

Collaborative Procurement Practices in Public Organizations: A Review of Forms, Benefits and Challenges

Richard Manase Nkunda

Department of Public Administration and Leadership Management
Tanzania Public Service College, Tabora Campus

P.O. Box 329, Tabora

nkunda.richard86@gmail.com

<https://orcid.org/0000-0003-3506-7371>

Isaac Kazungu

Department of Marketing, Procurement and Supply Management
Moshi Co-operative University

P.O Box, 474 Moshi

isaackazungu@gmail.com

<https://orcid.org/0000-0002-7847-3874>

Ismail Abdi Chagalima

(Corresponding author)

Department of Business Administration and Management

The University of Dodoma

P.O Box 1208, Dodoma

Ismail.chagalima@udom.ac.tz

<https://orcid.org/0000-0002-6216-0558>

Doi//<https://dx.doi.org/10.4314/gjds.v20.3>

Abstract

This study reviewed forms, benefits, and challenges of collaborative procurement practice that could be applied in public organizations in developing countries like Tanzania. The study is exploratory and descriptive in nature under which a systematic literature review was conducted to examine the various forms, benefits, and challenges of collaborative procurement. In this approach, information was gathered from the existing body of literature on collaborative procurement and cooperative purchasing practices. Based on the main results, the study ascertained that piggy-backing groups, third-party groups, professional networks, and project groups are the main four forms of collaborative procurement practices that may be applicable in public organizations. Results suggested that organizations that engage in collaborative procurement practices enjoy several benefits, including minimum prices, low transaction costs, high-quality products, reduced workloads, and minimal supply risks. However, demand heterogeneity can complicate the procurement process, and inflexibility and control of collaborative procurement activities are major challenges for implementing collaborative procurement practices. Despite these challenges, the study concluded that collaborative procurement practices can be beneficial in public organizations in developing countries like Tanzania. The study recommends that collaborative members establish clear guidelines and agreements for collaborative procurement practices to ensure successful implementation.

Keywords – Collaboration; Collaborative procurement; Procurement; Public procurement; Public procuring entities.

Introduction

Procurement involves the process of acquiring goods, services, and works (Changalima & Mdee 2023). It is considered effective when it can provide services and deliver goods within the specified time frame (Al-Fedaghi & Al-Otaibi, 2018). This process includes identifying needs, sourcing, negotiating, and contracting. However, public-sector procurement differs from private-sector procurement in several aspects, such as the significant amount of funds involved and the need for efficiency and effectiveness in its functions (Arlbjørn & Freytag, 2012). To address these challenges, the literature suggests the use of cooperative procurement practices as a tool to increase efficiency and effectiveness (Pazirandeh & Herlin, 2014). Cooperative or collaborative procurement involves two or more buying organizations combining multiple requirements into a single contract. By doing so, it aggregates the purchase volume, increasing purchasing power and potential cost savings (Goldsmith & Becker, 2018).

Collaborative procurement has been described in various contexts in the literature (Costin, Nakai Kidd, Simon & Edwards; Laryea, 2019; Reijonen, Saastamoinen & Tammi, 2016; Chen & Manley, 2014). It has rapidly gained popularity as a public policy due to its ability to ensure savings, promote transparency in financial resources, rationalize specifications, and simplify processes (Gobbi & Hsuan, 2015). Collaborative procurement allows two or more procuring entities to combine their expertise and experience, resulting in money savings and increased efficiency in meeting project or service objectives (Goldsmith & Becker, 2018). Although it is more common in the private sector (Costin *et al.*, 2019; Reijonen *et al.*, 2016), collaborative procurement has also been extensively used in infrastructure projects (Eriksson, Volker, Kadefors, Lingegård, Larsson & Rosander, 2019; Laryea, 2019; Chen, Manley, Lewis, Helfer & Widen, 2018; Manley & Chen, 2017; Chen & Manley, 2014) and transportation organizations (Cherrington, Edrington, Malki, Beruvides, Simonton, Waters, Chaivichitmalakul, Palikhe & Walewski, 2010; Beruvides, Simonton, Waters, Palikhe & Chaivichitmalakul, 2015). Collaborative procurement is also an interesting option for public organizations such as public colleges and universities, public hospitals, public schools, ministries, and local government authorities, which share common requirements (Schotanus & Telgen, 2007).

The concept of collaborative procurement in the public procurement field has been around for some time now, as evidenced by literature published as far back as 2006 by the World Health Organization (WHO). Collaborative procurement practices have been in use for many years, particularly in developed countries such as those in Europe and the USA. Since 2001, there has been a growing interest in collaborative procurement arrangements in various countries, including Canada, Finland, Germany, the UK, and the USA (Schotanus & Telgen, 2007). Collaborative procurement has been utilized in national, regional, and local projects across Europe, the United States, and other countries worldwide (Goldsmith & Becker, 2018). For instance, in the UK, public organizations share similar procurement needs, operate in similar regulatory environments and structures, and have similar goals, making it easier to apply collaborative procurement practices (Walker, Schotanus, Bakker & Harland, 2013).

Similarly, collaborative procurement practices have been observed in Africa. For example, Emuze and Smallwood (2014) recommended the use of collaborative procurement in construction projects in South Africa, resulting in improved project delivery, budget compliance, and risk reduction (Laryea, 2019). In Kenya, factors such as policy framework, stakeholder involvement, communication, and technology alignment influence collaborative procurement practices (Kimemia & Moronge, 2018). However, Nyangweso (2013) found no significant impact on state corporation performance despite its potential benefits, which could be attributed to an inadequate balance of requirements among collaborators. Nevertheless, prior studies emphasize the importance of collaborative procurement practices (Sayyed, Hatamleh & Alaya, 2023; Rutkowski, Eboch, Carr & Greer, 2022). It is crucial to note that these practices should be tailored to local conditions, and caution should be exercised by organizations from other countries (Elhag, Eapen & Ballal, 2020).

Although there is no legal obligation for public entities to engage in collaborative procurement, there is mounting pressure for them to do so (Walker *et al.*, 2013). In Tanzania, there may be a regulatory framework for collaborative procurement practices under the Public Procurement Act No. 7 of 2011 and its 2016 amendments, which cover some aspects of collaborative procurement. Specifically, Section 43 of the Act and Regulation 49 of the 2013 Public Procurement Regulations may serve as a basis for public entities to embrace collaborative procurement practices. Despite the government's increasing interest in collaborative procurement, including through force account projects and services provided by agencies such as the Tanzania Buildings Agency (TBA), Tanzania Electrical, Mechanical, and Electronics Services Agency (TEMESA), and Government Procurement Services Agency (GPSA), little literature is available on the forms, benefits, and challenges of collaborative public procurement practices. Our article aims to fill this gap by addressing the research question: "What are the forms, benefits, and challenges of collaborative procurement practices?" Through this research, we hope to identify potential forms, benefits, and associated challenges of collaborative procurement practices for public entities in Tanzania.

Theoretical Review

In this section, we discuss relevant theories that have been used in the literature to support collaborative procurement practices. The literature suggests that multiple theories can be employed to study different forms of collaborative procurement practices. For example, Bakker, Walker, Schotanus, and Harland (2008) identified four theoretical perspectives, including the transaction cost economics perspective, agency theory perspective, resource-based view, and contingency view, to describe forms of collaboration. The agency theory model has also been used to describe co-operative public procurement activities (McCue & Prier, 2008). Additionally, the project management theory, which involves following a series of steps and processes during the planning, execution, and control of project tasks and activities to achieve project success, could be relevant in explaining collaborative procurement practices in construction projects (Forgues & Koskela, 2009).

The transaction cost theory is crucial in explaining the contractual relationships that underpin collaborative practices. This theory assumes that contractual approaches are necessary when studying organizations (Williamson, 1989). Transaction costs also play a role in cooperative procurement, where the optimal number of collaborators (buyers) in a specific cooperative procurement must be determined (Rezaei, Pourmohammadzia,

Dimitropoulos, Tavasszy & Duinkerken, 2020). When collaborating with other public procuring entities, transaction costs can be reduced by engaging an appropriate third party, and the cost of setting up and coordinating this third party is likely to be spread over several transactions (Bakker et al., 2008). This is also true of collaborative practices that rely on relationships between parties, sometimes between buyers and sellers (Mushi, Mwaiseje & Changalima, 2021).

Methods

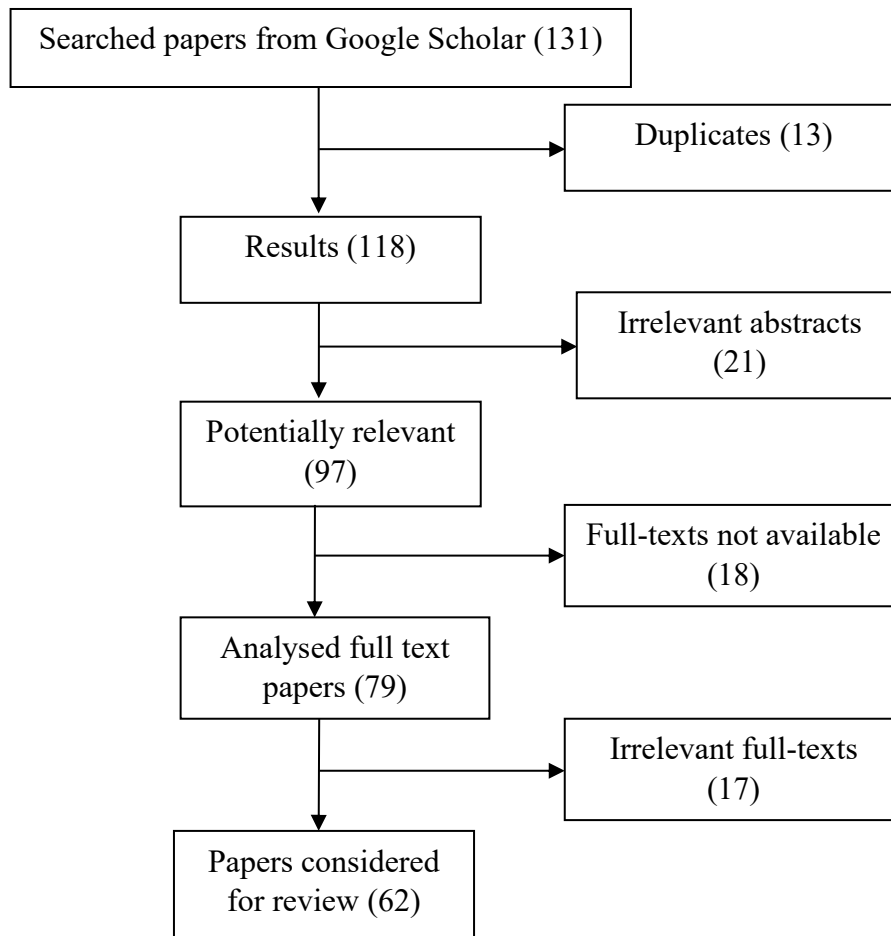
To explore and describe the forms, benefits, and challenges of collaborative procurement in the public sector, we conducted an exploratory and descriptive study based on a review of relevant literature on collaborative procurement and cooperative purchasing. We first conducted a systematic literature review of collaborative procurement practices, which is a widely used method in business and management studies and procurement domains (Yu, Yevu & Nani, 2020; Jamil & Fathi, 2018) to analyze and synthesize studies related to healthcare. According to Coccia et al. (2021), a systematic literature review provides researchers with valuable insights regarding the topic at hand. Reviewing the literature is essential in providing an overview of currently available knowledge, considering differing viewpoints on a topic, and creating order from diverse findings (Marino & Lo Presti, 2019). Our review involved three main phases: collecting relevant sample articles, selecting articles based on specific criteria, and extracting relevant information concerning the overall focus of this study. The following sections explain these phases in detail.

Data Collection

When conducting a systematic review, it is common to begin with the search strategy (Kazungu & Kumburu, 2023; Coccia et al., 2021; Shakeel, Krusen & van Thiel, 2020; Bouwman & Grimmelikhuijsen, 2016). For our review, we searched for relevant studies on the Google Scholar platform, which is connected to many reputable journal publishers and contains metadata or full-text articles. We used a combination of keywords, including "collaborative procurement practices," "collaborative public organizations," "cooperative purchasing," and "collaborative procurement forms, benefits, and challenges." We recorded the relevant results and the total number of papers retrieved from the databases.

Study Selection

In this phase, we followed the following procedures to select relevant studies: (i) We removed duplicate literature from the selected database, (ii) we reviewed the titles and abstracts of the articles retrieved for preliminary analysis to determine their relevance to our overall research question, and (iii) we excluded those that were deemed irrelevant. These procedures resulted in 97 potentially significant articles, which underwent full-text search. Out of the 97 articles, 18 full texts were not available due to limited accessibility. The other 79 full texts were analyzed thoroughly, and 17 non-relevant articles were discarded. Ultimately, we included a total of 62 articles in the review (see Figure 1).

Figure 1: Study selection process**Data extraction**

Data extraction from full-text studies incorporated into the systematic literature review was performed, and information related to the research question and key findings were gathered. This data served as the foundation for the analysis and findings regarding collaborative procurement practices, benefits, and challenges within the context of public procurement in Tanzania. The systematic review results were categorized into three main segments: forms of collaborative procurement practices, benefits of collaborative procurement, and challenges of collaborative procurement. The public procuring organizations studied included government ministries, parastatal organizations, agencies/authorities, independent departments, local government authorities, and regional administrative secretaries (Changalima, Ismail & Mchopa, 2021). This study's scope was

limited to research published between 2000 and 2020, although relevant studies published before 2000 and after 2020 were also considered.

Results and Discussion

This section summarizes the findings discussed in previous literature, allowing for consideration of various forms, benefits, and associated challenges of collaborative procurement practices.

Forms of Collaborative Procurement Practices

Collaboration is a multifaceted concept with various definitions depending on the discipline. Due to this conceptual vagueness, it is difficult to develop a universally accepted definition (Little, 1990). Nonetheless, the term is commonly used to describe a range of activities and interactions among individuals (Slater, 2004). Collaborative procurement is known by various terms, including group purchasing, cooperative purchasing, joint procurement, consortium procurement, shared procurement, and mutual procurement, among others (Murray, Rentell & Geere, 2008; Schotanus & Telgen, 2007). Bakker *et al.* (2008) suggest that collaborative procurement refers to the horizontal collaboration between two or more organizations during one or more stages of the purchasing process.

Furthermore, collaborative public procurement involves the integration of various public procuring entities to establish a joint venture aimed at enhancing purchasing power in the market. For instance, in government hospitals, this practice can be executed by consolidating diverse requirements and procurement volumes to acquire the best prices and discounts for medical equipment and drugs, particularly when purchasing from overseas suppliers (Verma, 2013). The literature offers an extensive array of collaborative procurement practices, but this paper only focuses on the four most commonly utilized forms of collaborative procurement as they might apply to public procuring entities in developing countries such as Tanzania.

Piggy-backing Group

An informal collaborative procurement process is designed to simplify cooperation between procuring entities, as suggested by Schotanus and Telgen (2007) and Cherrington *et al.* (2010). Terzi and Callejas (2013) suggest that piggy-backing can be a valid approach to collaborative procurement because it offers the best possible price and conditions compared to individual tendering. However, it should not be used as a way to avoid a competitive procurement process. Under piggy-backing, a contracting organization conducts the procurement process on its own, allowing other organizations to use the same contract, as explained by Espín, Rovira, Calleja, Azzopardi-Muscat, Richardson, Palm & Panteli (2016) and the European Commission (2008). Additionally, one or more organizations may represent their needs and leave room for other entities to "bridge" or "ride" the contract as awarded, according to Cherrington *et al.* (2010). Piggy-backing is more feasible with long-term agreements, as they provide greater bargaining power and volume leverage, as stated by Terzi and Callejas (2013).

Piggy-backing typically involves large organizations establishing a contract with specifications and allowing smaller organizations to participate under similar conditions, thereby reducing transaction costs and prices, as noted by Schotanus and Telgen (2007). However, there are costs associated with piggybacking, such as hosting and negotiation expenses, as well as upfront fees for long-term contracts, according to Terzi and Callejas (2013). Additionally, regulatory and legislative constraints make it difficult to implement this type of collaborative procurement practice in some countries.

According to Racca and Albano (2011), 40% of health institutions in Europe aggregate the supply of common medical devices and pharmaceuticals, which can account for a significant percentage of their total expenditure. The UK healthcare system is notably advanced in purchasing aggregation, utilizing different coordination models under the piggy-backing collaborative approach. In this approach, physicians meet to prepare specifications for common requirements across the members, as reported by Racca and Albano (2011). Developing countries can also adopt piggy-backing by leveraging long-term agreements, as suggested by Terzi and Callejas (2013) and Cherrington *et al.* (2010). However, public organizations must consider their environmental settings and the nature of agreements before engaging in this form of collaborative procurement.

Third-party Group Purchasing

This type of collaborative procurement typically involves long-term relationships between private or public parties, each contributing their respective resources, as noted by Schotanus and Telgen (2007). The group may be owned by profit or non-profit organizations and has formal rules, with employees committed to managing the collaboration, as stated by Goldsmith and Becker (2018). Third-party targets acquire several goods and perform procurement activities by accumulating the requirements of other members, relying on their collective purchasing volume and the external party's procurement expertise, according to Verma (2013). Members of the collaboration do not necessarily have to share information, as highlighted by Aylesworth (2003). In this form of collaboration, as in piggybacking, members are not responsible for discussing procurement specifications or maintaining a high relationship rate.

This form of collaboration in procurement is widely applicable in many areas. For example, as noted by Schotanus and Telgen (2007), third-party collaborative procurement is practised in the health services sector in the United States, with third-party groups covering a high percentage of procured services and products in health sector organizations. This approach ensures a fair allocation of resources, with a focus on long and medium-term contracts. However, it is more formal than piggy-backing, and the goods involved are of generic need, as pointed out by Cherrington *et al.* (2010). In this regard, Bakker *et al.* (2008) suggest that two organizations with dedicated staff may apply this form of collaborative procurement. Following previous findings, third-party organizations establish a collaborative program, working with one or more public procuring entities to develop one or more contracts that will provide services to a broad base of potential user agencies, along with a portal through which the contracts can be retrieved.

When organizations engage in collaborative procurement, they consolidate their internal users' requirements into a single contract, which allows them to aggregate their demands (Goldsmith & Becker, 2018). In Tanzania, the Government Procurement Services Agency

(GPSA) practices this type of collaborative procurement through the bulk procurement of motorcycles, motor vehicles, and other plants, which aligns with the principles of the Public Procurement Act (PPA) No. 7 of 2011 and Regulations 130 and 131 of the public procurement regulations. GPSA acts as an agent in the procurement process, where the public procuring entities act as principals, as proposed by the agency theory. According to Espín *et al.* (2016), bulky contracting is one of the practices within collaborative procurement, where a single supplier or contractor is given full responsibility for fulfilling all tendered items within a time-bound or framework contract. For instance, in Tanzania, a third-party government printer is responsible for printing government materials, such as acts and regulations, for public organizations. In addition, the procurement of petroleum is conducted collaboratively through bulk purchases, which controls the oil price, and the Tanzania Electrical, Mechanical, and Electronics Services Agency (TEMESA) provides repair and maintenance services for public organizations' vehicles through its regional offices.

Professional Networks

According to Bakker *et al.* (2008), professional networking is considered one form of collaborative procurement. They identified the "Avon procurement forum" and the orthopaedics and prosthetics network in the National Health Service as important networks for staff working in the service industry. These networks facilitate the exchange of information and ideas on specific health service areas or purchasing issues. In another context, Datnow (2021) asserted that policymakers and system leaders worldwide have committed a significant amount of time, energy, and resources to developing professional networks in education, which hold great promise for disseminating information and promoting collaboration among educational institutions. Similarly, in a business context, networks enable people to obtain relevant information (Kazungu, 2020).

Research indicates that professional networks can engage in collaborative procurement without the need for formal membership or collective purchasing (Bakker *et al.*, 2008). Thus, professional networks can exist informally and facilitate the sharing of information regarding the procurement of goods, services, and works. Collaboration in this context involves obtaining information on supply sources, specifications for new purchases, and other pertinent professional information that may aid professional buyers. In Tanzania, many professional networks operate informally through online social groups that enable members to seek inquiries and access relevant procurement-related information. Despite their informal nature, these groups offer valuable resources to members seeking to procure goods, works, and services.

Professional networks are a type of collaborative procurement that can be formal or informal and involve a group of individuals with similar work experiences who come together to exchange information and ideas on specific procurement issues. This form of collaboration is practiced in the UK (Bakker *et al.*, 2008) and other EU member states (Azzopardi-Muscat, Schroder-Bäck & Brand, 2017). While the regulatory and institutional constraints of most African countries may pose challenges for implementing professional networks in public procurement systems, there may be opportunities for public procurement professionals in Tanzania to explore this form of collaboration.

The primary objective of professional networks is to facilitate collaboration among procurement professionals by sharing information and ideas (Bakker *et al.*, 2008). These

ideas could include identifying potential suppliers for specific goods and services, addressing challenges related to the supply market, or opportunities for procurement training and development. In Tanzania, informal networks of procurement personnel and other stakeholders have come together to exchange ideas and information regarding the preparation and implementation of the Higher Education for Economic Transformation (HEET) project for some public universities. The project is being funded by the World Bank in collaboration with the Ministry of Education, Science, and Technology, and the networks are assisting in its smooth execution.

Project Group

A project group is a type of collaborative procurement that is focused on a specific procurement project and is conducted for a limited time period (Schotanus & Telgen, 2007). This approach is also known as "collaborative convoy procurement." The project group involves consultations among members to ensure they have a common understanding of the project requirements and to agree on the supplier or contractor to be chosen (Schotanus & Telgen, 2007). During the project execution, the members should have regular meetings. Since the collaborative procurement group is only involved in a single project, its organizational structure should be simple. Once the project is completed, the group should be dissolved. However, if the project is successful and the members want to collaborate further on procurement needs, the project group can be extended (Aylesworth, 2003).

According to Cherrington *et al.* (2010), a project group is a form of collaborative procurement that aims to reduce transaction costs and is conducted as a one-time event. It involves short-term and very few contracts, and it is formal for a specific series of tasks, making it more applicable in construction projects. Mlinga and Wells (2002) reported a collaboration between formal and informal organizations in the construction industry in Tanzania, highlighting the potential for the application of project groups in the country. The force account method of procurement used for the construction of classrooms and offices in most government schools and local government authorities further facilitates the application of project groups in Tanzania (Mchopa, 2020). Therefore, the increasing interest in force account projects within the country can enhance the applicability of project group purchasing.

Moreover, the literature suggests that a project group can either consist of member representatives or be led by a single organization without forming a new temporary entity (Bakker *et al.*, 2008). In Tanzania, collaborative practices between public organizations are common in construction projects under the public procurement frameworks. For instance, the Tanzania Buildings Agency (TBA) is highly involved in construction projects and provides consultancy services for contractors working with public organizations, as well as repairs and maintenance services for public buildings (Zeni & Kikwasi, 2021). Project groups, as a form of collaborative procurement, provide a means for these organizations to collaborate on procurement contracts for specific projects. This type of collaboration can lead to reduced transaction costs, increased efficiency, and better project outcomes.

Benefits of Collaborative Procurement

Collaborative procurement has been shown to offer several benefits (Rezaei *et al.*, 2020). These include lower prices for goods and services, reduced transaction costs, decreased supply risks, and knowledge-sharing among members, which can enhance their experiences

(Schotanus & Telgen, 2007; Rezaei *et al.*, 2020). Furthermore, collaborative procurement has been found to improve efficiency and effectiveness (Schotanus & Telgen, 2007; Walker *et al.*, 2013), and organizations that choose to work independently would not benefit from increased cooperation and operating efficiency (Patrucco, Lynch, Harland, Telgen & Tatrai, 2018).

Collaborative procurement has been shown to enhance operational efficiencies, streamline procurement processes, and reduce administrative burdens on participating organizations (Walker *et al.*, 2013). It also promotes greater transparency and accountability, as all members involved in the collaboration are accountable to each other for their actions and decisions (Rezaei *et al.*, 2020). Additionally, collaborative procurement can lead to improved supplier diversity and increased access to new markets for small and medium-sized enterprises (SMEs) (Patrucco *et al.*, 2018). Furthermore, it can help to promote ethical and sustainable procurement practices by pooling resources and expertise to conduct due diligence and assess the social and environmental impact of the procurement process (Racca & Albano, 2011). Apart from these benefits, collaborative practices also enhance the following:

It Saves Money Using Collaborative Contracts

According to Patrucco *et al.* (2018), collaborative procurement in public organizations has the benefit of obtaining goods and services at minimum prices, as well as enjoying economies of scale through combining the requirements of multiple organizations and standardizing products and services. Small government procuring entities particularly benefit from collaborative contracts as they can leverage the market share of larger government consumers (Verma, 2013). Additionally, Goldsmith and Becker (2018) argue that collaborative procurement enables improved pricing through large-scale and negotiation power, which is particularly advantageous for smaller procuring entities who may struggle to negotiate favorable prices due to smaller purchase quantities. Collaborative contracts provide the opportunity for collaborated procuring entities to enjoy the benefits of economies of scale (Rezaei *et al.*, 2020) and attract more suppliers who compete in product prices and service offerings through quantity discounting techniques. For example, last year the Government Procurement Service Agency procured four motor vehicles for the Tanzania National Parks Authority (TANAPA), which is a vivid example of cost reduction through collaborative procurement in Tanzania. This finding supports the transaction cost theory, which suggests that organizations can reduce procurement costs through collaborative practices compared to individual purchases.

It saves time using collaborative contracts

Goldsmith and Becker (2018) observed that collaborative procurement has two key benefits in the procurement process: expediting the sourcing and contract award process and accelerating the receipt of goods and services from external sources. With collaborative procurement, procurement staff can spend less time negotiating and establishing contract terms during the tendering process, allowing team members to focus on other tasks. Moreover, collaborative procurement ensures rapid delivery of supplies, thereby improving the quality of life of society members who benefit from the procured goods and services (Patrucco *et al.*, 2018).

Full utilization of specialized knowledge, expertise or experience

Collaborative procurement in public organizations can have valuable outcomes in terms of exposing necessary skills and expertise among members from different procuring entities (Verma, 2013). In cases where a procuring entity needs to acquire specialized equipment but lacks the knowledge, experience, and expertise to conduct the procurement process, it can collaborate with another entity that has the required expertise. Collaborative work tends to enhance the knowledge and skills of participants by exposing them to a variety of contracts. Moreover, most collaborative activities offer some degree of experience, which helps build the capacity of procurement staff members (Goldsmith & Becker, 2018). Collaborative procurement facilitates the sharing of knowledge between collaborators, resulting in information economies that improve purchasing expertise (McCue & Pitzer, 2000).

Effectiveness in achieving quality products

Verma (2013) asserts that collaborative procurement promotes the development and attainment of high-quality supply chains. In this type of procurement, all team members are encouraged to express their opinions and contribute their skills. As a result, effectiveness through collaboration can be achieved by prioritizing the procurement of quality products or services (Bakker *et al.*, 2008). This is facilitated by the effective sharing of critical procurement information through professional networks, which aids in identifying high-quality suppliers. Moreover, professional networks allow for the dissemination and sharing of essential information, which assists purchasers in the sourcing process.

Challenges Facing Collaborative Procurement

Based on previous research, demand heterogeneity is identified as one of the major challenges hindering the smooth implementation of collaborative procurement. This is particularly true when preferences for supplier-dependent products increase demand heterogeneity (Montgomery & Schneller, 2007). In the healthcare sector, this scale of preference is often used as the primary justification for decentralized procurement (Racca & Albano, 2011). The research also suggests that the complexity of the procurement process (Tella & Virolainen, 2005), lack of flexibility and control in collaborative procurement practices, particularly for long-term contracts (Schotanus, 2005), and high coordination and administration costs (Johnson, Shafiq, Awaysheh & Leenders, 2014) can hinder the applicability of collaborative procurement practices. In addition to these challenges, there are other aspects that can affect the implementation of collaborative procurement practices, including:

Demand heterogeneity

The preferences of user departments can drive the demand heterogeneity for specific products from certain suppliers (Montgomery & Schneller, 2007). This makes demand heterogeneity a significant challenge in implementing collaborative procurement, especially in the healthcare sector, as noted by Racca and Albano (2011). This challenge is also relevant for African countries such as Tanzania, where user departments from various public procuring entities have different requirements for each fiscal year.

Lack of trust among group members

Lack of trust is a significant challenge that many collaborative procurement arrangements face. This challenge can affect collaboration and commitment and needs strong determination to overcome (Katusiime, 2010). The lack of trust often arises due to

institutional autonomy and competition among the group's members. To eliminate this challenge, members can get to know each other better by sharing information transparently about collaboration issues, according to Johnson (1999). Another solution to establishing trust and minimizing competition is to focus on the agreed-upon mission and goals of collaborative procurement, as suggested by Gray (1996).

Legal and regulatory constraints

The public sector's procurement activities heavily rely on regulatory and legal frameworks. In a study conducted by Meehan, Ludbrook and Mason (2016), unsuitable frameworks were identified as one of the challenges for regional collaborative procurement in UK public authorities. In Tanzania, procurement activities in the public sector are regulated by PPA No. 7 of 2011 and its regulations, with the Public Procurement Regulatory Authority (PPRA) responsible for regulating and monitoring public bodies or any organizations that receive government funds. This is because public procurement activities must ensure the best value for money for citizens and proper management of public funds. Furthermore, the PPA and its regulations govern procurement activities and dictate the conduct of procurement practitioners in the public sector.

Although procurement laws and regulations are relatively similar in developing countries like Uganda, Kenya, and Tanzania, some differences exist in government procurement codes (Odongo & Kazungu, 2023; Chagalima, Mchopa & Ismail, 2023). For instance, Schotanus (2005) reported that some governments require procuring entities to strictly comply with their procurement laws and regulations when engaging in cooperative contracts with governments. However, in most developing countries, there is a lack of clarity in the legal and regulatory frameworks governing public procurement activities, which hinders the smooth implementation of collaborative procurement practices. This lack of clarity further complicates the exercise of collaborative procurement practices in these countries.

Conclusion and Recommendations

Based on the literature review, four forms of collaborative procurement practices have been identified, including piggy-backing groups, third-party groups, professional networks, and project groups. When managed effectively, collaborative procurement has been shown to provide numerous benefits, such as reduced prices for procured items, minimized transaction costs, risk reduction, and knowledge sharing between members. However, collaborative procurement practices also encounter challenges, such as demand heterogeneity, increased procurement process complexity, high coordination costs, and lack of flexibility and control in collaborative procurement activities.

Based on the research findings, informal hard-and-soft collaborative public procurement, piggy-backing collaborative groups, and third-party collaborative procurement are the most commonly used forms of collaborative procurement in public organizations. To ensure successful collaborative procurement, the study recommends that collaborative members establish detailed guidelines for all collaborative procurement agreements, as is done in the United States and the European Union. Additionally, it is recommended that members harmonize or establish a common contract document that includes standard terms and conditions.

In conclusion, the study recommends adopting good practices for collaborative procurement by developing and implementing relevant guidelines and regulatory frameworks. Procurement practitioners are encouraged to utilize and recommend collaborative procurement practices when procuring goods, work, and services. The government has emphasized this approach through the Government Procurement Services Agency (GPSA) for the acquisition of motor vehicles and plants for government institutions and other public organizations.

Study Implications

Theoretical Contributions

Our study sheds light on various forms, benefits, and challenges associated with collaborative procurement practices in the public sector. While it is not novel to highlight that forms of collaborative procurement practices may include piggy-backing groups, third-party group purchasing, professional networking, and project groups (Cherrington *et al.* 2010; Terzi & Callejas, 2013; Bakker *et al.*, 2008), their application in the context of public procurement in Tanzania remains unclear. The benefits of collaborative procurement practices have also been identified in previous studies (Rezaei, Pourmohammadzia, Dimitropoulos, Tavasszy & Duinkerken, 2020; Patrucco *et al.*, 2018), as well as the challenges faced in collaborative procurement practices (Montgomery & Schneller, 2007; Racca & Albano, 2011). Our study contributes to the literature by summarizing the necessary forms, benefits, and challenges of collaborative procurement in the public sector.

This review contributes to the transaction cost theory and agency theory. The benefits identified in the review are primarily focused on reducing and minimizing the costs associated with purchasing in public organizations to an acceptable level. Collaborative practices in professional networks can reduce the costs associated with identifying potential suppliers while aggregating the requirements of multiple public buyers can reduce procurement transaction costs. Additionally, close relationships in collaborative procurement practices can eliminate switching costs. Buyer-supplier relationships are centred on the relationship between principal and agent, with parties collaborating to achieve the intended procurement objectives.

Furthermore, our research findings highlight the significance of the principal-agent theory in collaborative procurement practices. For example, in third-party group purchasing, such as the case of GPSA responsible for procuring bulky motor vehicles for public entities in Tanzania, GPSA is considered an agent performing buying activities on behalf of public entities. Professional networks also facilitate the dissemination and sharing of information, resulting in reduced costs associated with accessing information related to the procurement of goods and services, thus highlighting the principal-agent theory's role in collaborative procurement.

Managerial Contributions

Our study offers valuable insights for procurement managers and policymakers in the public sector. Procurement managers can benefit from the knowledge of the various collaborative procurement practices that can be implemented in their respective public procuring entities, as demonstrated in the literature. The benefits of implementing collaborative procurement practices include standardizing requirements, developing procurement expertise, achieving

price savings, and taking advantage of economies of scale (Patrucco *et al.*, 2018). Furthermore, top management in public procuring entities can enhance collaborative procurement practices by providing effective organizational support. Policymakers in public procurement management can also use our findings to formulate policies that support and manage the application of collaborative procurement practices in the public procurement context. Policymakers must consider potential challenges associated with collaborative procurement practices to ensure the smooth application of these practices in the public sector in Tanzania.

Suggestions for Future Research

Our review opens up an avenue for empirical studies, as the forms, benefits, and challenges of collaborative procurement practices discussed in our literature review originate from existing studies. Therefore, further studies are recommended to investigate the impact of collaborative procurement practices on the performance of procurement functions in the public sector. It would be beneficial to explore the relationships between the application of different forms of collaborative procurement practices and the performance of procurement functions in the public sector.

References

- Al-Fedaghi, S., & Al-Otaibi, M. (2018). Conceptual modelling of a procurement process: case study of RFP for public key infrastructure. *International Journal of Advanced Computer Science and Applications (IJACSA)*, 9(1), 1-10.
- Arnbjørn, J. S., & Freytag, P. V. (2012), "Public procurement vs. private purchasing: Is there any foundation for comparing and learning across the sectors? *International Journal of Public Sector Management*, 25(3), 203-220.
- Aylesworth, M.M. (2003). Purchasing consortia in the public sector: models and methods for success. *Proceedings of the 88th Annual International Supply Management Conference and Educational Exhibit held at Nashville, TN in May 2003*, ISM, available at: www.ism.ws/pubs/Proceedings/confproceedingsdetail.cfm?ItemNumber5593
- Azzopardi-Muscat, N., Schroder-Bäck, P., & Brand, H. (2017). The European Union Joint Procurement Agreement for cross-border health threats: what is the potential for this new mechanism of health system collaboration? *Health Economics, Policy and Law*, Vol. 12 (1), 43-59.
- Bakker, E., Walker, H., Schotanus, F., & Harland, C. (2008). Choosing an organisational form: the case of collaborative procurement initiatives. *International journal of procurement management*, 1(3), 297-317.
- Beruvides, M. G., Simonton, J. L., Waters, N. M., Palikhe, H., & Chaivichitmalakul, S. (2015). A case study of cooperative purchasing programs in transportation organisations. *World Review of Intermodal Transportation Research*, 5(3), 240-262.
- Bouwman, R., & Grimmelikhuijsen, S. (2016). Experimental public administration from 1992 to 2014: A systematic literature review and ways forward. *International Journal of Public Sector Management*, 29(2), 110-131.
- Bresnen, M., & Marshall, N. (2000). Building partnerships: case studies of client contractor collaboration in the UK construction industry. *Construction management and economics*, 18(7), 819-832.
- Changalima, I. A., & Mdee, A. E. (2023). Procurement skills and procurement performance in public organizations: The mediating role of procurement planning. *Cogent Business & Management*, 10(1), 2163562.

- Changalima, I. A., Ismail, I. J., & Mchopa, A. D. (2021). A review of the forms, rationale, and challenges of supplier development in public procurement: lessons for public buyers in Tanzania. *Future Business Journal*, 7(1), 1-10.
- Changalima, I. A., Mchopa, A. D., & Ismail, I. J. (2023). Supplier monitoring and procurement performance in the public sector in Tanzania: the moderating role of contract management difficulty. *IIM Ranchi Journal of Management Studies*, 2(1), 16-30.
- Chen, L., & Manley, K. (2014). Validation of an instrument to measure governance and performance on collaborative infrastructure projects. *Journal of Construction Engineering and Management*, 140(5), 04014006.
- Chen, L., Manley, K., Lewis, J., Helfer, F., & Widen, K. (2018). Procurement and governance choices for collaborative infrastructure projects. *Journal of construction engineering and management*, 144(8), 04018071.
- Cherrington, L., Edrington, S., Malki, M., Beruvides, M., Simonton, J., Waters, N., Chaivichitmalakul, S., Palikhe, H. & Walewski, J. (2010). Quantifying the Purchasing Power of Public Transportation in Texas. *Technical Report*, July, College Station, Texas Transportation Institute, The Texas A&M University System, Texas.
- Cocciasecca, S., Grossi, G. & Sancino, A. (2021). Public appointments as a tool for public governance: a systematic literature review. *International Journal of Public Sector Management*, 34(2), 171-188.
- Costin, G., Nakai Kidd, A., Simon, T., & Edwards, D. J. (2019). Collaborative procurement and private-sector housebuilding and refurbishment works: A pilot study investigation of the UK. *International Journal of Building Pathology and Adaptation*, 37(5), 699-717.
- Datnow, A. (2021). Commentary: professional learning networks: insights and future questions. *Journal of Professional Capital and Community*, 6(2), 200-204.
- Elhag, T., Eapen, S. & Ballal, T. (2020). Moderating claims and disputes through collaborative procurement. *Construction Innovation*, 20(1), 79-95.
- Emuze, F. & Julian Smallwood, J. (2014). Collaborative working in South African construction: contractors' perspectives. *Journal of Engineering, Design and Technology*, 12(3), 294-306.
- Eriksson, P. E., Volker, L., Kadefors, A., Lingegård, S., Larsson, J., & Rosander, L. (2019). Collaborative procurement strategies for infrastructure projects: A multiple-case study. *Proceedings of the Institution of Civil Engineers-Management, Procurement and Law*, 172(5), 197-205.
- Espín, J., Rovira, J., Calleja, A., Azzopardi-Muscat, N., Richardson, E., Palm, W., & Panteli, D. (2016). How can voluntary cross-border collaboration in public procurement improve access to health technologies in Europe. *Policy Brief No. 21*. World Health Organization. Copenhagen, Denmark.
- European Commission, (2008). *Green Public Procurement (GPP) Training Toolkit – Module 1: Managing GPP Implementation*. Toolkit developed for the European Commission by ICLEI – Local Governments for Sustainability. Brussels, European Commission, DG Environment.
- Forgues, D. & Koskela, L. (2009). The influence of a collaborative procurement approach using integrated design in construction on project team performance. *International Journal of Managing Projects in Business*, 2(3), 370-385.

- Gobbi, C. & Hsuan, J. (2015). Collaborative purchasing of complex technologies in healthcare: Implications for alignment strategies. *International Journal of Operations & Production Management*, 35(3), 430-455.
- Goldsmith, S. & Becker, S. (2018). Cooperative procurement: Today's contracting tool, tomorrow's contracting strategy. Ash Center Policy Briefs Series, *Harvard University*, Cambridge, 1-17.
- Gray, H. (1996). *Theories of association: The social psychology of working together in educational consortia*. In D. Bridges and C. Husbands (Eds.). *Consorting and Collaborating in the Education Market Place*. London: The Falmer Press.
- Jamil, A.H.A & Fathi, M.S (2018). Contractual challenges for BIM-based construction projects: a systematic review. *Built Environment Project and Asset Management*, 8(4), 372-385.
- Johnson, P. F. (1999). The pattern of evolution in public sector purchasing consortia. *International Journal of Logistics: Research and Applications*, 2(1), 57-73.
- Johnson, P. F., Shafiq, A., Awaysheh, A., & Leenders, M. (2014). Supply organizations in North America: A 24-year perspective on roles and responsibilities 1987–2011. *Journal of Purchasing and Supply Management*, 20(2), 130-141.
- Kazungu, I. (2020). Network Linkages and Performance of Exporting Micro and Small Enterprises in Dar es Salaam, Tanzania: Perspectives in the Handicraft Industry. *Global Business Review*, 1–18.
- Kazungu, I., & Kumburu, N. P. (2023). Agripreneurship as a panacea for food security in Tanzania: A systematic review. *Heliyon*, 9(2), 1-9.
- Kimemia, E. W. & Moronge, M. (2018). Determinants of Collaborative Procurement Practices Adoption in the Energy Sector in Kenya: A Case Study of Kenya Electricity Transmission Company Limited. *Strategic Journal of Business and Change Management*, 5(4), 298-315.
- Laryea, S. (2019). Procurement strategy and outcomes of a new universities project in South Africa. *Engineering, Construction and Architectural Management*, 26(9), pp. 2060-2083.
- Little, JW (1990). The persistence of privacy: Autonomy and initiative in teachers' professional relations. *Teachers' College Record*, 91(4), 509-531.
- Manley, K. & Chen, L. (2017). Collaborative learning to improve the governance and performance of infrastructure projects in the construction sector", *Journal of Management in Engineering*, 33(5), 1-14.
- Marino, V. & Lo Presti, L. (2019). Increasing convergence of civic engagement in management: a systematic literature review. *International Journal of Public Sector Management*, 32(3), 282-301.
- McCue, C. & Prier, E. (2008). Using agency theory to model cooperative public purchasing. *Journal of Public Procurement*, 8(1), 1-35.
- McCue, C. P., & Pitzer, J. T. (2000). Centralized vs. Decentralized Purchasing: Current Trends in Governmental Procurement Practices. *Journal of Public Budgeting, Accounting and Financial Management*, 12(3), 400-420.
- Mchopa, A. D. (2020). Applicability of Force Account Approach in Procurement of Works in Tanzania. *Journal of International Trade, Logistics and Law*, 6(2), 137-143.
- Meehan, J., Ludbrook, M. N., & Mason, C. J. (2016). Collaborative public procurement: Institutional explanations of legitimised resistance. *Journal of Purchasing and Supply Management*, 22(3), 160-170.
- Mlinga, R. S., & Wells, J. (2002). Collaboration between formal and informal enterprises in the construction sector in Tanzania. *Habitat International*, 26 (2), 269-280.

- Montgomery, K., & Schneller, E. S. (2007). Hospitals' strategies for orchestrating selection of physician preference items. *The Milbank Quarterly*, 85(2), 307-335.
- Murray, J.G., Rentell, P.G. & Geere, D. (2008). Procurement as a shared service in English local government. *International Journal of Public Sector Management*, 21(5), 540-55.
- Mushi, G.O., Mwiseje, S.S. & Changalima, I.A (2021). Impact of Buyer-Supplier Relationships on Organisational Performance: Experience from Grapes Processing Industries in Dodoma Region, Tanzania. *Journal of Co-operative and Business Studies*, 6(1), 77-187.
- Nyangweso, W. B. (2013). Collaborative public procurement and performance among state corporations in Kenya. *University of Nairobi*. Nairobi, Kenya.
- Odongo, K.O. & Kazungu, I. (2023). Predictors of strategic procurement performance metrics adoption in county governments: empirical evidence from Kakamega county government, Kenya, *LBS Journal of Management & Research*, (ahead-of-print).
- Patrucco, A., Lynch, J., Harland, C., Telgen, J., & Tatrai, T. (2018). *Report on Exploring Collaborative Public Procurement practices*. NIGP: the UK, pp. 33.
- Pazirandeh, A. & Herlin, H. (2014). Unfruitful cooperative purchasing: A case of humanitarian purchasing power. *Journal of Humanitarian Logistics and Supply Chain Management*, 4(1), 24-42.
- Racca, G. M., & Albano, G.L. (2011). *Collaborative Public Procurement and Supply Chain in the EU experience*, 1-30
- Reijonen, H., Saastamoinen, J., & Tammi, T. (2016). Does collaboration with public and private sector actors in public procurement of innovation improve SME competitiveness? *Paper presentation to the 19th Uddevalla Symposium on Geography, Open Innovation, Diversity and Entrepreneurship*, June 30 to July 2nd, 2016, London, United Kingdom, Birkbeck University of London.
- Rezaei, J., Pourmohammadia, N., Dimitropoulos, C., Tavasszy, L., & Duinkerken, M. (2020). Co-procurement: making the most of collaborative procurement", *International Journal of Production Research*, 58(15), 4529-4540.
- Rutkowski, C.J., Eboch, K., Carr, A. & Greer, B.M. (2022). Strategic procurement collaboration for the common good: private and public procurement relationship during a pandemic. *Journal of Public Procurement*, 22(1), 43-63.
- Sayed, Y., Hatamleh, M. T., & Alaya, A. (2023). Investigating the influence of procurement management in construction projects on the innovation level and the overall project performance in developing countries. *International Journal of Construction Management*, 23(3), 462-471.
- Schotanus, F. & Telgen, J. (2007). Developing a typology of organisational forms of cooperative purchasing. *Journal of Purchasing and Supply Management*, 13(1), 53-68.
- Schotanus, F. (2005). Cooperative purchasing within the United Nations. *Proceedings of IPSERA 2005 Conference, Archamps, 20-23 March*.
- Shakeel, F., Kruyen, P.M. & Van Thiel, S. (2020). Ethical leadership: A structured review into construct, measurement, public sector context and effects. *International Journal of Public Leadership*, 16(1), 88-108.
- Slater, L. (2004). Collaboration: a framework for school improvement. *International Electronic Journal for Leadership in Learning*, 8(5), 1-19.
- Tella, E., & Virolainen, V. M. (2005). Motives behind purchasing consortia," *International Journal of Production Economics*, 93/94, 161-168.

- Terzi, C., & Callejas, J. F. (2013). *Review of long-term agreements in procurement in the United Nations system*. Geneva: United Nations Joint Inspection Unit. Geneva, United Nations.
- United Republic of Tanzania (URT). (2011). *The Public Procurement Act*, Government Printers, Dar es salaam, Tanzania.
- Verma, J. (2013). Collaborative public procurement: a quick review of international best practices and the Indian position on pooled procurement from competition law perspectives. IICA School of Competition Law and Market Regulation. *Working Paper Series No. 01/2013*.
- Walker, H., Schotanus, F., Bakker, E., & Harland, C. (2013). Collaborative procurement: a relational view of buyer-buyer relationships. *Public Administration Review*, 73(4), 588-598.
- Williamson, O (1989). Transaction Cost Economics. In Shemlenese, R & Willig, R D (eds) *Handbook of Industrial Organisation*," Vol 1. *Elseviser Science Punlishers BV*, Amsterdam
- Yu, A. T. W., Yevu, S. K., & Nani, G. (2020). Towards an integration framework for promoting electronic procurement and sustainable procurement in the construction industry: A systematic literature review. *Journal of Cleaner Production*, 250, 119493.
- Zeni, K. S., & Kikwasi, G. J. (2021). Factors affecting maintenance cost of public buildings: case study of Tanzania Buildings Agency and National Housing Corporation. *International Journal of Building Pathology and Adaptation*, (ahead-of-print).