strategies and production planning. If cost indicators in the internal and external business environment are not considered, the strategic alignment framework cannot apply to today's competitive business setting (Hagel and Singer, 1999). In Kathuria et al.'s (2007) opinion, alignment under certain immoderate conditions could be counterproductive and give rise to adaption problems in a dynamic business environment. Competitiveness commonly occurs along the vendors' level and the consumers' level. P5 indicated that competitiveness along the vendors' level comprised the procurement manager's ability to retain and maintain its vendors through adequate procurement strategy. Delineating procurement approaches for competitiveness, the four aspects identified by P5 are: (a) quality assurance, (b) price

negotiation, (c) parameters of timing (delivery time, payment time, etc.), and (d) strategies of alternatives to techniques, items and vendors.

In line with the procurement strategies of alternative and competition at the manufacturing company, P2 described insourcing and outsourcing processes as the two robust sourcing approaches for the procurement of ceramics raw materials. For business excellence in manufacturing companies, procurement managers must regularly develop their skills for effective coordination of the sourcing process (Blanquart & Carbone, 2014). P2 further indicated that the company deploys its mining team and equipment to get our materials from the mines directly. Through this insourcing approach, the company creates values and saves costs by deploying self-owned, fleet of trucks and equipment to source for raw material needed for ceramics production in order to eliminate or mitigate the regular time loss to logistics bottleneck, save costs and earn savings.

In contrast, outsourcing approach involves local and imported procurement practices. Outsourcing is moderated by the combination of control tools of reorder levels and LPO issue. P2 and P5 highlighted local purchase and import purchase as the two routes to procurement functions in the Nigerian ceramics company.

Theme 4: Applications of IT in procurement functions

Theme 4 was the applications of IT in procurement functions. All six participants emphasized the effective use of information technology tools in procurement. Global sourcing operations, such as in the manufacturing company, traverse both domestic and overseas environment for competitive procurement (Roberta Pereira et al., 2014). Findings show that different types of IT tools are used at different levels in the value

chain of the procurement and production processes of the ceramics company. The IT platforms are used internally across departments in the company and externally while relating with vendors and other stakeholders. P5 and P6 indicated that e-procurement strategies at the manufacturing company are driven by the databases for stocktaking.

P1, P3, and P5 explained the principles of Tally Software, which is an IT-based, automated system that helps to calculate stock and establishes a red alert system. The Tally software monitors inventory and determine reorder levels. P3 described the application of the software:

> The laboratory personnel proceed to check the sample and test whether it is fully acceptable or not. Subsequently, using the authority of the observed data, we process the GRN through the stores department for accountability. These data are inputted into information technology, like we enter the data into the computer system. We use the tally software to keep records of incoming materials and when we get the approval, we complete the process and sign the GRN with the concerned department. Afterwards, we will submit to the Accounts department through the purchase department to process the payment.

P1 stated that IT tools and software support effective forecasting of stock and production schedule, and makes handling very easy. P2 and P6 stressed that emails, social media, and phone calls are significant for vendor selection, vendor management and performance measurement. According to P3 and P4, the IT application is germane for keeping track of stock level, store requirements and rate of consumption. P1

emphasized that IT tools like enterprise resource planning (ERP) and emails helps the procurement practitioners to save time in monitoring stock levels and accomplish tasks faster. Software used in the case study company is Orion, which is being integrated as a companywide ERP system. P5 noted that ERP is not only significant as a replacement for the old process of searching data manually but also as an accurate and a reliable method to access data.

Theme 5: Strategic Control of Stock Level and Vendors' Performance

Theme 5 was the strategic appraisal and regulation of both the stock level and vendor performance. Narayanan et al. (2015) and Ochido and Ochiri (2014) argued that procurement practitioners in manufacturing companies focus on the interplay between stock level management and vendor relationship management because both features are core to procurement performance. P5 explained that organizational performance depends on vendor management. The procurement experts in the case study company regularly modify the corporate priority to map and accommodate changing procurement indices in relation to inventory management (Boyce et al., 2016).

Strategies for Stock Level Control. All six participants agreed that the regular measurement and governance of stock ordering and the reorder cycle is vital for company performance. With the monitoring system of minimum-maximum reorder level, P1 posited that a zero-inventory level is no more possible at the manufacturing company. Apart from relating with a robust production plan, the procurement practitioners maintain inventory control system, which is propelled by a well-maintained alert system. P5 elaborated on the stock level monitoring process as follows:

> Requisition notes contain items specification. They include how much stock we have right now. They also contain the quantity required as determined by the end users. From this, we make an approval note for end users, store personnel, procurement head, and upper management to sign. The moment we get the requisition note, work starts. Here, we follow many methods. Actually, if there is any new item, we have to go for its specification. For regular materials, monthly requirements are given to the respective vendors. We dedicate particular vendors to specific items. Of course, if we have any performance, price negotiation, or related problems with any vendors, we have to change them.

For effective appraisal and regulation of stock level, P1 elaborated,

> We have for instance, 20 pieces of a component that we are maintaining. The maximum reorder level is set to report and raise red alert at 10 pieces mark. When we receive the alert for reaching the 10 pieces mark, we order another 20 pieces immediately. Meanwhile, we have considered the lead time and consumption rate to set the reorder mark. Even though it will take time in between reorder and delivery of item, we cannot reach zero stock.

Apart from steady inventory stock level, findings showed that the measure of effectiveness of the strategy of stock level appraisal and regulation lies also in stability of the production process. Participants agreed that if procurement or production declines, it means the assessment approach is faulty or ineffective. P5 posited that keeping the stock

level above minimum order quantity in a process of minimum order level has helped to handle inherent procurement risks. Participants emphasized that the strategic control of both the inventory levels and vendor performance relies greatly on collection and assessment or procurement data for effective regulation of procurement functions. For materials with heavy consumption pattern, procurement managers determine the actual consumption rate and forecast future trend of requirement for such material.

Procurement practitioners prepare regular calculations and projections in consideration of some salient assessment factors. According to P1, these factors are embedded in five key consideration, which are: (a) how much of the material was consumed in the past three months, (b) what quantity of the material will be consumed in the next three months, (c) what influence does season have on production and procurement, (d) what quantity of the material will be consumed annually, and (e) according to the consumption trend, what procurement plan (vendor selection, pricing, etc) will be needed to meet projected production requirements in the next 5 to 10 years. Another important assessment factor highlighted by P2 is "how fast we were able to get supply of a particular commodity."

Strategies for Vendors Performance Control. With a large scale of operation, procurement function in the manufacturing company would require a large vendors base. The vendors also would likely retain an array of suppliers of certain products and services. Implementing the suite of procurement functions in such manufacturing company will require a multi-echelon and enterprise-wide strategic procurement

approach for its vendors' grid. P5 clarified that the company cannot exist without the strategies of performance measurement.

The processes of vendor preparation, vendor selection, vendor transition and vendor management are integral to performance measurement (Gunasekaran, Irani, et al., 2015). Participants declared that the appraisal and regulation of supplier performance is at the center of production planning of ceramics companies and primarily measured using procurement data on monthly, quarterly or yearly basis and based on experience with the vendors. According to P1, P3, P5, and P6, some of the parameters used to appraise vendor's performance include: (a) consistency of requisition and supply for each component items, (b) payment terms, (c) Turn-around-time (TAT) or lead time between time of ordering and delivery time of vendor's response, and (d) reliability of delivery in terms of compliance to items specification. Participants affirmed that the process leading to price negotiation and developing of memorandum of understanding is a solemn phase in procurement practice. The payment terms sought by vendors also vary with nature of procurement items and geographies. P1 expounded that,

> In Nigeria, without upfront payment, some vendors cannot supply new materials. The procurement of some items is regular and vendors supply within one month or two months, depending on several terms. Such regular suppliers, we cannot lose because anytime you call, even in emergency procurement conditions and without advanced payment, they will respond immediately.

For the strategies of warehouse management, as it relates to vendor performance control, P2 indicated that the procurement department does not keep too large stockpiles at a time. Price negotiation and payment terms for the procuring innovation items are more complex than for the regular production components or consumables. New vendors of innovation project items present slightly more difficult negotiation and tend to seek higher payment terms and conditions. P5 emphasized that the vendor selection and management approach for procuring innovation item involve verification and monitoring of the time factors

Basically, all the participants have developed a system of measuring the performances of their company's vendors and the vendors' suppliers. P1, P5, and P6 declared that this measurement is done monthly through taking of material stock. P5 noted that one of the notable parameters for such measurement is how quickly the vendors respond. Participants emphasized that the physical verification of vendors' facilities is necessary to confirm the quoted capacity. P5 stressed that detailed assessment is by carefully checking the suppliers' performance before procurement

Performance metric system is applicable for enhanced corporate competitiveness not only during business peak period but also during an off-season or instability (Afonina, 2015). Participants stressed that the procurement managers provide motivations for highly active vendors. Depending on the vendor performance measurement metrics and returns scheme, rewards, awards and prizes, and souvenirs are presented to high-performance vendors, to enhance progressive performance and stimulate commitments in the procurement practices of the manufacturing company. P1 further stressed that at

yuletide and other notable festivities, the company gives seasonal gifts to nominated vendors with outstanding performance. However, P6 added that procurement managers in the Nigerian ceramics-manufacturing company would not hesitate to drop vendors whose performances are consistently inactive or whose behavior patterns are opportunistic and devious.

Participants have developed a very effective procurement plan targeted to reduce costs of warehouse management system. P3 and P4 explained that for spares, consumables and raw materials, the stock volume determines if they would contract or discontinue their vendors' services at any point in time. At the stock volume beyond a predetermined mark, procurement managers inform the vendor to halt supplies not only to checkmate losses due wastage and mishandling but also to reduce cost of production. P1 stressed that this stock volume-based control also help to maximize space in the store and stockpile.

Connecting Findings to Conceptual Frameworks

This case study explored the procurement strategies adopted by managers in a Nigerian ceramics manufacturing company to improve company performance. The strategic alignment model provided the conceptual framework for the study, drawing from two main strategic management approaches, which are the strategic fit and functional integration (Venkatraman et al., 1993). Researchers and practitioners increasingly seek to study the link between strategic procurement management and organizational performance owing to the huge share of the investment on procurement (Shin et al., 2016). This concept offered a useful structure to explore strategic

management practice in the case study company by qualitatively investigating the degree of integration and the extent of matching of procurement strategies to organizational performance.

Strategic alignment of procurement management approaches stimulates competitiveness and performance in global manufacturing companies (Venkatesh & Luthra, 2016). Procurement practitioners need to align their procurement functions with organizational strategies and goals. The business strategies of procurement managers bear great consequence on corporate excellence in manufacturing companies because procurement practices utilize a large share of investment capital (Shin et al., 2016). Findings revealed that there is a connection between procurement success and organizational excellence (Brewer et al., 2014; Deng et al., 2014). Participants emphasized that cross-functional collaboration, management of emergencies and downturns, strategies of alternatives and competition, applications of IT tools, and strategic control of stock level and vendors' performance are significant for improving organizational performance in the case study company.

Applications to Professional Practice

Procurement practitioners must seek to engage business strategies that support the corporate goals and promote the traditions of strategic procurement activities to improve the overall organizational performance and competitiveness (Eriksson et al., 2017; Nadeem et al., 2017). My study focus was to provide functional approaches for procurement experts to align their functions with business strategies for improved company performance. Procurement experts might relate the findings of this study for

strategic alignment management in their organization. Some procurement experts may engage these practical approaches of strategic management of complexities in their procurement functions to earn saving. Managers might leverage the positive effects of company-wide communication to enhance their level of competence in performing their procurement functions, reducing redundancies and wastes.

The findings in this study may be significant to improve managers' awareness on strategic cross-functional collaboration in their field of practice. Both personnel and practitioners in the procurement division must understand the significance of intradepartmental teamwork and interdepartmental cooperation for companywide improvement of corporate performance. Heads of procurement divisions in global manufacturing companies might develop appropriate strategic procedures towards harnessing the dividends of integration among internal and external stakeholders in the procurement grid.

The procurement decision makers might employ the strategies for the management of emergencies and downturns to gain competitive advantage during economic recession and supply distortions. Managers in the manufacturing companies may engage these findings to develop systematic approaches to create value within the procurement system. The procurement practitioners in corporate companies might apply the strategies described in my findings to deliver best-fit practice to proactively avert needless procurement crises and efficiently handle every procurement risk inherent in the practice. In this study, the participants explained the planning approach to position steps

ahead of equipment breakdown, failure from vendors' supplier, delays due to shipment and local transport, excess import duties, and gaps in planning.

The findings in this study include the structure of strategic activities that procurement managers in the field of manufacturing might engage to create measurement metrics and control the level of material stock procured and regulate the performances of vendors in their multistage procurement network. In this study, participants described reliable planning apparatus for the methodical maintenance of inventory control system, governance of warehouse and stock ordering cycle.

Another relevance of my findings to professional practice is in the applications of IT tools as described by the participants. Procurement managers in large manufacturing companies might leverage the information technologies described in this study for global sourcing functions. Procurement specialists might refresh on strategic IT tools to forecast requirements and structure ERP design for multifaceted procurement technique.

This study is potentially significant to professional practice in advocating the inclusion of the strategies of alternatives in the practice of strategic procurement management. Procurement managers could build on the strategies of items substitution and vendors' substitution for competitive advantage in the face of supply scarcity, shipment delays, segmented plant maintenance or breakdown, business expansion, and innovation projects or portfolio demands.

Implications for Social Change

The study findings contained knowledge on how managers could engage procurement strategies to improve the performances and competitiveness of their

companies. As discussed by the participants of this study, the strategic procurement activities during insourcing and outsourcings of direct and indirect materials could create employment for individuals, save costs, reduce waste and generate savings for the corporate organization, and create value-added services for the society. Another strategy that could impact social change on the communities is the practice of responsible global sourcing as described in this study. Host communities of manufacturing companies involved in responsible sourcing strategies benefit from the companies' corporate social responsibility packages, community development agendas, reduced violence and crime rates, and development of local content and domestic capabilities. The economic growth inherent in the implementation of the findings of this study is beneficial to individuals, communities, organizations, institutions, cultures, and the larger society connected to the business with improved performance.

Recommendations for Action

The study participants classified several themes for the strategic alignment of procurement functions or practices with manufacturing company strategy and proposed further steps for procurement experts to improve their company's enduring and emergent strategies. The key recommendations for actions are from the five themes generated from the analysis of the interview data. For the first theme, strategies for cross-functional collaboration, I recommend that procurement managers will learn how to establish company-wide coordination and strategic communication among the various functional departments in their companies. The procurement heads could also improve on collaborating with colleagues and subordinates within their divisions to harness and

optimize the contributions from every stakeholder for enhancement of both their procurement practices and companies' performance.

Another recommendation for action is in theme two, which is the procurement strategies for emergencies and downturns. The procurement managers must develop a robust and comprehensive plan to capture procurement complexities along the two dimensions of proactive attitude and reactive approach. Formulating such plans will require thorough knowledge of certain important indices that create distortions in procurement like equipment failure, factors of climate and seasons, planning gaps, disappointment from secondary vendor, delays from shipping, clearing and forwarding, excessive duties, and unfriendly environment or policies. A procurement specialist in the Nigerian manufacturing industry must understand that procurement functions will relate with natural or manmade procurement declines at some points.

The next recommendation for action is in the third theme, which is strategies of alternatives and competition. Procurement specialist in manufacturing companies must be capable to fully grasp and maneuver the strategies of alternatives and competition. The process of items and vendors substitution is beneficial but delicate. An appropriate action taken by procurement managers includes the careful selection of substitute items, technique or vendors from a spectrum of available alternatives. Procurement experts could save from huge costs through adoption of import substitution strategy.

Another recommendation for action draws from the fourth theme, which is the applications of information technologies (IT) in procurement functions. Procurement managers in large manufacturing companies could consider optimizing their business

administration practices through embracing the ERP system. The business management software could enable and support the practitioner to capture the entire business process of an enterprise in an automated integrated system. The ERP process is the IT tool that the procurement practitioner need for cross-departmental collaboration, and smart management of inventory, orders, and invoices in today's fast-paced, corporate world.

The final recommendation for action derived from the fifth theme, which is the strategic control of stock level and vendors' performance. The procurement leader needs a reliable key performance indicator (KPI) to keep track of how procurement strategies are performing with procurement targets. The KPIs are germane when procurement specialists perform the tests regularly. The procurement manager must design the KPI to be measurable, project-specific, and time-bound.

Recommendations for Further Research

This study might include the first opportunity to explore the strategies that procurement managers use to improve company performance in a Nigerian ceramics manufacturing company. The two limitations identified in my study are inability of the participants to be physical present during the data collection interviews and the extent and depth of information that the participants are willing to share due to the fiercely competitive nature of ceramics manufacturing business in Nigeria. Although all six participants were physically available for the interviews, I will recommend that further research includes quantitative research methodology to examine the correlations between the variables of procurement strategies, company competitiveness and performance, as revealed in this study findings. I hope that a quantitative survey may uncover more

information and reveal richer findings than qualitative interviews in the manufacturing sector, as participants may be more willing to provide answers to closed-ended questions. However, the best-fit approach could be the mixed methods.

The findings from this study revealed the strategies that procurement managers use to improve company performance apply to the Nigerian ceramics manufacturing company. Taking cognizance of certain geopolitical and socioeconomic factors, and transferability issues, the findings might not be applicable for the setting of companies in other industrial sectors within Nigeria or other ceramics manufacturing companies outside Nigeria. Another recommendation for further research will be exploring procurement strategies that managers use to improve company performance in other industrial sectors within and beyond Nigeria.

Reflections

The DBA Doctoral Study process provided me the research platform to explore the procurement strategies in Nigerian ceramics manufacturing company. With the credibility of my background in the field of mining engineering and management for over 20 years, I deployed the homogeneous purposive sampling technique to select the interview participants and the single case study research design for this qualitative study. In collecting the data for this study, I ensured compliance with the ethical principles and guidelines for the protection of human subjects of research in the Belmont Report. To guarantee neutrality and consistencies, and bracket my preconceptions, I stick the research process to the interview protocol. The participants felt comfortable with the interview protocol and provided in-depth and rich information about procurement

strategies in the case study company. At the achievement of my goal of completing this study, I realized that procurement is not only a professional practice but core to business performance of manufacturing companies. My thinking about strategic procurement as an independent function or division within the management practice changed after completing this study to a strategic function within a closely knitted, interdependent management linkage.

Summary and Study Conclusion

The interests of scholars and practitioners in conceptualizing the link between strategic procurement alignment and business performance are increasing. The result of this study supported the importance of procurement strategies on organizational performance. I identified a Nigerian ceramic manufacturing company and selected six procurement managers who have developed and deployed successful procurement strategies. The five themes that emerged are: strategies of cross-functional collaboration, emergencies and downturns management, strategies of alternatives and competition, strategic applications of IT tools, and strategic control of stock level and vendors' performance are significant for improving organizational performance.

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Appendix A: Invitation Letter

Date

Dear Potential Participant**:**

This letter is an invitation to consider participating in a study I am conducting as part of my Doctoral degree in Business Administration at Walden University under the supervision of Dr. Charlotte Carlstrom. If you decide to participate, I will provide more information about the nature and process of participation in this research project.

Some developing nations are grappling with diminishing manufacturing output market share due to the lack of appropriate, sophisticated procurement and outsourcing strategies at the core of their manufacturing companies' activities. The purpose of this study is to explore successful procurement strategies that improve company performance. The exploration will help gain a better understanding of how procurement strategies practiced by business managers help improve company performance. You are best suited to discuss procurement strategies to improve company performance because of your current position with the selected company.

Attached with this letter is the consent form to participate in this study. The consent form explains the study in more detail. I look forward to speaking with you concerning your participation in this project. Thank you for your consideration.

Sincerely

Emmanuel Alege, M.Eng.

Appendix B: Interview Protocol

1	Introduce self to participant.
2	Verify receipt and/or respond to participant's queries on concerns about the consent form.
3	Get participant's agreement/acknowledgement to recording the interview.
4	Turn on recording device.
5	Thank participant for accepting to participate in the study.
6	Start interview with question number 1; follow through to final question and asking some probing questions.
7	End interview and discuss the member checking process with participant clarifying participant's role in the member checking process.
8	Thank the participant for participating in the study.
9	Confirm the participant has contact information for follow up questions and concerns.
10	End protocol.

Interview Questions

1. What strategies do you use to align your procurement functions with your business strategy?

2. What experiences (if any) have your company had with downturns in the procurement practices of your organization?

3. What strategies has your company developed to reduce the costs on warehouse and logistics management, and towards measuring your suppliers' performance?

4. How have you assessed the effectiveness of the strategies you developed and implemented?

5. What proactive systems have you put in place in your company to identify and control the market competitiveness, sourcing bottlenecks, supply risk and price?

6. In what areas, if any, have information technology (IT) tools been deployed towards managing the procurement complexities within your company's supply chain network?

Appendix C: Codes Description

DESCRIPTION	CODE
First participant's interview code	P1
Second participant's interview code	P2
Third participant's interview code	P3
Fourth participant's interview code	P4
Fifth participant's interview code	P5
Sixth participant's interview code	P6

Appendix D: Theme to Codes Frequency Distribution

	P1	P2	P3	P4	P5	P6
Theme 1: Strategies of Cross-Functional Collaboration						
Maintain a robust production plan	2	0	12	0	1	3
Maintaining alert	2	1	4	0	0	0
Minimum and maximum reorder level	13	0	0	0	0	0
Purchase department	3	0	2	1	0	0
Store	11	0	4	0	7	0
Parameters	2	0	5	0	0	0
Space	8	1	8	0	0	0
Consumables	2	0	4	0	0	0
Mining team	0	0	3	0	0	0
Production	8	1	11	2	3	10
Logistics	1	5	3	4	2	8
Transportation	2	0	3	1	0	1
Laboratory to ensure quality	0	0	3	0	1	3
Raw materials	2	21	16	0	0	17
General parts and tools	4	0	0	9	0	0
Truck/equipment spare part	1	6	0	1	0	0
Theme 2: Procurement Strategies for Emergencies and Downturns						
Equipment failure	0	2	0	0	0	0
Failure from supplier's supplier	0	1	0	0	0	0
Delay due to transportation	0	2	7	3	4	1
Excess import duties	0	0	3	0	0	0
Delay in planning	0	0	7	0	0	0
Theme 3: Strategies of Alternatives and Competition						
Quality	13	1	14	0	5	18
Price negotiation	4	0	4	0	0	11
Parameters of timing	0	0	0	0	0	6
Strategies of alternatives to techniques, items and vendors	0	0	3	1	5	0
Stability of production process	4	0	7	0	6	0
Steady stock level	3	2	5	2	0	6
Supplier performance	8	6	9	0	4	3
Theme 4: Applications of information technologies (IT) in procurement functions						
WhatsApp	2	0	0	0	1	1
Facebook	0	0	0	0	0	1
Text messages (SMS)	2	0	0	0	2	1
Internet Services	0	3	0	0	1	0
E-mails	2	0	0	0	0	1
Phones calls	1	11	1	2	10	3
Camera (Photographs)	0	0	0	2	0	0
The Tally Software	0	0	3	1	5	0
Store requirement	1	0	2	0	0	0
Stock level	11	0	6	0	2	12
Rate of consumption	7	0	1	0	1	1
How many days to procurement	1	0	0	0	0	1
Theme 5: Strategic Control of Stock Level and Vendors' performance						
Payment terms	7	0	0	0	0	0
Consistency of request and supplied	1	0	0	0	0	0

	P1	P2	P3	P4	P5	P6
Turn Around Time of Supply	7	1	1	0	4	3
Faithfulness	0	1	0	0	0	0
Quality of supplied materials	0	0	3	0	0	0