

# Strategies for Enhancing Nigeria's Procurement Procedures

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**How to cite this paper:** Areguamen, D. O., Critchlow, K., Dereshwisky, M., & Muhammad, B. (2022). Strategies for Enhancing Nigeria's Procurement Procedures. *American Journal of Industrial and Business Management*, 12, 331-364.

<https://doi.org/10.4236/ajibm.2022.123019>

**Received:** January 25, 2022

**Accepted:** March 22, 2022

**Published:** March 25, 2022

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## Abstract

The manual procurement processes used by some private companies result in increased costs and contract fulfillment delays. The focus of this multiple case study was to explore the strategies procurement managers use to reduce costs and contract fulfillment delays. The population for this study was three procurement managers of private plastics companies located at Maitama, in Abuja, Nigeria. Weiss's theory of change was the conceptual framework for this study. Data collection included semistructured face-to-face interviews and an exploration of company archival financial documents. On the Abstract, Data were transcribed, coded, and then validated through member checking, resulting in the emergence of 5 themes: 1) Change implementation strategies, 2) Strategies for reducing cost and contract fulfillment delays, 3) Change implementation barriers, 4) Employee-focused factors, and 5) Strategies for responding to the changing external environmental factors. The 2 most important themes identified from the study were change implementation strategies and strategies for reducing cost and contract fulfillment delays. These strategies could help organizational leaders who desire improved procurement process change to define long-term goals and then map backward to identify preconditions to achieve the preferred change. The implications for positive social change include increased sustainability for companies and the consequent potential to increase employment among youth, improve standards of living of the workforce, and reduce social vices in Abuja, Nigeria.

## Keywords

Strategies for Reducing Procurement Costs, Contract Fulfillment Delays, Enhancing Procurement Procedures

## 1. Introduction

Business leaders have experienced intense global competition (Loppacher, Luchi,

Cagliano, & Spina, 2015). World market competition resulted in managers' focusing on the continuous advancement of procurement strategies (Xue, Xu, & Ma, 2014), as business leaders spend from 50% to 75% of annual organizational revenue on procurement costs (Sobhani, Malarvizhi, Al-Mamun, & Jayashree, 2014). The application of the procurement process can significantly impact companies' competitive benefits (Galadima & Abdullahi, 2014) because a slight decrease in procurement cost can substantially affect the profitability of businesses (Plantinga & Dorée, 2016). The manual procurement processes used by some private companies result in increased costs and contract fulfillment delays (More & Basu, 2013). In a case study, Dewi, Anindito, & Suryadi (2015) estimated the increased cost of procurement at 20.44%, with corresponding fulfillment delays of 7.02%.

Most business leaders now focus on procurement as a central business strategy and an excellent process for attaining sustainable cost reduction and growth (Kauffman & Tsai, 2014; Loppacher et al., 2015; Plantinga & Dorée, 2016; Xue, Xu, & Ma, 2014). Despite positive research findings, some procurement managers of private companies have been relatively slow in adopting strategies shown to reduce costs and contract fulfillment delays (Dewi et al., 2015). Company leaders must subscribe to the globalization process by encouraging their procurement managers to develop innovative strategies for process sustainability (Plantinga & Dorée, 2016). The bottom line of business is profit; therefore, investors do business with enterprise leaders who regularly adapt to positive external influences by offering improved business processes and encouraging viable growth (Chen, 2013; Duren, Dorée, & Voordijk, 2015). Companies' profitability might increase if procurement managers adopt the appropriate strategies to reduce costs compared to current industry standards (Bichler, Guler, & Mayer, 2015; Queen, 2015).

Therefore, this qualitative, multiple case study's overarching research question was what strategies some procurement managers in private plastics companies use to reduce costs and contract fulfillment delays. The limitation to this article is that the research was restricted to three private plastics companies within Abuja in Nigeria, excluding other private plastics companies within Nigeria in the study.

## 2. Literature Review

The purpose of this qualitative, multiple case study was to explore the strategies some procurement managers of private plastics companies use to reduce costs and contract fulfillment delays. The literature review was introductory to answering the overarching research question on what strategies some procurement managers in private plastics companies use to reduce costs and contract fulfillment delays. Therefore, a thorough review of the literature included extensive research to identify procurement managers' strategies to reduce cost and contract fulfillment delays. The organization of the review contained: Nigerian

private plastics company's procurement process challenges, procurement strategies, the evolution of e-procurement, comparison of manual and e-procurement processes, e-procurement process disadvantages, e-procurement process advantages, using e-procurement to reduce costs, and using e-procurement to reduce fulfillment time.

### 3. Weiss' Theory of Change (TOC)

Weiss (1995) created the TOC to define problems and explain the process of change strategies in organizations by outlining necessary linkages in activities and mapping each activity as the pathway. As noted in Davidoff, Dixon-Woods, Leviton, & Michie (2015)'s review, a good theory is a framework for analyzing change. For example, researchers Msila & Setlhako (2013), Stame (2004), and Vachon et al. (2013) used Weiss' TOC to identify desirable change and how to achieve the change. A well-formulated change theory is likely to enhance the work of improvement, evaluation, and research (Davidoff et al., 2015). Among other things, Weiss' change theory serves to clarify the components of activity and the mechanisms through which business leaders perceive the activities to fulfill expectations (Davidoff et al., 2015).

Davidoff et al. (2015) recommended that researchers assess the critical expectations to adopt in their studies, including evaluative tools, analytical processes, data collection approaches, and standards.

As noted by Davidoff et al. (2015)'s review of the role and the value of theory when considering healthcare improvements, Weiss (1995)'s TOC met the recommendations for good behavior change theory. Msila & Setlhako (2013), Stame (2004), and Vachon et al. (2013) leveraged TOC as one means for emphasizing the assumptions that clarify both the processes culminating in the long-term goal and the linkages between program activities and expectations occurring at each process.

Designers of process restructuring initiatives should be sure about the theories of change that guide their work (Weiss, 1995). Miller (2014) found evidence in a case study of the NHS modernization agency improvement leaders' guides in England that understanding and adopting a suitable change theory framework is imperative for managers or other change agents to increase the possibility of success. Zamora-Bonilla (2013) corroborated the need to follow an appropriate approach in an exploratory study to confirm why some theories are sound.

Davidoff et al. (2015) suggested an approach that contains the sequence of expected outcomes as the result of an intervention and that also contains plans for an evaluation strategy to track whether these desired results emerge (Msila & Setlhako, 2013). Doing so would enhance designers' general measurement approach, thereby strengthening their potential to claim responsibility for projected results in their theory (Weiss, 1995). The expansive qualities of Weiss' TOC were consistent with the research question and, therefore, a relevant match for the study.

Msila & Sethako (2013) found the implications of using Weiss' TOC included outcomes in logical relationships and the rationale behind each result. Thus, as a conceptual framework, TOC may support conditions necessary for achieving the desired change strategies, such as reducing costs and contract fulfillment delays. Key constructs underlying the TOC are 1) Definition of the problem, 2) Identification of the scope of the needs, 3) Identification of factors that may affect the desired change, and 4) Assumptions concerning why the chosen strategies will help to address the challenges (Weiss, 1995). Given the results of other research, the TOC constructs may work when addressing the challenges in the Nigerian private plastics companies' procurement processes. Weiss' TOC as the conceptual framework for the study permitted an exploration of concepts and meanings in a general way. Furthermore, as the focus of the research was to explore the strategies some procurement managers use to reduce costs and contract fulfillment delays, adopting a conceptual framework to explore the problems and strategies for solving them was relevant.

Business leaders have experienced the emergence of intense competition and globalization, which resulted in the continuous advancement of procurement strategies (Loppacher et al., 2015; Xue et al., 2014). From each dollar derived from the sale of a product, company leaders spend more than 50% on the procurement of goods and services (Sobhani et al., 2013).

#### **4. Nigerian Private Plastics Company's Procurement Process Challenges**

The manual procurement processes used by some private companies result in increased costs and contract fulfillment delays (More & Basu, 2013). In a case study, Dewi, Anindito, & Suryadi (2015) estimated the increased cost of procurement at 20.44%, with corresponding fulfillment delays of 7.02%. Despite positive research findings, some procurement managers of private companies have been relatively slow in adopting strategies shown to reduce costs and contract fulfillment delays (Dewi et al., 2015).

Since Nigeria's independence in 1960, the manual procurement method in private plastics companies has involved luring contractors to bid for jobs (Nwogwugwu & Adebayo, 2015). In the manual procurement method, contractors can prequalify or tender for advertised projects in hopes of becoming the bidders awarded the project (Dewi et al., 2015; Nwogwugwu & Adebayo, 2015). Information concerning the strategies successful procurement managers use to reduce costs and contract fulfillment delays in Nigerian private plastics companies was lacking.

Central to global daily activities is the procurement of goods, works, and services, which are the benchmark of countries' economic ratings (Ijewereme, 2015). Akaninyene & Mark (2015) found evidence in a preliminary study that indicated that the demise of some Nigerian private companies was due to its procurement procedures. There are difficulties in the manual methods of procurement in

some private plastics businesses in Abuja, Nigeria (Mahmood, 2013). Such difficulties include inflexible bottlenecks in the tender or order processing, large amounts of paperwork, physical intimidation of bidders, and contractors lobbying to overturn competition (Kiama, 2014; Nwogwugwu & Adebayo, 2015). Other pitfalls are the human interface at every stage and alternative treatment of bidders throughout the entire tender procedure (Kiama, 2014; Nwogwugwu & Adebayo, 2015). The challenges in some Nigerian private plastics companies' procurement processes were that procurement managers do not have strategies to reduce costs and contract fulfillment delays. Having completed a literature review of foundational elements of procurement next was a synthesis of relevant procurement strategies.

## 5. Procurement Strategies

Procurement strategies are long-term plans for guaranteeing a timely supply of goods and services at a reasonable cost (Johnson, Sawaya, & Natarajarathinam, 2013; Queen, 2015). Various scholars (Kauffman & Tsai, 2014; Loppacher et al., 2015; Musau, 2015) have defined strategic objectives as achievable objectives that must have the potential to enable organizations to actualize their predefined strategies. Strategic objectives must be adaptive to the external environment (Kauffman & Tsai, 2014; Musau, 2015). Strategic goals include a marketing plan, innovation, human resources, financial resources, physical resources, productivity, social responsibility, and profit maximization (Loppacher et al., 2015; Kauffman & Tsai, 2014).

Marketing plan reflects the organizational leader's desire to maintain current, or acquire new, market share (Cohen et al., 2015). Innovation encompasses the leader's development of new goods and services, as well as the skills and processes needed to drive it (Chatterjee & Ravichandran, 2013; Ren & Su, 2015). Human resources refer to manpower (De Villiers & Moodley, 2015). Financial resources are the sources of capital leader's use and the spheres of capital deployment (Irenaeus, 2014). Physical resources refer to how leaders deploy equipment and facilities; and productivity signifies that leaders have efficiently adopted any necessary resources commensurate with the projected output (Mestry & Bodalina, 2015). Social responsibility is the awareness and responsiveness of the organizational leaders to their immediate environment (Arzumanova & Ayrapetyan, 2015). Profit maximization demonstrates the leader's accomplishment of measurable fortuity and growth of a company (Queen, 2015). Procurement managers must continuously subscribe to new strategies that are critical to business success.

Intense competition and globalization have occurred in world markets (Loppacher et al., 2015) and fostered the continuous advancement of procurement strategies (Xue et al., 2014). Procurement strategy advancements include price cutbacks, quality and delivery improvements, enhanced cycle periods, improved responsiveness to customers, and better financial conditions (Xue et al., 2014).

Company leaders, who wish to stay competitive in the face of a globalization trend, develop innovative strategies for procurement management sustainability (Plantinga & Dorée, 2016).

Company leaders place a premium on acquisition as one of the key factors in their operations management. In some private companies, procurement costs require a substantial financial outlay of the companies' aggregate cost (Bichler et al., 2015). Procurement has a significant impact on Nigerian private plastics companies' cost and competitive benefit (Galadima & Abdullahi, 2014). Fundamental to these enterprises is the management of procurement costs, which underscores the maintenance of a list of suppliers with varying cost arrangements to secure their supply (Shu et al., 2014). Nonetheless, the ensuing intricate procurement structure culminates in various management challenges (He, Huang, & Yuan, 2014). Among such challenges is how to select suitable suppliers and allocate demand to each vendor (Shu et al., 2014). Xue et al. (2014) advised procurement experts and scholars to develop decision making models that will enable procurement managers in private companies to unfold strategies to sustain productivity at reduced cost and contract fulfillment delays.

Extended term agreements between companies and their vendors with sacrosanct or flexible terms in price or quantity are the standard (He et al., 2014). With such extensive term agreements, company leaders can continuously protect the supply and sustain standard procurement costs in the interim (He et al., 2014; Xue et al., 2014; Rota, Renolds, & Zenasi, 2013). Conversely, Xue et al. noted that, as reported in a global investigation by McKinsey, with the sudden paradigm shift in the business environment, the confidence level of suppliers will also be in doubt. Thus, contracts fulfillment delays became one of the main problems in procurement practices that have been of concern to experts and scholars (Shu et al., 2014). In 2000, Sony's stock price decreased by 9% because of contract fulfillment delays by suppliers of the LCD and flash memory (Xue et al., 2014). The failure of suppliers to deliver on time resulted in Sony's inability to meet demand for PlayStation (Xue et al., 2014). Similarly, in 2005, leaders at Peabody Energy, one of the leading privately-owned coal companies, reported a loss of \$3.4 billion in its interim statement of affairs because its suppliers could not deliver in accordance with the supply agreement (Xue et al., 2014).

Apart from the typical extended-term agreement, e-procurement methods have played a vital role in some Nigerian private plastics companies' procurement strategies (Bichler et al., 2015; He et al., 2014; Plantinga & Dorée, 2016) as a solution to those discrepancies in supply and demand, particularly with the advent of information technology (Papajorgji et al., 2015). Furthermore, Papajorgji et al. (2015) concluded that e-procurement methods had enhanced the manual procurement process concerning reduced cost and contract fulfillment delays.

### 5.1. Evolution of E-Procurement

Various scholars have indicated the procurement process is manual based. Pro-

urement professionals once used telephones and paper to carry out their functions, but these tools have undergone a transition (Wagner, 2014). The strategic prominence of procurement is so common that it has become a general theme (Norese, Novello, & Salassa, 2015; Wagner, 2014). Latif (2014) and Nurmandi (2015) contended that the proficiency in procurement is a significant strategic dimension that revolutionized the way organizational leaders operate. Toyasaki, Wakolbinger, & Kettinger (2013) indicated that another critical change in the sphere of procurement was the growing rate of Internet use, which led to the emergence of e-procurement. More far-reaching information and decisions regarding cost and strategy are accessible online (Hass, Bichler, & Guler, 2013; Sakulte & Manager, 2013). E-procurement emerged in the mid-1990s as a supply management apparatus (Shirzad & Bell, 2013). Wagner (2014) and Kang et al. (2015) defined e-procurement as using communication technology at various levels of buying goods and services. E-procurement involves sourcing (Hass et al., 2013), bargaining with suppliers (Yang & Lai, 2013), and research and development through the Internet and other electronic media (Shirzad & Bell, 2013). The e-procurement system evolved because of its potential to provide better information to enhance effective and efficient procurement management systems.

## 5.2. Comparing Manual and E-Procurement Processes

Understanding the differences between the two types of procurement systems underscores the intention to use e-procurement technology (Johnson & Robinson, 2014; Papajorgji et al., 2015). The e-procurement system is unlike the manual or traditional procurement system (Mahmood, 2013; Spiekermann & Korunovskia, 2014). The traditional or manual system is paper and conversation oriented (Hoppe & Schmitz, 2013; Papajorgji et al., 2015). Procurement officers communicate with long-established partners or suppliers and purchase goods or services at bargain prices (Chan & Chong, 2013; Johnson & Robinson, 2014). The traditional procurement method is slow, and the e-procurement system is faster (Queen, 2015). An e-procurement system is a striking contrast to the manual system and involves adapting a computer system to move the procurement process online (Papajorgji et al., 2015). Operators using the electronic process can skip some steps inherent in the manual procurement system (Mahmood, 2013; Plantinga & Dorée, 2016; Queen, 2015). The manual processing system is cost-intensive, consumes time, and encourages corruption, the electronic or e-procurement system reduces cost and contract fulfillment delays (Kauffman & Mohtadi, 2015).

## 5.3. E-Procurement Process Disadvantages

Although scholars (Mahmood, 2013; Plantinga & Dorée, 2016; Queen, 2015) have noted several key advantages to adopting e-procurement systems, other scholars (Korana, Boucher, & Kerr, 2014; Shirzad & Bell, 2013) have highlighted disadvantages of integrating e-procurement systems. A problem with the e-procurement

system is that e-procurement system implementation means a reduction in the overhead costs (Queen, 2015), and some workers will lose their jobs as fewer employees will be necessary to operate the system more efficiently and effectively (Kirkwood & Price, 2013; Shirzad & Bell, 2013). Korana et al. (2014) contended that organizational leaders resisted adopting e-procurement systems. Leaders of large organizations only recently began to exploit e-procurement entirely (Costa & Grilo, 2015). Korana et al. indicated that achieving the full value of e-procurement needs the acceptance of users regarding both contracts and systems. Despite the disadvantages of adopting e-procurement systems, organizational leaders continue to implement them because the benefits outweigh the drawbacks.

#### 5.4. E-Procurement Process Advantages

Integrating e-procurement technology into the procurement process is necessary (Mahmood, 2013; Plantinga & Dorée, 2016; Queen, 2015). E-procurement increases the efficiency and effectiveness of procurement (Rotchanakitumnuai, 2013). Adopting an e-procurement tool increases the efficiency and effectiveness of procurement (Rotchanakitumnuai, 2013). As a result, e-procurement is rapidly becoming the procurement system of choice in all sectors (Wagner, 2014). Latif (2014) indicated the leaders of many businesses now only sell using real-time online processes. The focus on online sales has led business leaders to reduce overhead costs and to have a larger client base (He et al., 2014). Another benefit is that e-procurement systems allow operators to search for goods and services from certain suppliers with negotiated amounts and options, check the stock level, and seek authorizations in line with the prescribed rules and regulations (Chang, Tsai, & Hsu, 2013). Additionally, Mahmood (2013) noted e-procurement is user-friendly with automatic setup, and its features include a procuring entity with valued data to access the available types of sourcing methods (Huang et al., 2013). Adopting an e-procurement system is a direct variation on discounts when an organization procures a certain number of goods in line with the rules and regulations (Piotrowicz, 2015).

Therefore, procurement professionals with adequate, relevant information embedded in e-procurement systems become strategists (Kauffman & Mohtadi, 2015; Ren & Su, 2015). As strategists, procurement professionals can concentrate on strategic functions such as contract negotiations and supplier agreement (Kauffman & Mohtadi, 2015; Stephens & Valverde, 2013). The benefits of e-procurement include reduced overhead costs, corruption, and time to fulfillment and thereby the ability to transform a procurement department into an asset to an organization (Huang et al., 2013; Plantinga & Dorée, 2016).

##### 5.4.1. Using E-Procurement to Reduce Costs

After considering the operational impact of implementing e-procurement in 193 organizations, Yu et al. (2015) found some maintenance, repair, and operating (MRO) procurement managers have leveraged e-procurement as a strategy to cut costs. Leaders of a growing number of companies are adopting e-procurement



software to reap the benefits that other private organizations have already realized (Rotchanakitumnuai, 2013). E-procurement solutions support the online acquisition of goods and services (Kim, Suresh, & Kocabasoglu-Hilmer, 2015). Further, Kim et al. (2015) confirmed that users of e-procurement systems could use it to search, source, negotiate, order, and perform post-acquisition reviews on-line. Using survey data from 193 MRO procurement managers, Per Yu et al. (2015) reported that organizational savings attributed to the e-procurement ranged between 25% and 50% annually. It may be possible for leaders at Nigerian private plastics companies to realize similar results. As noted by Yu et al., adopting e-procurement systems might bring to the fore the strategic significance of creating efficient purchasing systems that reduce costs.

In a study, Li et al. (2015) found that several Chinese organizational leaders placed a high premium on cutting costs by adopting e-procurement systems. Due to the possible savings from adopting an e-procurement system, the European Union prioritized e-procurement as a sphere for initiatives (Bellantuono et al., 2014). Leaders of Nigerian private plastics companies can adopt e-procurement solutions that are available on demand at every stage of the purchasing process; Xiaolin et al. confirmed e-procurement solutions enabled agents to direct spending through purchase orders to chosen suppliers. Further, leaders can also use e-procurement to manage catalogs from numerous vendors and contract prices quickly and precisely with a unified operator experience (Bellantuono et al., 2014).

Leaders of private plastics companies in Nigeria can adopt e-procurement systems to reduce costs by incorporating some important features. Such features include purchase orders and template management for easy reordering and purchase order authorizations with audit trails (Barahona & Elizondo, 2014; Kauffman & Tsai, 2014; Xiaolin et al., 2015). Other features include advance ship notices, full order management, and manage access within the organization (Barahona & Elizondo, 2014). Cutback costs are one of the e-procurement's greatest attractions, for instance, such savings can result in improvements to organizations' bottom line, which differs from the benefits gained from increased turnover (Kauffman & Tsai, 2014). Cost savings associated with e-procurement; however, are not absolute, as poorly implemented systems can lead to a cash drain and disorder within organizations (Bellantuono et al., 2014).

The methods for organizational leaders to adopt e-procurement to reduce costs are numerous (Bellantuono et al., 2014; Chang et al., 2013; Plantinga & Dorée, 2016; Queen, 2015). The first method is to make suppliers answerable to an organization's structured templates (Queen, 2015), which would involve adopting an organization's e-procurement models, subjecting its suppliers to answering individual questions, and responding in the organization's desired format (Plantinga & Dorée, 2016). Suppliers will do what organizational leaders prefer or the suppliers' bids will not proceed through the correct channel, which saves time for purchasers, results in quick processes, and leads to precise bid

evaluation (Plantinga & Dorée, 2016). The second method is to structure an organization's e-procurement templates to eliminate doubt on the suppliers' side (Plantinga & Dorée, 2016; Wang, Liu, & Liu, 2013). Vendors must organize the data they make available when using e-procurement systems and create prompts that ask suppliers to select certain fields before moving to the next form field (Chang et al., 2013). Purchasers, for instance, can assess their choices and choose the vendor who provides the right price and the most agreeable terms (Costa & Grilo, 2015). The third method is to use an e-procurement system to solidify the supply base of an organization should problems arise with services, procurement leaders can quickly reject through its options and come up with a vendor list for specific adjustments (Chang et al., 2013; Costa & Grilo, 2015). The fourth method will involve taking advantage of global situation planning by adopting data created by the organization's e-procurement systems to develop effective proactive scenarios (Chang et al., 2013; Costa & Grilo, 2015).

Plantinga & Dorée (2016) found evidence in a study that indicated the need for procurement leaders to develop a strategic approach to adopting appropriate tools to make efficient procurement decisions. For example, various types of e-procurement software have capabilities to support both multilingual environments and multiple currencies, which allow leaders to encourage worldwide buying (Mahmood, 2013; Shirzad & Bell, 2013). Such software interprets the information and presents it in the practical format needed, thus saving the organization's employees both time and energy (Agyrus & Monu, 2015; Korana et al., 2014).

#### **5.4.2. Using E-Procurement to Reduce Fulfillment Time**

Purchasing goods and services is the largest cost for organizations worldwide (Van den Bossche, Vanmechelen, & Broeckhove, 2015). Researchers (Barahona & Elizondo, 2014; Raventos & Zolezzi, 2015) have also reported on the money wasted because of inefficient procurement systems. The increase in technology adoption has led organizational leaders to leverage advantages from the point of suppliers to consumers (Lewis-Faupel et al., 2014; Raventos & Zolezzi, 2015). Inefficient manual procurement systems are so costly that organizational leaders noted a continual reduction of profit (Barahona & Elizondo, 2014). In the traditional manual-based procurement system, purchase orders move through layers of expensive labor that include managerial assistants who filled out the order, accounting officers who approve it, managers who endorse it, and clerks who dispatch it (Van den Bossche et al., 2015).

The Aberdeen Group (2001) evaluated the spending methods used in 157 organizations and concluded that few organizational leaders recognized and understood how much they spent on goods or services, or which suppliers they used. More & Basu (2013) and Sungau & Ndunguru (2015) demonstrated that procurement officers in manual-based purchasing activities wasted resources on time-intensive transactions such as data input; facilitating delivery; and proffering solutions to quality issues and errors in ordering, costing, and invoicing. Us-

ers of procurement methods that cannot help reduce time to fulfillment are cost intensive; hence, the need exists for e-procurement solutions to reduce such costs (Barahona & Elizondo, 2014; Raventos & Zolezzi, 2015). The methods are costly to trace and time consuming, but organizational leaders can leverage e-procurement systems to reduce paperwork and increase transparency (Raventos & Zolezzi, 2015). The advent of e-procurement technologies has made it possible for organizational leaders to reduce the lead times and enhance communication within the supply chain (Plantinga & Dorée, 2016).

The supply chain is a term that implies efforts directed toward the production and delivery of a product or service from the supplier of raw materials to the consumer (Plantinga & Dorée, 2016). Procurement and fulfillment are critical factors in the supply chain, and growth of the Internet has led to the need to redesign and reorganize the procurement system (Reuter, 2015; Li et al., 2015). E-procurement refers to new methods of procurement and fulfillment used to leverage technology to digitize particular spheres of these processes (Bellantuono et al., 2014). The adoption of e-procurement systems in organizations helps to reduce time to fulfillment (Mital, Pani, Ramesh, 2014). Reduction in cycle time is one of the reasons for the increasing acceptance of e-procurement systems in both private and public sectors (Barahona & Elizondo, 2014; Raventos & Zolezzi, 2015).

Adopting technology to procure goods and service is not new in the area of procurement (Eei, Husain, & Mustaffa, 2015). From the 1980s to the early 1990s, the leaders of a few organizations used electronic data interchange technology to transmit purchase information such as orders, invoices, order handling, and delivery notices (Costa & Grilo, 2015). Electronic data interchange refers to the use of a predetermined format to transfer information directly (Costa & Grilo, 2015; Li et al., 2015). Adopting this technology was possible by interfacing with the conventional client or server technology, in which the sender or source needed an application that could send information in a copyrighted arrangement that the reading or target application could read or decode (Wagner, 2014).

The norm was the network means of moving from the source to the target for these activities was a value-added network (Bellamy & Basole, 2013; Latif, 2014). There was also no alternative to the system, and the design of the format must have occurred before the transfer (Latif, 2014). The changes that occurred following the emergence of the Internet meant only a web browser was necessary, which cut off the traditional client or server (Wagner, 2014). Procurement managers can generate brand or product details from an online catalog and ordering can take place through e-mail (Toyasaki et al., 2013). Employees had the authorization to make legitimate real-time purchases for organizations by completing transactions from their computer systems in offices, thereby removing managerial personnel from the process (Toyasaki et al., 2013). In the late 1990s, organizational leaders adopted the web for fundamental purchases, sales, and auction capabilities (Wagner, 2014). The focus changed to order or service de-

livery, which led to the paradigm shift to integrated procurement sequence administration (Bollaporagada, Kuppusamy, & Rao, 2014; Toyasaki et al., 2013).

Organizational leaders customize their platforms to incorporate contracts, supply evaluation, and consolidation of suppliers' data (Hass et al., 2013). As business leaders focus on cycle-time reduction in procurement, investments in e-procurement software are increasing substantially (Johnson & Robinson, 2014). One of the reasons organizational leaders adopts e-procurement systems is to reduce fulfillment time and order-processing cost (Johnson & Robinson, 2014). Kauffman & Mohtadi (2015) noted that e-procurement systems include the maximum chance for organizational leaders to enhance processes, reduce costs, and increase productivity with the supply chain.

The focus of the study was improved efficiency in procurement systems in private plastics companies in Nigeria. Efficiency refers to lower procurement costs and fewer unauthorized purchases, decreased fulfillment time, and an improved backward integration to office systems (Mestry & Bodalina, 2015). The leaders of Dubai World, an investment company in the United Arab Emirates, launched an e-procurement marketplace called Tejari.com and owned the trademark in neighboring countries such as Oman, Jordan, Saudi Arabia, Kuwait, Lebanon, and Pakistan (Papajorgji et al., 2015). The initiative undertaken by the leaders of Dubai World led to the awareness of the benefits of e-procurement applications for making efficient procurement systems (Papajorgji et al., 2015). The adoption of an e-procurement system in Nigerian private plastics companies might eliminate a need to re-input data from paperwork, which is a potential source of errors, and thus reduce clerical errors (Mestry & Bodalina, 2015). Adopting an e-procurement system might also reduce the lead time for receipt and fulfillment of orders, thereby minimizing inventory costs and increasing the cash flow of private plastics companies in Nigeria (Hass et al., 2013; Papajorgji et al., 2015).

As demonstrated by Dewi et al. (2015), More & Basu (2013), and Sungau & Ndunguru (2015), leaders of private businesses in other countries are embracing e-procurement systems, reducing fulfillment time, and thereby saving costs, Nigerians can as well. Leaders in Nigeria's private sector can use e-procurement systems to increase efficiency (Hass et al., 2013). Organizational leaders in a few developed countries have adopted e-procurement systems to raise the level of effectiveness in their businesses (Sobhani et al., 2014). Company leaders around the world adopt procurement strategies and implementation mechanisms to address procurement issues (Hass et al., 2013). Leaders of business organizations around the world have widely accepted e-procurement in the search for acquisition efficiencies similar to the private sector (Van den Bossche et al., 2015). Based on the literature reviewed, the potential of adopting e-procurement systems to reduce fulfillment time in the private sector is high. The leaders of a few private companies in developing countries have joined this trend (Barahona & Elizondo, 2014; Hass et al., 2013). Integrating e-procurement systems into procurement

activities in Nigerian private plastics companies that have not followed the trend might help to reduce cycle time.

## 6. Nigerian Private Plastics Company's Procurement Process Challenges

The manual procurement processes used by some private companies result in increased costs and contract fulfillment delays (More & Basu, 2013). In a case study, Dewi, Anindito, & Suryadi (2015) estimated the increased cost of procurement at 20.44%, with corresponding fulfillment delays of 7.02%. Despite positive research findings, some procurement managers of private companies have been relatively slow in adopting strategies shown to reduce costs and contract fulfillment delays (Dewi et al., 2015).

Since Nigeria's independence in 1960, the manual procurement method in private plastics companies has involved luring contractors to bid for jobs (Nwogwugwu & Adebayo, 2015). In the manual procurement method, contractors can prequalify or tender for advertised projects in hopes of becoming the bidders awarded the project (Dewi et al., 2015; Nwogwugwu & Adebayo, 2015). Information concerning the strategies successful procurement managers use to reduce costs and contract fulfillment delays in Nigerian private plastics companies was lacking.

Central to global daily activities is the procurement of goods, works, and services, which are the benchmark of countries' economic ratings (Ijewereme, 2015). Akaninyene & Mark (2015) found evidence in a preliminary study that indicated that the demise of some Nigerian private companies was due to its procurement procedures. There are difficulties in the manual methods of procurement in some private plastics businesses in Abuja, Nigeria (Mahmood, 2013). Such difficulties include inflexible bottlenecks in the tender or order processing, large amounts of paperwork, physical intimidation of bidders, and contractors lobbying to overturn competition (Kiama, 2014; Nwogwugwu & Adebayo, 2015). Other pitfalls are the human interface at every stage and alternative treatment of bidders throughout the entire tender procedure (Kiama, 2014; Nwogwugwu & Adebayo, 2015). The challenges in some Nigerian private plastics companies' procurement processes were that procurement managers do not have strategies to reduce costs and contract fulfillment delays. Having completed a literature review of foundational elements of procurement next was a synthesis of relevant procurement strategies.

## 7. Procurement Strategies

Procurement strategies are long-term plans for guaranteeing a timely supply of goods and services at a reasonable cost (Johnson, Sawaya, & Natarajarathinam, 2013; Queen, 2015). Various scholars (Kauffman & Tsai, 2014; Loppacher et al., 2015; Musau, 2015) have defined strategic objectives as achievable objectives that must have the potential to enable organizations to actualize their predefined strate-

gies. Strategic objectives must be adaptive to the external environment (Kauffman & Tsai, 2014; Musau, 2015). Strategic goals include a marketing plan, innovation, human resources, financial resources, physical resources, productivity, social responsibility, and profit maximization (Loppacher et al., 2015; Kauffman & Tsai, 2014).

Marketing plan reflects the organizational leader's desire to maintain current, or acquire new, market share (Cohen et al., 2015). Innovation encompasses the leader's development of new goods and services, as well as the skills and processes needed to drive it (Chatterjee & Ravichandran, 2013; Ren & Su, 2015). Human resources refer to manpower (De Villiers & Moodley, 2015). Financial resources are the sources of capital leader's use and the spheres of capital deployment (Irenaeus, 2014). Physical resources refer to how leaders deploy equipment and facilities; and productivity signifies that leaders have efficiently adopted any necessary resources commensurate with the projected output (Mestry & Bodalina, 2015). Social responsibility is the awareness and responsiveness of the organizational leaders to their immediate environment (Arzumanova & Ayrapetyan, 2015). Profit maximization demonstrates the leader's accomplishment of measurable fortuity and growth of a company (Queen, 2015). Procurement managers must continuously subscribe to new strategies that are critical to business success.

Intense competition and globalization have occurred in world markets (Loppacher et al., 2015) and fostered the continuous advancement of procurement strategies (Xue et al., 2014). Procurement strategy advancements include price cutbacks, quality and delivery improvements, enhanced cycle periods, improved responsiveness to customers, and better financial conditions (Xue et al., 2014). Company leaders, who wish to stay competitive in the face of a globalization trend, develop innovative strategies for procurement management sustainability (Plantinga & Dorée, 2016).

Company leaders place a premium on acquisition as one of the key factors in their operations management. In some private companies, procurement costs require a substantial financial outlay of the companies' aggregate cost (Bichler et al., 2015). Procurement has a significant impact on Nigerian private plastics companies' cost and competitive benefit (Galadima & Abdullahi, 2014). Fundamental to these enterprises is the management of procurement costs, which underscores the maintenance of a list of suppliers with varying cost arrangements to secure their supply (Shu et al., 2014). Nonetheless, the ensuing intricate procurement structure culminates in various management challenges (He, Huang, & Yuan, 2014). Among such challenges is how to select suitable suppliers and allocate demand to each vendor (Shu et al., 2014). Xue et al. (2014) advised procurement experts and scholars to develop decision making models that will enable procurement managers in private companies to unfold strategies to sustain productivity at reduced cost and contract fulfillment delays.

Extended term agreements between companies and their vendors with sacro-

sanct or flexible terms in price or quantity are the standard (He et al., 2014). With such extensive term agreements, company leaders can continuously protect the supply and sustain standard procurement costs in the interim (He et al., 2014; Xue et al., 2014; Rota, Renolds, & Zenasi, 2013). Conversely, Xue et al. noted that, as reported in a global investigation by McKinsey, with the sudden paradigm shift in the business environment, the confidence level of suppliers will also be in doubt. Thus, contracts fulfillment delays became one of the main problems in procurement practices that have been of concern to experts and scholars (Shu et al., 2014). In 2000, Sony's stock price decreased by 9% because of contract fulfillment delays by suppliers of the LCD and flash memory (Xue et al., 2014). The failure of suppliers to deliver on time resulted in Sony's inability to meet demand for PlayStation (Xue et al., 2014). Similarly, in 2005, leaders at Peabody Energy, one of the leading privately-owned coal companies, reported a loss of \$3.4 billion in its interim statement of affairs because its suppliers could not deliver in accordance with the supply agreement (Xue et al., 2014).

Apart from the typical extended-term agreement, e-procurement methods have played a vital role in some Nigerian private plastics companies' procurement strategies (Bichler et al., 2015; He et al., 2014; Plantinga & Dorée, 2016) as a solution to those discrepancies in supply and demand, particularly with the advent of information technology (Papajorgji et al., 2015). Furthermore, Papajorgji et al. (2015) concluded that e-procurement methods had enhanced the manual procurement process concerning reduced cost and contract fulfillment delays.

## 8. Evolution of E-Procurement

Various scholars have indicated the procurement process is manual based. Procurement professionals once used telephones and paper to carry out their functions, but these tools have undergone a transition (Wagner, 2014). The strategic prominence of procurement is so common that it has become a general theme (Norese, Novello, & Salassa, 2015; Wagner, 2014). Latif (2014) and Nurmandi (2015) contended that the proficiency in procurement is a significant strategic dimension that revolutionized the way organizational leaders operate. Toyasaki, Wakolbinger, & Kettinger (2013) indicated that another critical change in the sphere of procurement was the growing rate of Internet use, which led to the emergence of e-procurement. More far-reaching information and decisions regarding cost and strategy are accessible online (Hass, Bichler, & Guler, 2013; Sakulte & Manager, 2013). E-procurement emerged in the mid-1990s as a supply management apparatus (Shirzad & Bell, 2013). Wagner (2014) and Kang et al. (2015) defined e-procurement as using communication technology at various levels of buying goods and services. E-procurement involves sourcing (Hass et al., 2013), bargaining with suppliers (Yang & Lai, 2013), and research and development through the Internet and other electronic media (Shirzad & Bell, 2013). The e-procurement system evolved because of its potential to provide better information to enhance effective and efficient procurement management systems.

## 9. Comparing Manual and E-Procurement Processes

Understanding the differences between the two types of procurement systems underscores the intention to use e-procurement technology (Johnson & Robinson, 2014; Papajorgji et al., 2015). The e-procurement system is unlike the manual or traditional procurement system (Mahmood, 2013; Spiekermann & Korunovskia, 2014). The traditional or manual system is paper and conversation oriented (Hoppe & Schmitz, 2013; Papajorgji et al., 2015). Procurement officers communicate with long-established partners or suppliers and purchase goods or services at bargain prices (Chan & Chong, 2013; Johnson & Robinson, 2014). The traditional procurement method is slow, and the e-procurement system is faster (Queen, 2015). An e-procurement system is a striking contrast to the manual system and involves adapting a computer system to move the procurement process online (Papajorgji et al., 2015). Operators using the electronic process can skip some steps inherent in the manual procurement system (Mahmood, 2013; Plantinga & Dorée, 2016; Queen, 2015). The manual processing system is cost-intensive, consumes time, and encourages corruption, the electronic or e-procurement system reduces cost and contract fulfillment delays (Kauffman & Mohtadi, 2015).

### 9.1. E-Procurement Process Disadvantages

Although scholars (Mahmood, 2013; Plantinga & Dorée, 2016; Queen, 2015) have noted several key advantages to adopting e-procurement systems, other scholars (Korana, Boucher, & Kerr, 2014; Shirzad & Bell, 2013) have highlighted disadvantages of integrating e-procurement systems. A problem with the e-procurement system is that e-procurement system implementation means a reduction in the overhead costs (Queen, 2015), and some workers will lose their jobs as fewer employees will be necessary to operate the system more efficiently and effectively (Kirkwood & Price, 2013; Shirzad & Bell, 2013). Korana et al. (2014) contended that organizational leaders resisted adopting e-procurement systems. Leaders of large organizations only recently began to exploit e-procurement entirely (Costa & Grilo, 2015). Korana et al. indicated that achieving the full value of e-procurement needs the acceptance of users regarding both contracts and systems. Despite the disadvantages of adopting e-procurement systems, organizational leaders continue to implement them because the benefits outweigh the drawbacks.

### 9.2. E-Procurement Process Advantages

Integrating e-procurement technology into the procurement process is necessary (Mahmood, 2013; Plantinga & Dorée, 2016; Queen, 2015). E-procurement increases the efficiency and effectiveness of procurement (Rotchanakitumnuai, 2013). Adopting an e-procurement tool increases the efficiency and effectiveness of procurement (Rotchanakitumnuai, 2013). As a result, e-procurement is rapidly becoming the procurement system of choice in all sectors (Wagner, 2014). Latif (2014) indicated the leaders of many businesses now only sell using real-time online processes. The focus on online sales has led business leaders to reduce



overhead costs and to have a larger client base (He et al., 2014). Another benefit is that e-procurement systems allow operators to search for goods and services from certain suppliers with negotiated amounts and options, check the stock level, and seek authorizations in line with the prescribed rules and regulations (Chang, Tsai, & Hsu, 2013). Additionally, Mahmood (2013) noted e-procurement is user-friendly with automatic setup, and its features include a procuring entity with valued data to access the available types of sourcing methods (Huang et al., 2013). Adopting an e-procurement system is a direct variation on discounts when an organization procures a certain number of goods in line with the rules and regulations (Piotrowicz, 2015).

Therefore, procurement professionals with adequate, relevant information embedded in e-procurement systems become strategists (Kauffman & Mohtadi, 2015; Ren & Su, 2015). As strategists, procurement professionals can concentrate on strategic functions such as contract negotiations and supplier agreement (Kauffman & Mohtadi, 2015; Stephens & Valverde, 2013). The benefits of e-procurement include reduced overhead costs, corruption, and time to fulfillment and thereby the ability to transform a procurement department into an asset to an organization (Huang et al., 2013; Plantinga & Dorée, 2016).

### 9.2.1. Using E-Procurement to Reduce Costs

After considering the operational impact of implementing e-procurement in 193 organizations, Yu et al. (2015) found some maintenance, repair, and operating (MRO) procurement managers have leveraged e-procurement as a strategy to cut costs. Leaders of a growing number of companies are adopting e-procurement software to reap the benefits that other private organizations have already realized (Rotchanakitumnuai, 2013). E-procurement solutions support the online acquisition of goods and services (Kim, Suresh, & Kocabasoglu-Hilmer, 2015). Further, Kim et al. (2015) confirmed that users of e-procurement systems could use it to search, source, negotiate, order, and perform post-acquisition reviews on-line. Using survey data from 193 MRO procurement managers, Per Yu et al. (2015) reported that organizational savings attributed to the e-procurement ranged between 25% and 50% annually. It may be possible for leaders at Nigerian private plastics companies to realize similar results. As noted by Yu et al., adopting e-procurement systems might bring to the fore the strategic significance of creating efficient purchasing systems that reduce costs.

In a study, Li et al. (2015) found that several Chinese organizational leaders placed a high premium on cutting costs by adopting e-procurement systems. Due to the possible savings from adopting an e-procurement system, the European Union prioritized e-procurement as a sphere for initiatives (Bellantuono et al., 2014). Leaders of Nigerian private plastics companies can adopt e-procurement solutions that are available on demand at every stage of the purchasing process; Xiaolin et al. confirmed e-procurement solutions enabled agents to direct spending through purchase orders to chosen suppliers. Further, leaders can also use e-procurement to manage catalogs from numerous vendors and contract prices

quickly and precisely with a unified operator experience (Bellantuono et al., 2014).

Leaders of private plastics companies in Nigeria can adopt e-procurement systems to reduce costs by incorporating some important features. Such features include purchase orders and template management for easy reordering and purchase order authorizations with audit trails (Barahona & Elizondo, 2014; Kauffman & Tsai, 2014; Xiaolin et al., 2015). Other features include advance ship notices, full order management, and manage access within the organization (Barahona & Elizondo, 2014). Cutback costs are one of the e-procurement's greatest attractions, for instance, such savings can result in improvements to organizations' bottom line, which differs from the benefits gained from increased turnover (Kauffman & Tsai, 2014). Cost savings associated with e-procurement; however, are not absolute, as poorly implemented systems can lead to a cash drain and disorder within organizations (Bellantuono et al., 2014).

The methods for organizational leaders to adopt e-procurement to reduce costs are numerous (Bellantuono et al., 2014; Chang et al., 2013; Plantinga & Dorée, 2016; Queen, 2015). The first method is to make suppliers answerable to an organization's structured templates (Queen, 2015), which would involve adopting an organization's e-procurement models, subjecting its suppliers to answering individual questions, and responding in the organization's desired format (Plantinga & Dorée, 2016). Suppliers will do what organizational leaders prefer or the suppliers' bids will not proceed through the correct channel, which saves time for purchasers, results in quick processes, and leads to precise bid evaluation (Plantinga & Dorée, 2016). The second method is to structure an organization's e-procurement templates to eliminate doubt on the suppliers' side (Plantinga & Dorée, 2016; Wang, Liu, & Liu, 2013). Vendors must organize the data they make available when using e-procurement systems and create prompts that ask suppliers to select certain fields before moving to the next form field (Chang et al., 2013). Purchasers, for instance, can assess their choices and choose the vendor who provides the right price and the most agreeable terms (Costa & Grilo, 2015). The third method is to use an e-procurement system to solidify the supply base of an organization should problems arise with services, procurement leaders can quickly reject through its options and come up with a vendor list for specific adjustments (Chang et al., 2013; Costa & Grilo, 2015). The fourth method will involve taking advantage of global situation planning by adopting data created by the organization's e-procurement systems to develop effective proactive scenarios (Chang et al., 2013; Costa & Grilo, 2015).

Plantinga and Dorée (2016) found evidence in a study that indicated the need for procurement leaders to develop a strategic approach to adopting appropriate tools to make efficient procurement decisions. For example, various types of e-procurement software have capabilities to support both multilingual environments and multiple currencies, which allow leaders to encourage worldwide buying (Mahmood, 2013; Shirzad & Bell, 2013). Such software interprets the information and presents it in the practical format needed, thus saving the organization's employees both time and energy (Agyrus & Monu, 2015; Korana et al., 2014).

### 9.2.2. Using E-Procurement to Reduce Fulfillment Time

Purchasing goods and services is the largest cost for organizations worldwide (Van den Bossche, Vanmechelen, & Broeckhove, 2015). Researchers (Barahona & Elizondo, 2014; Raventos & Zolezzi, 2015) have also reported on the money wasted because of inefficient procurement systems. The increase in technology adoption has led organizational leaders to leverage advantages from the point of suppliers to consumers (Lewis-Faupel, Neggers, Olken, & Panda, 2014; Raventos & Zolezzi, 2015). Inefficient manual procurement systems are so costly that organizational leaders noted a continual reduction of profit (Barahona & Elizondo, 2014). In the traditional manual-based procurement system, purchase orders move through layers of expensive labor that include managerial assistants who filled out the order, accounting officers who approve it, managers who endorse it, and clerks who dispatch it (Van den Bossche et al., 2015).

The Aberdeen Group (2001) evaluated the spending methods used in 157 organizations and concluded that few organizational leaders recognized and understood how much they spent on goods or services, or which suppliers they used. More & Basu (2013) and Sungau & Ndunguru (2015) demonstrated that procurement officers in manual-based purchasing activities wasted resources on time-intensive transactions such as data input; facilitating delivery; and proffering solutions to quality issues and errors in ordering, costing, and invoicing. Users of procurement methods that cannot help reduce time to fulfillment are cost intensive; hence, the need exists for e-procurement solutions to reduce such costs (Barahona & Elizondo, 2014; Raventos & Zolezzi, 2015). The methods are costly to trace and time consuming, but organizational leaders can leverage e-procurement systems to reduce paperwork and increase transparency (Raventos & Zolezzi, 2015). The advent of e-procurement technologies has made it possible for organizational leaders to reduce the lead times and enhance communication within the supply chain (Plantinga & Dorée, 2016).

The supply chain is a term that implies efforts directed toward the production and delivery of a product or service from the supplier of raw materials to the consumer (Plantinga & Dorée, 2016). Procurement and fulfillment are critical factors in the supply chain, and growth of the Internet has led to the need to redesign and reorganize the procurement system (Reuter, 2015; Li et al., 2015). E-procurement refers to new methods of procurement and fulfillment used to leverage technology to digitize particular spheres of these processes (Bellantuono et al., 2014). The adoption of e-procurement systems in organizations helps to reduce time to fulfillment (Mital, Pani, Ramesh, 2014). Reduction in cycle time is one of the reasons for the increasing acceptance of eprocurement systems in both private and public sectors (Barahona & Elizondo, 2014; Raventos & Zolezzi, 2015).

Adopting technology to procure goods and service is not new in the area of procurement (Eei, Husain, & Mustaffa, 2015). From the 1980s to the early 1990s, the leaders of a few organizations used electronic data interchange technology to transmit purchase information such as orders, invoices, order handling, and de-

livery notices (Costa & Grilo, 2015). Electronic data interchange refers to the use of a predetermined format to transfer information directly (Costa & Grilo, 2015; Li et al., 2015). Adopting this technology was possible by interfacing with the conventional client or server technology, in which the sender or source needed an application that could send information in a copyrighted arrangement that the reading or target application could read or decode (Wagner, 2014).

The norm was the network means of moving from the source to the target for these activities was a value-added network (Bellamy & Basole, 2013; Latif, 2014). There was also no alternative to the system, and the design of the format must have occurred before the transfer (Latif, 2014). The changes that occurred following the emergence of the Internet meant only a web browser was necessary, which cut off the traditional client or server (Wagner, 2014). Procurement managers can generate brand or product details from an online catalog and ordering can take place through e-mail (Toyasaki et al., 2013). Employees had the authorization to make legitimate real-time purchases for organizations by completing transactions from their computer systems in offices, thereby removing managerial personnel from the process (Toyasaki et al., 2013). In the late 1990s, organizational leaders adopted the web for fundamental purchases, sales, and auction capabilities (Wagner, 2014). The focus changed to order or service delivery, which led to the paradigm shift to integrated procurement sequence administration (Bollaporagada, Kuppusamy, & Rao, 2014; Toyasaki et al., 2013).

Organizational leaders customize their platforms to incorporate contracts, supply evaluation, and consolidation of suppliers' data (Hass et al., 2013). As business leaders focus on cycle-time reduction in procurement, investments in e-procurement software are increasing substantially (Johnson & Robinson, 2014). One of the reasons organizational leaders adopts e-procurement systems is to reduce fulfillment time and order-processing cost (Johnson & Robinson, 2014). Kauffman & Mohtadi (2015) noted that e-procurement systems include the maximum chance for organizational leaders to enhance processes, reduce costs, and increase productivity with the supply chain.

The focus of the study was improved efficiency in procurement systems in private plastics companies in Nigeria. Efficiency refers to lower procurement costs and fewer unauthorized purchases, decreased fulfillment time, and an improved backward integration to office systems (Mestry & Bodalina, 2015). The leaders of Dubai World, an investment company in the United Arab Emirates, launched an e-procurement marketplace called Tejari.com and owned the trademark in neighboring countries such as Oman, Jordan, Saudi Arabia, Kuwait, Lebanon, and Pakistan (Papajorgji et al., 2015). The initiative undertaken by the leaders of Dubai World led to the awareness of the benefits of e-procurement applications for making efficient procurement systems (Papajorgji et al., 2015). The adoption of an e-procurement system in Nigerian private plastics companies might eliminate a need to re-input data from paperwork, which is a potential source of errors, and thus reduce clerical errors (Mestry & Bodalina, 2015).

Adopting an e-procurement system might also reduce the lead time for receipt and fulfillment of orders, thereby minimizing inventory costs and increasing the cash flow of private plastics companies in Nigeria (Hass et al., 2013; Papajorgji et al., 2015).

As demonstrated by Dewi et al. (2015), More & Basu (2013), and Sungau & Ndunguru (2015), leaders of private businesses in other countries are embracing e-procurement systems, reducing fulfillment time, and thereby saving costs, Nigerians can as well. Leaders in Nigeria's private sector can use e-procurement systems to increase efficiency (Hass et al., 2013). Organizational leaders in a few developed countries have adopted e-procurement systems to raise the level of effectiveness in their businesses (Sobhani et al., 2014). Company leaders around the world adopt procurement strategies and implementation mechanisms to address procurement issues (Hass et al., 2013). Leaders of business organizations around the world have widely accepted e-procurement in the search for acquisition efficiencies similar to the private sector (Van den Bossche et al., 2015). Based on the literature reviewed, the potential of adopting e-procurement systems to reduce fulfillment time in the private sector is high. The leaders of a few private companies in developing countries have joined this trend (Barahona & Elizondo, 2014; Hass et al., 2013). Integrating e-procurement systems into procurement activities in Nigerian private plastics companies that have not followed the trend might help to reduce cycle time.

## 10. Methodology

This study used a qualitative multiple case study design to explore strategies some procurement managers in private plastics companies use to reduce costs and contract fulfillment delays. A purposeful selection of eligible individuals recruited in-person, telephone, and e-mail secured three participants for the study. The contact information for private companies was from a Business Connect database in Abuja, Nigeria. E-mail addresses of the participants came from the database. After agreeing to participate in the research study, a working relationship with the participants was established through telephone contact and e-mail while obtaining a sample of suitable participants who were certified via informed consent. As the primary data collection instrument, methodological triangulation was used for this study.

The research focused on a literature review and analysis of the participants' companies' three years archival financial statements. The tertiary level of data collection included a review of companies' documents relating to their procurement practices. The data collection process included semistructured interviews with participants in serene locations, including interview protocols containing five open-ended questions that facilitated in-depth answers. As a researcher, personal views were bracketed to avoid collecting and interpreting data bias. The interview questions guided the process as I observed, captured on paper, audio recorded, and described all responses provided by participants without influ-

encing their behaviors to ensure validity, reliability, and no bias in the study. For consistency, each participant received the same questions. Three participants were interviewed as they expanded on answers and additional probing questions to clarify meanings, and data saturation happened when one or more subsequent interviews were completed and did not include new themes.

To analyze the textural data using Yin (2015)'s 5-step approach to data analysis included 1) Data compilation to evolve grouping, 2) Disassembling the data to create themes of the phenomenon, 3) Reassembling the emerging and recurring themes into groups, 4) Interpreting the recognized themes against the interview transcripts to develop textual explanations of the themes, and 5) Developing structural clarifications grounded on these textual descriptions to develop documented structural explanations. The detailed process of the data analysis included examining the data on different levels, from general to specific. Recorded participants' interviews while taking notes and adopting the NVivo software to code, mind-map, and identify emerging themes. Using a digital recorder during the interviews enabled repeated review of the audio data. Interview recordings were transcribed into a text format, organized and coded the raw data, reviewed the interview questions, and carefully processed the transcripts through several iterations, searching for data that supported or contradicted themes in the literature. Data analysis methods consist of comparing and contrasting emerging themes from the data. The conceptual framework that grounded this study was Weiss' TOC. Strategies procurement managers at Maitama in Abuja, Nigeria, use to reduce cost and contract fulfillment delays came to the fore compared to previous literature findings.

Participants reviewed the transcripts to verify personal accuracy and member-checked results in personal validation of the analysis of data collected in their declarations. Participants' identities were safeguarded by coding and labelling each participant's data with alphanumeric codes such as P1 through P3 to reduce data spillage to the public. The research data were securely stored in two different locations so that, in the event of the loss of data in one place, there will be a backup file in the other place. Information such as interview transcripts, raw data, and research files remained in a secured and locked safe for 5 years from the interview date to protect the participants' rights. After 5 years, all materials would be deleted by shredding them electronically or mechanically.

## 11. Results and Discussion

The purpose of this qualitative multiple case study was to explore the strategies some procurement managers of private plastics companies use to reduce costs and contract fulfillment delays. Following the methodological triangulation of the data sources collected, two emergent themes emerged after completing the data analysis: (a) change implementation strategies and strategies to reduce costs and delays in contract fulfillment delays.

### **Theme 1: Change Implementation Strategies**

The first emergent central theme was the desire to implement improved pro-

curement processes that could reduce cost and contract fulfillment delays. One hundred percent of the participants mentioned the need for procurement managers to understand the change implementation strategies as significant components of improving procurement processes that could reduce cost and contract fulfillment delays. The change implementation strategies mentioned included (a) problem definition, (b) needs assessment, (c) change assumptions, and (d) factors that may affect the expected change. Individual participants identified the change implementation strategies they have observed based on their experiences with procurement employees and organizational leaders.

**Problem definition.** Participants indicated that committed procurement managers should use change implementation strategies for achieving continued transformational success. Their views revealed that managers should identify the problems with the company's manual procurement methods to proffer solutions. The participants agreed that the manual procurement system is cost-intensive because it entailed too much paperwork and those nonprofessional procurement employees handled the process with substantial financial resources committed to purchasing raw materials and its turnaround time.

**Needs assessment.** All participants indicated the importance of needs assessment for the feasibility of desired procurement improvement. They reinforced conducting a needs assessment by studying the manual procurement method and describing to the leaders the actions that may likely happen to enhance it. Consequently, participants stated that the need assessment unfolds to the business leaders the general picture of the anticipated change and the opportunity to either buy into the initiative to improve the current system or step up the profit level and possible competitive advantage.

**Change assumptions.** Participants 1 and 2 emphasized that dialoguing with the organizational leaders on the type and cost implication of the identified change is necessary to gain their buy-in and visible support. During a briefing of the business stakeholders on the planned change, procurement managers must unambiguously state how to reach the expected long-term goals of improving the procurement process. The results also revealed that communicating the change assumptions, consultants and procurement managers must spell out the life-cycle of a change, ranging from feasibility study to the postimplementation review to the organizational leaders.

**Factors that may affect the expected change.** The research findings revealed the need for procurement managers to emphasize an easily articulated overview of the expected future state to the business leaders. Thus, developing a change initiative vision can entice the stakeholders to engage versus fostering planned change resistance. When envisaging the expected factors that may hurt change implementation, managers need to state and analyze both the success and imperfections, taking into cognizance employees' sentiments to the transitional method.

## **Theme 2: Strategies to Reduce Cost and Contract Fulfillment Delays**

The second emergent theme included strategies to reduce cost and contract

fulfillment delays missing in the manual procurement method. Participants mentioned strategies such as (a) prequalified reliable suppliers' database, (b) electronic procurement system, (c) effective inventory management system, and (d) competent procurement employees. Each participant identified the strategies they use to reduce cost and contract fulfillment delays in their capacity as procurement managers in their respective organizations.

**Prequalified reliable suppliers' database.** All participants indicated that prequalifying reliable suppliers and setting up a database are the main strategies for managing purchasing costs. Participants' reasons for creating a supplier database is to make suppliers answerable to their specific structured template. The study outcomes indicated that in ascertaining suppliers' reliability, the organization treats each vendor uniquely to design rules that enable organizations to focus investigation carefully on them successfully and give them decision-making rights. The findings also revealed that building suppliers' databases using information technology is complicated, and therefore, buying a multiple-purpose advanced application off-the-shelf and customizing it to my organizational desire is more desirable. Participants have been using suppliers' databases to provide suppliers adherence and performance control against contracts by allowing organizations to monitor the suppliers' performances effectively. The suppliers' database improves transparency and automatic notifications for contracts in the source to minimize the time required to get the correct information at a reasonable time.

**Electronic procurement system.** The study findings unfolded that the use the electronic commerce platform, which is a part of the marketplace Internet technologies, a website developed to interact with suppliers through their respective websites to reduce the cost and minimize contract fulfillment delays associated with the manual procurement system. An intranet of Internet technologies through closed computer networks of websites with access privileges to procurement employees and internal auditors within my organization. Built into this website is audit trail to track all authorized users and their activities as unauthorized employees cannot have access to this website. The research finding also revealed that suppliers customized catalogs for organizations which they stored in their respective e-commerce server websites so that they can access the records. Organizations use e-procurement software to manage many purchasing activities automatically such as order placement, catalog management, transaction, generating payment reports and other purchase-oriented activities. Should any of our employees place an unauthorized order on the suppliers, the e-procurement software automatically will not process such an order. participants' expressions also indicated that e-procurement systems have their limitations as they mostly conduct all purchases online.

**Effective inventory management system.** Participants' perspectives indicated the need for organizations to develop and adopt improved technologies as strategic tools for encouraging collaboration and information sharing among



trading partners. In the review of the procurement strategies literature, there were no recommendations for a mix of inventory control and e-procurement systems to reduce cost and contract fulfillment; however, the findings showed that synergizing the inventory control technology with e-procurement technology is essential to achieve improved organizational efficiency and effectiveness. Integrating inventory control systems into the electronic procurement process as synergies reduces administrative spending and rationalize supplier relationships.

The findings also revealed that centralizing the procurement information and inventory control by giving our authorized procurement employees the flexibility to search for the products and vendors most appropriate to organizational needs at a point of replenishment of materials for the daily productions. From the participants' view, it was evident that organizations use acquisition strategies to concentrate on streamlining the entire order-to-delivery method reasonably than on individual tasks, thereby establishing a level of integration between the inventory control solution and current information systems. For instance, setting all levels of stores control concerning reordering, minimum, maximum, economic order quantities, and a host of others enable organizations to decide when to initiate orders to replenish items as various levels are easily noticeable.

**Competent procurement employees.** The research findings revealed that strategies to reduce cost and contract turnaround time also include developing the necessary managerial skills to harness all elements of technologies' implementation to success. Because a lack of change management skills could lead to the failure of a tremendous reformative agenda, organizations should train and retrain their procurement employees to learn quickly about the new technologies during the implementation of contract delivery and cost-reduction initiatives. Cognitive skills enable employees to support themselves, colleagues and managers to get things done, thereby keeping them productive through the change to moment. The quickness of change in most organizations was directly related to the level of trust employees have in change management. The study results also indicated that staff competence fundamentally impacts the implementation of an organization's procurement innovation. Therefore, building trust with procurement employees is vital to organizations as they support implementing the change effectively.

## 12. Findings

### Theme 1: Change Implementation Strategies

The research findings revealed that change implementation strategies require the understanding of a roadmap that includes four subthemes (a) problem definition, (b) needs assessment, (c) change assumptions, and (d) factors that may affect the expected change. The findings aligned with the study's conceptual framework, Weiss (1995)'s TOC., which explains the process of organizational change strategies by outlining necessary linkages in activities and mapping each move as the pathway. The findings also corroborated Miller (2014)'s found case

study evidence that understanding and adopting a suitable change theory framework is imperative for change agents to increase the possibility of success.

**Problem definition.** The problem definition as the first stage of change implementation strategies is vital as no change can occur without a clear idea of what difference is desirable. The finding aligned with the first step required to achieve the organizational change strategies Weiss (1995) outlined in TOC.

**Needs assessment.** Following the problem definition, the research finding indicated that need assessment is crucial to identify and justify the expectations in addressing the problem that may culminate in the necessary change. The result aligned with Lohe & Leger (2014)'s suggestion that change managers must be capable of persuasively articulating the need for change to impacted stakeholders.

**Change assumptions.** Revealed in this study is dialoguing with the organizational leaders on the type and cost implication of the identified change to gain their buy-in and visible support. There is alignment in the findings and leveraging of TOC to emphasize the assumptions that clarify both the processes culminating in the long-term goal and the linkages between program activities and expectations (Msila & Setlhako, 2013; Stame, 2004; Vachon et al., 2013).

**Factors that may affect the expected change.** Discuss factors that may affect the planned change and develop a vision to entice the stakeholders to engage and foster planned change resistance. Also, articulating an overview of the expected future is critical to consider the factors that might ensure the change's success. These findings corroborated Davidoff et al. (2015)'s suggestion that an approach to encapsulate the sequence of expected outcomes resulting from an intervention is necessary. As Msila & Sethako (2013) also suggested, the best practices for organizational change encompass planning an evaluation strategy to track whether the desired results emerge.

## **Theme 2: Strategies to Reduce Cost and Contract Fulfillment Delays**

The research findings provided clues in identifying strategies to reduce cost and contract fulfillment delays. Achieving these strategies unfolded four sub-themes that included (a) prequalified reliable suppliers' database, (b) electronic procurement system, (c) effective inventory management system, and (d) competent procurement employees. These aligned with procurement strategies as long-term plans for guaranteeing a timely supply of goods and services at a reasonable cost (Johnson, Sawaya, & Natarajarathinam, 2013; Queen, 2015). Also corroborated were strategic procurement advancements, including price cut-backs, quality, delivery improvements, enhanced cycle periods, improved customer responsiveness, and better financial conditions (Xue et al., 2014).

**Prequalified reliable suppliers' database.** All participants indicated that reliable prequalifying suppliers and setting up a database are the main strategies for managing purchasing costs. The findings corresponded with Shu et al. (2014), in which they found that fundamental to the management of procurement costs is the maintenance of a list of suppliers with varying cost arrangements to

secure their supply. Participants' perspectives also revealed that organizational procurement managers select and create suppliers' databases to make suppliers answerable to a specific structured template. This finding aligned with [Shu et al. \(2014\)](#)'s views that selecting suitable suppliers and allocating demand to each vendor are procurement challenges. And therefore, creating a database of pre-qualified, reliable suppliers is critical. The findings also confirmed [Plantinga & Dorée's \(2016\)](#) assertion that suppliers would do what organizational leaders prefer; otherwise, the vendors' bids will not proceed through the correct channel, saving purchasers time, resulting in quick processes, and leading to accurate bid evaluation.

**Electronic procurement system.** The research findings indicated that the e-procurement process reduces costs and minimizes contract fulfillment associated with the manual procurement system. The revelation aligned with one of the reasons organizational leaders adopt e-procurement systems is to reduce fulfillment time and order-processing cost ([Johnson & Robinson, 2014](#)). The findings also confirmed that [Johnson & Robinson \(2014\)](#) stated that one of the reasons organizational leaders adopt e-procurement systems is to reduce fulfillment time and order-processing cost ([Johnson & Robinson, 2014](#)). Furthermore, in alignment was Yu et al., who noted that adopting an e-procurement system might highlight the strategic significance of creating efficient purchasing systems that reduce costs.

**Effective inventory management system.** Participants' discussion indicated the need for organizations to develop and adopt improved technologies as strategic tools for encouraging collaboration and information sharing among trading partners. In reviewing the procurement strategies literature, I did not note recommendations for a mix of inventory control and e-procurement systems to reduce cost and contract fulfillment. However, the findings showed that the rate of occurrence of the inventory management system was high. Synergizing inventory control technology with e-procurement technology is essential for improved organizational efficiency and effectiveness.

**Competent procurement employees.** The research outcomes revealed the importance of developing the necessary managerial skills to harness all elements of technologies' implementation to success. This finding aligned with [Schultz \(2014\)](#)'s suggestion that practical plan management skills are imperative when implementing transformation. All participants' perspectives revealed that a lack of change management skills could be responsible for the failure of a significant change program. The findings aligned with the studies by [Packard \(2013\)](#) and [Yuan et al. \(2013\)](#), whereby management skills include assessing the accomplishment of targets and achieving the agreed-upon indicator measures. Innovation encompasses the leader's development of new goods and services, as well as the skills and processes needed to drive it ([Chatterjee & Ravichandran, 2013](#); [Ren & Su; 2015](#)). A study of participants' organizations' three-year financial documents revealed a large capital outlay on a biannual workforce development pro-

gram to update the skills of their respective procurement employees. To advance our organization, continuous training and retraining of procurement employees on evolving enterprise resource planning software is key to reducing cost and contract fulfillment delays. This finding aligned with Xue et al. (2014)'s advice that procurement experts develop decision-making models to enable private company purchasing managers to unfold strategies that sustain productivity at reduced cost and contract fulfillment delays.

### **13. Conclusions and Further Research**

The research performed was to discover what strategies some procurement managers in private plastics companies used to reduce costs and contract fulfillment delays. The findings revealed that changes to the existing procurement procedures might be in order if the current process does meet the organization's costs and fulfillment contracts. The change should follow a logical path, (a) problem definition, (b) needs assessment, (c) change assumptions, and (d) factors that may affect the expected change, may satisfy the yearnings of the business leaders. Further, the organization should explore the use of (a) prequalified reliable suppliers' database, (b) electronic procurement system, (c) effective inventory management system, and (d) competent procurement employees may culminate in procurement long-term plans for guaranteeing a timely supply of goods and services at a reasonable cost in similar private companies.

In this qualitative multiple case study, the main limitation was the sample size of participants. The interview findings of three private plastic companies' procurement managers were a small sample. During the analysis, the participants' input for themes and distilled data, the purposefully selected participants in the study were procurement managers in private companies, and therefore, generalizations from the results may only apply to procurement projects in private companies.

For further research, the recommendation is to consider additional studies to include a larger sample size because a larger sample probably would offer different or diverse strategies from the same study as data saturation was achieved after interviewing three participants. Furthermore, the geographic locations of the organizations represented covered only Abuja, the Federal Capital Territory of Nigeria. Recommendation for a study in a different geographical location is necessary to see if findings will be related or different on other sites. The study was a qualitative research method with a multiple case study design; the recommendation is to use other methodologies and designs for further research on the same phenomena to see if there will be variations in findings. Further, the open-ended semistructured interview questions may result in conclusions that impeded a generalization of the findings and, therefore, recommended other interview methods for additional research on a similar study. Finally, there was no consideration of the procurement managers' gender, religion, ethnicity, and nationality. The recommendation is to conduct a similar study that researches those factors to see if the findings will be different or the same.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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