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Role ofMulti-Sourcing Strategiesin Public Procurement inGhana

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ABSTRACT: This study was to discover the benefits of multiple and single sourcing strategies for Takoradi Technical University. The studyassesses, critically, the benefits that the Institution derives from the use of multiple sourcing strategy, hence competitive bidding processes. It also examined the opportunities that it misses by ignoring the use of alternative sourcing approaches. The study adopted qualitative research methods which uses in-depth interviews to create a viable approach for this specific research.The method used for this study involved interactive interviews but at the same with systematic and rigorous process of in-depth face-to-face interviews with multiple respondents, observations of processes in practice and using documentation and archival records scrutiny. The study targeted key personnel from the Procurement, Finance, and Maintenance Departments of Takoradi Technical University.The finding confirmed the claims on the growing importance of the role that procurement is playing in the growth of organisations. The approach of integrating both multiple sourcing and single sourcing strategies was recommended. Under high-risk situations such as in turbulent market conditions and erratic industrial relations, the use of multiple sourcing is more beneficial.

I. INTRODUCTION

Organizations are operating in an environment characterized by countless economic and political disruptions to their sources of supplies and services. In order to survive in this turbulent marketplace, these organizations must continually monitor their competitive position as well as their internally controllable processes, especially the procurement process (Burt, Dobler & Starling 2003). Sourcing strategies for both materials and services have rapidly shifted in leading firms all over the world. With the driving force of outsourcing and the rapid adoption of web enablers, traditional approaches to sourcing have been literally up-ended. Competitive advantage is achieved by firms that combine their internal core competencies and abilities with those of their suppliers, customers and other external resources appropriately. Thanks to weaker international borders, supply chains currently span the globe and include many actors with different cultures, political problems and characteristics.

This complexity is a source of advantage and, at the same time, of great uncertainty and possess much risks for firms (Costantino& Pellegrino, 2010). The identification of the correct strategy for mitigating risks and coping with the uncertainty that affects the current economy is a key factor for the success of firms. This is particularly true in fields, such as procurement, that play a vital role in corporate operations. The possible costs of production disruptions (due to inbound supply problems) can be considerable, and, in some cases, may cause the corporate failure (Yu et al., 2009)Procurement sourcing strategies have over the years been important in improving the efficiency of operations of procurement and the competitive position of a organisations(Ho et al. 2011, Shapiro, 1985; Dowst, 1987). Chiang et al. 2011, on the other hand indicates that there is the belief that the level of single sourcing in outsourcing by firms is likely to increase in the near future. This is generally due, in part, to the increasing complexity of technologies and the huge investments required in the manufacturing of parts and components, Sen and Rubenstein (1989). Such an increase in outsourcing would therefore, make the proper evolution of supplier strategies even more critical. Again, the successful introduction of Just-In-Time systems in many U.S. firms has highlighted the role effective supplier strategies can play in any efficient supply chain system, Walleigh (1986). The importance of quality and flexibility in competitive strategies is also a contributing factor to this. As cited in an article by Larson and Kulshitsky (1998), vendors or suppliers account for up to 50 percent of non-conformance costs, and thus, vendor performance directly affects an organisation's success.

Strategic sourcing is probably the most significant aspect characterizing an organization's transformation to supply management. It is also this aspect of supply management which provides some of the most value-added benefits to the organization. Sourcing, one of the major steps in the procurement process, involves the identification and selection of the supplier whose costs, qualities, technologies, timeliness, dependability, and service best meet theorganization's needs (Reeds, Bowman & Knipper, 2005). Strategic sourcing involves taking a strategic approach to the selection of suppliers an approach that is more aligned with the organization's

competitive strategy. Strategic sourcing reflects the integration of procurement or sourcing strategy with corporate strategy (Cousins, et al. 2008)..
Multiple sourcing has been the preferred strategy of most Public Sector institutions towards suppliers. The reasons for this can be summarized as:

- the assumption that there will be the protection against disasters, strikes or vendor downtime
- price advantage due to vendor competition
- single vendor's inability to supply the required volume
- single vendor not possessing the technology or patents required to provide products and
- fear that another organisation with hostile competitive and strategic objectives may acquire a single supplier.

According to Mwilu (2013), the public sector comprises the national government, local government, government-owned and controlled agencies and corporations and monetary institutions. The public sector is under pressure from both internal and external sources to demonstrate improvements in their performance (Cousins, et al. 2008). According to Mamiro (2010), if a firm uses a procurement tool solely to keep pace with its competitors, and without regard to how it fits into its corporate strategy, the outcome may be less than optimal. Thus, a strategic or enterprise-wide perspective is imperative. Government Ministries, departments and agencies are thus taking an interest in supply chain performance measures and reporting for improving performance (Wamae, 2014). This must be supported by a proactive, efficient and effective procurement function in order to attain set performance levels in public entities such as those that are outlined in its founding statute, strategic plan and performance contracting document.

However, some writers like Gitlow and Gitlow (1987), points out a range of disadvantages associated with multiple sourcing from travel costs to equipment costs for likely vendors and contractor. Organisations, in both public and the private sector, have used several ways to minimize these disadvantages of multiple sourcing while still maintaining it as a strategy. One approach has been to reduce the number of suppliers to the extent of having a single source or a dual source per item. US firms have been encouraged by the examples of Japanese successes with strategies involving fewer suppliers (Reeds, Bowman & Knipper, 2005). A survey of purchasing managers conducted in 1985, indicated that one-third of the respondents expected to reduce the number of vendors they use. The growth of quality consciousness in many U.S. firms in the last few years may have contributed to this trend. Ensuring and improving supplier's quality require close relationship between the buyer and the supplier and commitment from the supplier, both of which are more easily achieved when there are fewer suppliers. The supplier's commitment of quality is also likely to increase when the volumes of purchases are relatively high and when agreements to supply are reasonably longer term (Treleven, 1987).

Procurement officers face other challenges when implementing prequalification procurement such as cost implication, lack of technical experts to evaluate, time constrain and evaluation standard setting. Agreeably Mamiro (2010) in his findings underscores these facts and concludes that one of the major setbacks in public procurement is poor procurement planning and management of the procurement process which include needs that are not well identified and estimated, unrealistic budgets and inadequacy of skills of procurement staff responsible for procurement. Similarly, Kiage(2013) argue that procurement performance is not usually measured in most organizations as compared with the human resource and finance functions. They conclude in their findings that failure to establish performance of the procurement function can lead to irregular and biased decisions that have costly consequences to any public procuring entity. This study therefore, was aimed at investigating the role of multiple sourcing strategy on public procurement in a public institutions. This is justified due to the fact that none of the previous literature on public procurement in Ghana has critically analyzed the role of strategic sourcing in procurement function and performance.

II. THEORETICAL FRAMEWORK

Stakeholder Theory : According to Sinclair (2010), the term stakeholder emerged in 1963 from the Stanford Research Institute, which argued that managers needed to understand the concerns of shareholders, employees, lenders and suppliers, in order to develop objectives that stakeholders could support. Stakeholder theory considers multiple stakeholders in decision making and focuses on value creation for these groups which have a stake in the firm (Parmar et al., 2010). Further, it argues that managerial actions have the potential to affect a broad range of people and that pursuit of corporate objectives can be easily disrupted by the actions of unexpected groups as indicated by real cases, such as the global financial crisis of 2007-2008 (Parmar et al., 2010). Stakeholder theory sees a business purpose in maximizing value for its stakeholders and focusing on value creation is a key to effective management in today's world of entangled relationships. Thus, a business

survival is dependent on the management of stakeholder relationships and a business job is to maximize value for its stakeholders (Thompsen et al., 2012).Value for stakeholders may have the form of economic extrinsic value (collaboration among employees), intangible extrinsic value (e.g. recognition, training, etc.), psychological intrinsic value (generated by the agent himself, e.g. satisfaction), intrinsic value (e.g. operational learning), transcendent value (e.g. acquisition of virtues), and value consisting of positive or negative externalities.

Theory of Core Competencies: Core competencies theory suggests that activities should be performed either in-house or by external suppliers. Activities, which are not core competencies, should be considered for outsourcing with best-in-world suppliers. However, some non-core activities may have to be retained in house if they are part of a defensive posture to protect competitive advantage. Based on the theory of core competency, issues of sourcing should hinge on the degree of criticality of a specific component or business activity to an organization. An extreme case would be for a company to strip itself down to the essentials necessary to deliver to customers the greatest possible value from its core skills and outsource as much of the rest as possible.

Strategic Sourcing : Strategic sourcing comprises concepts of strategic purchasing, supplier development, information sharing with suppliers and inter-functional integration of purchasing. Strategic sourcing is defined as a critical challenge of designing and managing supply networks in line with the organizations operational and performance objectives (Chiang et al. 2011). Decisions around strategic sourcing cannot only be based on operational level, such as cost, quality, and delivery. It has to incorporate a strategic level and capability evaluation of suppliers, such as highlighting quality management practices, long-term quality output, supplier´s strength, process capabilities, management practices, cost reduction at the same time as increasing profit, design and development capabilities (Talluri and Narasimhan, 2004; Giunipero et al. 2012). Because of the expanded competition, strategic sourcing needs to consider the total cost of ownership, company's growth and profit making and comparing different alternative partners (Faes & Matthyssens, 2009). Sourcing strategies helps with the procedure for companies to establish long-term relationships with their suppliers and achieve the considerations of strategic sourcing (Chiang et al. 2011). When conducting a plan for strategic sourcing there are some aspects to consider, such as technology, quality, availability, cost and fulfillment. Technology is a vital part for more effective communication with suppliers. The strategic sourcing plan is performed during or at the implementation phase (Van Weele et al., 2014).

Single or Multi-Sourcing: Single vs multi-sourcing implies if the company has one or several suppliers for the same product. Single sourcing is defined as an extreme form of source loyalty to a single source even if there are other possible sources. A positive advantage is that single sourcing has the possibility to cut costs through cost advantages and quality improvements which lead to enhanced global competitive position. Other positive advantages are the various supply base reduction efforts, total cost cutting strategies and reducing through time projects in purchasing (Faes & Matthyssens, 2009). Since the transaction costs are decreasing a greater effort can be made to develop relationships with the supplier generating greater competiveness against other supply chains (Van Weele, 2014).

A negative factor when using single sourcing is dependency on one source, given that it can lead to higher switching costs, potentially less competitive cost structures and is costly if changing suppliers. Using single sourcing means the emphasis is even higher on finding the perfect fit among the alternative supplies (Faes & Matthyssens, 2009). Another issue is if there is an increased demand that the single supplier cannot meet (Cousins et al. 2011). Single sourcing leads to best results in innovative technology circumstance and expertise-oriented situations (Faes & Matthyssens, 2009). Multiple sourcing is defined as when a buying company has several similar available suppliers for the component orders for the same item (Faes &Matthyssens, 2009). There are two main reasons for using multiple sourcing. It reduces dependency on individual suppliers and other advantages that companies gain by having competing suppliers such as risk reduction of becoming locked into one technical solutions, that later will be outdated or becoming dependent on one supplier (Gadde & Håkansson, 2001). Negative aspects are the loss of not developing a close relationship with suppliers and high transaction costs for the company (Van Weele, 2010). To gain advantages from both multiple and single sourcing companies can apply hybrid strategy by mixing the two. There is also a need to separate two other branches of hybrid sourcing; parallel sourcing and network sourcing (Faes & Matthyssens, 2009). Gadde and Håkansson, (2001) identified that the key with network sourcing is that companies can create an inter-company environment, so the collaboration can exploit the benefits to all supply sources, the customers, and ultimately the end-customer.

Role of Multiple Sourcing on public procurement: This sourcing practice is characterized by a buying firm with varied sources of supply for a particular product or service. The buying firm normally have a set of prequalified suppliers to choose from to make sure that the different suppliers both have the capacity and the capability to deliver according to contract and specifications (Brammer& Walker, 2011). The suppliers compete with each other based on price and other parameters like quality, delivery time, etc. Thus, the multiple sourcing strategy is often viewed as an adversarial approach to handling the suppliers, which also implies that the buying firm is independent of a single supplier because it can switch to another supplier relatively easily. Thawiwinyu & Laptaned (2009) executed a detailed study on the impacts of strategic sourcing on supply chain performance management. In their literature review, they asserted the following as the main elements of strategic sourcing: strategic elevation of the purchasing function, internal coordination between supplier and purchasing, long-term relationships with suppliers, and supplier involvement in planning and design. Their assessment assists in validating the fact that these elements or KSFs are constant and need to be massaged into the public sector institutional setting if the public sector expects to realize the utilization of strategic sourcing processes.

Procurement Performance : The concept of institutional performance is subject to varied meanings and interpretations. In addition, the concept has kept evolving over the years. In the 1950s, for example, organizational performance was defined as the extent to which organizations fulfilled their objectives (Brammer & Walker, 2011). This changed in the 1960s and 1970s, when it was seen as an organization's ability to exploit its environment by accessing scarce resources to its advantage (Cousins, et al., 2008). In the contemporary sense, strategy is the mediating force between the organization and its surroundings (Knight, 2010). Thus, strategic performance, as Hamel et al., (2010), argues involves the best strategy is geared towards radical change and creating a new vision of the future in which you are a leader rather than a follower of trends set by others.
Hayes, (2012) asserted that public sector procurement professionals are expected to focus more on strategic practices versus the traditional tactical approach in an effort to assist the government's tasking to do more with less. The public demands are difficult to meet if both academia and practitioners do not vigorously study and explore the barriers that may or may not be preventing the procurement professionals from meeting their tasking to institute strategic methods and practices

III. METHODOLOGY

The methods used for this research involved interactive interviews but at the same with systematic and rigorous process of in-depth face-to-face interviews with multiple respondents, observations of processes in practice and by the use of documentation and archival records scrutiny. The researcher adopted qualitative research methods which uses in-depth interviews to create a viable approach for this specific research. Yin (1994) advances the view that the use of interview protocol as tools in qualitative research helps in improving the reliabilities of the data. The study targeted key personnel from the Procurement, Finance, and Maintenance Departments of Takoradi Technical University. It also targeted some selected Suppliers, Services Providers and Contractors of Takoradi Technical University to investigate the processes of knowing about the requests, bidding, and fulfilling the orders, as well as the benefits and demerits associated with all the processes, financial and non-financial for the suppliers, service providers and contractors. The research further observed the procurement process to make independent assessments and evaluations of the processes and the associated benefits.

IV. ANALYSIS AND DISCUSSION

Procurement is a strategic function with the final responsibility for procurement decisions represented at the Top Management level. On average, procurement of parts, materials, services, contracts and purchasing related activities constitutes about 50 percent of the operations and maintenance (O&M) costs annually. The historical data of Takoradi Technical University was made available from 2009 – 20114.

Year	Budgeted O&M (GHS)	Annual Procurement (GHS)	Percentage %
2009	9,220,421,135.00	4,469,800,646.15	48.48
2010	13,241,143,992	6,620,571,996.00	50.00
2011	15,505,928,209.65	9,148,497,643.69	59.00
2012	19,007,428,814.95	8,553,342,966.73	45.00
2013	36,229,774,511.40	18,839,482,745.93	52.00

2014	18,478,538,883.38	11,561,322,267.96	62.57

The purchasing section co-ordinates all the activities of the procurement cycle. They streamline all requests for purchases from all the faculties or schools and supporting departments for planning purposes. Decisions are taken on funding and applicable procurement rules and method to use and a final timetable for the procurement process prepared. They also maintain a large database of potential and past bidders and prices of previous purchases, quotation, or request for proposals from suppliers. The purchasing section participates in all bid evaluations and selection of suppliers, co-ordinates deliveries and contract performance. They also ensure payment to vendors and close out of orders and contracts.The general procurement cycle for the Technical University starts with a request to purchasing from a user which is the various heads of department in various faculties or schools and also other supporting department like Maintenance, Development, Estate, Student Halls of Residence, Finance and the Administrative Departments. Quotations are requested from a minimum of six vendors and a minimum of three vendors and are informed of any other charges such as transportation, insurance, installation and taxes that needs to be included in the quotation. No competitive negotiations take place between any procurement entity, supplier and contractor prior to evaluation of quotations.

Potential vendors are then invited to bid. The submitted bids are evaluated and the order placed with best-evaluated bidder. The order will be progressed and delivery made for payment to be effected. However thresholds set out in the Act indicates that quotations can only be requested from suppliers for Goods up to the value of two hundred thousand Ghana Cedis, works up to the value of five hundred million Ghana Cedis and for technical Services up to the value of two hundred million Ghana cedis. Any procurement above the value stated as threshold is advertised in the local newspaper.The strategic methods of sourcing that is used has pre-dominantly been multiple sourcing; competitive tendering for standard high value procurement for goods, works and services. It is the preferred method under the Procurement Law. It involves the use of standard tender documents to draft tender documents inviting potential suppliers, contractors and consultants to tender for public procurement opportunities which are advertised and open to all tenderers who are interested. Reference was made to a policy documents they use which is the Public Procurement Law which provides a comprehensive coverage of all regulatory aspects critical to public procurement. The act applies to all procurement undertaken by public institutions except for financially independent parastatal organizations and for defense procurement, it makes deference to the international obligation of Ghana at the intergovernmental and international levels, the act does not cover contract performance or implementation phase, it takes into account certain differences between the procurement of goods, works, and selection of consultants, it also establishes several tender documents and award contract in accordance with pre-determined thresholds stated in the Law. The Law also indicates two types of tendering methods, National and International Competitive tendering. The national competitive tendering is applicable when the value of procurement is relatively low and the nature of procurement is unlikely to attract foreign competition.

The Law further indicates that it is suitable for goods, works and services whose values are within the stated thresholds. Good justification is required where the tendering system is restricted to domestic suppliers. International competitive tendering is also suitable for high value and complex procurement, where the nature of procurement is such that it's unlikely to attract competition locally and the value is above the threshold stated. Two-stage tendering is another competitive tendering method; this method is used where it is not feasible for the procurement entity to formulate detailed specification for goods or works that is to be bought. The main purpose is to invite tenderers at the initial stage to contribute detailed specification for the right specification to be prepared and issued to selected suppliers at the second stage. In the case of services, it is used to obtain proposal on various means to meet its procurement requirements. This method is also used where the procurement entity seeks to enter into contract for research, experiment and study. However, there are comparatively few exceptions allowed by the act under single sourcing, These are situations in which materials or contracts are available only and exclusively from Original Equipment Manufacturer (OEM), OEM Agents, or licensees, and where there is only single source for the supply of the materials concern- Sole Source Situation, the law again allows this method in situations where; it's for justifiably urgent needs, additional requirements for purposes of standardization and procurement that concerns national security.

The staff of the University who were interviewed attributed the following as the important role of multi-sourcing:

a. it provided different and many alternative sources of supplies for almost all the different requirements of the Technical University. The Supplier Database Software examined confirmed a build-up of 850 different suppliers, services providers and contractors through multiple sourcing activities over the years. By this practice the institution has enjoyed non-scarcities of it requirements for smooth running of the University.

This implies that any shortages of materials and spare parts from suppliers will adversely affect the smooth running of the University, hence the less use of single sourcing, but preference for multiple sourcing strategy for most of its requirements (80%) because of the use of procurement Law.

b. there has generally been lower cost of items purchased from competitive pricing. This has reduced the overall procurement transaction costs. A number of examples were provided from past records of biddings that lead to cost reduction ranging from 1% to 3% of the budgeted estimates of purchases.
c. competition breaks and weakens the power of suppliers and put the University in stronger positions during competitive tendering proceedings. The records indicated contractors had to modify their terms of trade to accommodate the terms of the University such as long payment credit terms to win the contract. The staff of the Finance and Account Department sited this as helping them to standardize its payment terms.
d. all the Deans, Heads of Department and departmental staff, interviewed believed that the competitive pressure brought to bear on the University's suppliers and contractors forcing them to increase their delivery and quality performance. This was attributed to the fact that suppliers and contractors who perform badly risk not winning any future business with the University.
e. competitive bidding was also sited to have enabled the Technical University to leverage its supplies by varying the amount of business going to each of the contracted suppliers. This was noted to have reduced possible outages from stock-out of materials from suppliers. Example was sited where A4 Copier Reams contract was split between Hill Of Zion Ghana Ltd and Getwood of South Africa. Stock-out of Getwood's product, in 2010 did not affect the University adversely because Hill Of Zion supplied the substitute quickly.
f. the staff from the Maintenance Department pointed out that competitive bidding has over the years exposed them to the expertise and technologies of different organizations that get to work with them. This has enhanced technology transfer between the respective technical staff resulting in acquisition of additional knowledge that would have otherwise not been possible.

Multiple Sourcing Strategy : From the records scrutinized most of the policy documents in the University indicated that the institution has established and continues to use free-market competition as the standard procurement operating procedure for all its requirements as indicated in the procurement Law. Single sourcing methods are only used on exceptional basis when there are justifiably, few viable alternatives. The reasons for the predominantly competitive multiple sourcing approach by the institution are the traditional objective of avoiding high dependence on individual suppliers and the associated benefits and Government policy on the use of the procurement Law. This is supported by Gadde and Hankansson (2001), with the added suggestion that it helps the organisation to deal with the negative consequences of over dependency on suppliers.

The assumption by the University here is that there is not a single supplier who can satisfy its total requirements; spare parts, consumables, raw materials and services and also to ensure fairness and transparency. Xia and Wu (2005), also agree with the University that the rational of multiple sourcing is to compensate for the high prices, possible shortages of materials or low quality of suppliers and minimize the risk of putting all the eggs in one basket. This not surprisingly, confirms the belief of Sen and Rubenstein, (1989); and Lehtinen, (2001), that multiple sourcing has been the preferred strategy of U.S firms towards suppliers. The multiple sourcing methods used by the University were noted to involve frequently soliciting quotations from suppliers if the value is above the stated thresholds and maximum of six and minimum of three if the value is not above the thresholds. This is done to stimulate competition among the suppliers for the requirements concerned. The University also uses long, vigorous and structured competitive tendering procedures. National Competitive tendering is one which is applicable when the value of procurement is very low and is unlikely to attract foreign competition. Also good justification is required when it is restricted to domestic suppliers. This compares favourably with the competitive method described by Render and Heizer (1997). Other methods used by the University include International competitive tendering in which the nature of procurement is such that itis unlikely to attract enough local competition and also applicable to high value and complex procurement. Two- stage tendering is used where it is not feasible for procurement entity to formulate detailed specification for goods or works. However, in the case of services it is used to obtain proposals or offers on various means to meet procurement requirements. This is done with the believe to ensure transparency, fairness and value for money spent. This according to Van Weele et al. (2014), is done to get competitive bids from a number of new suppliers which is not limited to well-known companies or suppliers.

V. CONCLUSION

This article uncovered the model of mixed strategy. It evaluated the approach of integrating both multiple sourcing and single sourcing strategies. Under high-risk situations such as in turbulent market conditions and

erratic industrial relations, the use of multiple sourcing will be more beneficial. Again, competitive sourcing can be used for relatively standard items that are easily available. However, short-term and long-term single sourcing contracts should be used for manufactured and unique products and in relatively stable market conditions. To improve leverage and increase delivery performances, dual sourcing with each contract treated as a single sourcing contract can be used. This will aid more in reducing ordering, inventory, logistics, administrative and delivery costs as well as achieve discounts, improve corporation and above all improve the collaboration between the institution, its suppliers and contractors.

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