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Research Article

Electronic Reverse Auctions: Spawning Procurement Innovation in the Context of Arab Culture

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Abstract

Government e-procurement initiatives have the potential to transform local institutions, but few studies have been published of strategies for implementing specific e-procurement tools, particularly involving procurement by a foreign government adapting to local culture in the Middle East/North Africa (MENA). This case describes procurement at a forward operating base (FOB) in Kuwait in support of operations in Iraq. The government procurers had to deal with a phenomenon unique to the MENA region: *wasta*. *Wasta* is a form of social capital that bestows power, influence, and connection to those who possess it, similar to *guanxi* in China. This study explores the value proposition and limitations of electronic reverse auctions (eRA) with the purpose of sharing best practices and lessons learned for government procurement in a MENA country. The public value framework provides valuable theoretical insights for the implementation of a new government e-procurement tool in a foreign country. In a culture dominated by *wasta*, the suppliers enjoyed the transparency and merit-based virtues of eRA's that transferred successfully into the new cultural milieu: potential to increase transparency, competition, efficiency, and taxpayer savings. The practices provided herein are designed specifically to help buyers overcome structural barriers including training, organizational inertia, and a lack of eRA policy and guidance while implementing a new e-procurement tool in a foreign country.

Keywords: e-procurement, reverse auctions, electronic transactions, procurement innovation

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Introduction

Government e-procurement initiatives have the potential to transform local institutions, but few studies have been published of strategies for implementing specific e-procurement tools. One procurement innovation receiving increased attention is the use of electronic reverse auctions (eRA). An eRA is, "an online, real-time dynamic auction between a buying organization and a group of… suppliers who compete against each other to win the business" (Beall, et al., 2003, p.7). An eRA essentially works "like eBay in reverse" (FedBid, 2009), with multiple suppliers bidding down the amount they will charge a buyer for providing a good or service. The business case for eRA's is compelling. Buyers typically save 5-40%, with an average of 20% (Cohn, 2000; Tully, 2000; Rung, 2015) on the cost of goods and services by allowing multiple bids per offeror, versus the typical one-shot (or limited exchanges) currently used in government procurement. A recent study found net savings of 13% on $1.4 billion across five years of US Department of Defense spending, with 77% of dollars spent going to small businesses (Wyld, 2012). Other benefits include reduction of award cycle-time by up to 40% (Beall *et al.,* 2003), increased bidding transparency, lower transaction costs, increased buyer's reach, more efficient negotiations (Schoenherr, 2008), increased buyer confidence in fair and reasonable prices (Hur, *et al.*, 2006), and higher price visibility (Kaufman & Carter, 2004). Most relevant to the events described in this case, eRA's provide an effective means to level the playing field for small businesses to compete against larger firms (Wyld, 2013).

In this case study, the value proposition and limitations of eRA's will be explored in the context of *wasta*, the Arabic social phenomenon, with the purpose of sharing best practices and lessons learned. *Wasta* is an embedded social networking phenomenon analogous to *guanxi* in Chinese culture, and like *guanxi*, its embedded nature forms an obstacle to foreign entities seeking to find and develop innovative sources of supply. In this case, eRA's were used by a foreign buyer to rapidly expand a competitive supplier base in a way that boosted perceptions of procedural fairness and incentive to innovate.

Despite the benefits, eRA adoption in the public sector considerably lags that of the for-profit sector. Lagging adoption is likely attributed to the lack of a profit motive, a lack of management leadership, and the perceived risk of a bid protest (Hawkins et al., 2010a). This case overcame all these obstacles, focusing on the innovative aspects of eRA adoption as a means of addressing national and organizational culture complexities, how one agency overcame multiple obstacles to generate impressive results, and the implications of that success for the overall progress of this technique in public sector procurement. This research contributes to the nascent literature assessing how to institutionalize a public e-procurement system in a developing country (Wahid and Sein, 2013), as well as to the body of research documenting the human factor in successful implementation of government e-procurement systems (Aman and Kasimin, 2011; Rana, et al., 2013), demonstrating how e-government has the potential to play an important role in developing country economic competitiveness (Omur, et al., 2009). The presented case also demonstrates the power of transparency and right-to-access government information as transformative in an emerging economy (Bertot, et al., 2012).

The remainder of this case is organized as follows. First, the background of national and organizational cultural complexities is presented, followed by a history of eRA evolution. Next, *public value* theory (Moore, 2000) is presented as a basis for strategizing innovating in government procurement. We extend public value theory with Rogers's (2010) work on diffusion of innovation; its focus on cultural resistance provides an

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important counterpoint to the strategic imperative of public value theory. Afterwards, the case scenario is described along with two implementation tools relevant to innovative public procurement managers: the eRA *appropriateness* construct for justifying eRA use and success, and a primer for integrating eRA's into a common situation: the multi-attribute sourcing process. Next, risks, challenges, issues, and obstacles are discussed, followed by a set of best practices and lessons learned. The case concludes with discussions about innovating in the international arena.

Background

Kuwait represents a progressive country for e-government implementation in the MENA region, currently ranking #7 among Asian countries for e-government (United Nations, 2012). Western Asia overall is above the world's average, and Kuwait is ranked #63 out of 190 countries. Kuwait's global ranking has dropped slightly from previous years; it ranked #50 in 2010, and #57 in 2008 (United Nations, 2010; United Nations, 2008). This is a reflection of the major improvement by other countries in the region.

This background provides the settings for the case and the evolution of eRA use. The context of the national and organizational cultures provides the backdrop for the innovation framework presented in the subsequent section. The evolution of eRA's describes the growth of eRA's prior to the events of the case, which was an important factor for convincing government leadership to allow its adoption as an innovative new procurement practice.

National vs. Organizational Culture

This case describes procurement at a forward operating base (FOB) in Kuwait in support of operations in Iraq. The government procurers had to deal with a phenomenon unique to the Arab-speaking world: wasta. Wasta is a form of social capital that bestows power, influence, and connection to those who possess it (El-Said & Harrigan, 2009). Analogous to guanxi in China or the legacy "old boy" network created by British boarding schools, wasta implies precedence of local social capital over organizational mission objectives. Like guanxi, wasta relies heavily on family connections. Wasta represents a social networking phenomenon with a long and important—yet seldom studied—history in the MENA region; this case study answers the call to document how Eastern cultures adapt Western business practices, as well as what Western managers can learn from Eastern traditions (Hutchings and Weir, 2006). This case presents the successful implementation of a new procurement practice (eRA's) that conflicts with accepted business traditions in both Western and Eastern managerial traditions.

The Arab-speaking world has grown in economic and political influence (Hutchings and Weir, 2006). The Arab World encompasses diversity comparable to Europe's, with a range of annual per capita income from Qatar ($137,200) to Yemen ($3,800), and a rich diversity of histories as ancient as Egypt's Cairo to the modern skyscrapers of Dubai, yet Western managers tend to view the Arab World as homogeneous. Despite the many differences across countries in the Arab World, wasta pervades the region (Cunningham and Sarayrah, 1993). Often jokingly called "vitamin W", it permeates all aspects of personal and business life in Arab countries, even though a survey in Jordan found 86% consider it a form of corruption that should be eliminated; nevertheless, 90% used wasta at least "sometimes" (Whitaker, 2009). In addition to being a long-standing social tradition, wasta persists in part because it can facilitate transactions from governments that are often inefficient and slow (Ma'ayeh, 2011).

Like guanxi, wasta has many positive social networking connotations concomitant with

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negative corruption implications. Also like guanxi, the subtle social interconnectedness bewilders outsiders, especially Westerners. Wasta values connections—especially family connections— and seniority over performance or qualifications (Al Suleimany, 2009). Transactions always occur embedded in the context of social formalities and exchange of favors over financial or other sorts of gains often valued by Westerners. Younger generations with more exposure to Western educational, political, and business ideals often criticize wasta harshly as corrupt (Ma'ayeh, 2011; Whitaker, 2009). The role and perception of wasta has changed drastically over time from a valued social transaction that tied together societies and mediated conflicts between groups to being often associated with securing government largesse and interceding to secure favors (Al Suleimany, 2009). Viewed as a whole, wasta embodies similar positives and negatives as other social networking phenomena across many cultures: guanxi in China, "old boy network" in the United Kingdom, blat in Russia, and Vetternwirtschaft in Germany. As in many countries, rapid cultural evolution has changed the perception and role of how social and business connections are managed.

From the procurer's perspective, primacy of social influence, power, and connections leads to excess transaction costs, stymies innovation, and often precludes opportunity. Most importantly, *wasta* deteriorates trust in the procurement system. Trust in a procurement system that offers fair opportunity rather than just reinforcing previously established marketing regimes is a requisite condition for foreign investment and economic development. This maxim extends beyond the MENA to other developing regions such as Central and Eastern Europe.

Government procurers attempting to overcome the detrimental effects of *wasta* face a difficulty commonly faced by a foreign agency operating in another country: cultural resistance. Even when the outcomes greatly benefit locals, foreign organizations often fail to take time to appreciate the power of local cultural paradigms. In one documented case, a foreign worker utterly failed at teaching a Peruvian village to boil its water to kill pathogens (Rogers, 2010). The aid worker was "innovation-oriented", relying on the presentation of scientific evidence about germs. With no basis for understanding germ theory, the poorest villagers instead focused on the motivations of the change agent, who as an outsider had earned no trust. As a result of her inability to communicate the value of boiling water in terms perceived as legitimate to the poorest villagers, they failed to adopt the change.

Innovation of long-accepted practices is most of all a social process, requiring adoption by the right players for the right reasons. The change agent would have been better served by being "client-oriented" and gaining the support and legitimacy of the village opinion leaders, whose influence mattered much more to the villagers.

Limited studies document the challenges of e-procurement implementation in governments, and extant research tends to focus on implementation and modernization issues rather than documenting how government e-procurement can be an active tool for engaging local cultural phenomena (c.f., Aman and Kasimin, 2011). One study of interest documented the power of engaging local "institutional entrepreneurs" in order to institutionalize a public e-procurement system in a developing country (Wahid and Sein, 2013). The study documented the case of a local champion or "change entrepreneur"—a city mayor—who championed the institutionalization of a new e-procurement system. The mayor initially focused on instilling the right values before achieving the goal of embedding the new e-procurement system in local practices. These findings parallel the cultural challenges in the Peruvian village, but from the perspective of institutional theory. We present a case that addresses the implementation of a specific tool from a more strategic perspective by

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using the public value framework (c.f., Moore, 2000).

These findings are mirrored in our study. Organizational culture can present as many complexities as national culture. The procurement manager acting as a change agent in this case study had to confront organizational resistance to changing established procurement practices. Five years after the initial invasion of Iraq, routines for purchasing had been established. Government purchasing policy is generally based on the assumption that leveraging market power will maximize value at lowest cost. As in the case of the Peruvian villagers, military acquisitions managers—particularly those located at a well-established FOB—tend to resist procedural change that is perceived as unproven, or even unnecessary, unless a broader social context supports an innovation. The mantra, "If it ain't broke, don't fix it," prevails, even when shown superior techniques from commercial industry. This is where strategic direction tends to break down, because arguments about the superior economic outcome (government savings) run into established norms. Similarly, logic was on the side of the public health workers in Peru, but it was no match for an entrenched belief system.

While eRA adoption in the for-profit sector is ubiquitous, government adoption remains underwhelming (Hawkins, 2012). Absent a profit motive, government agencies are less excited about the prospect of savings. At the same time, government agencies often prioritize procurement lead time over results (Hawkins, 2012); whereas, initial eRA adoption can add lead time as new processes are developed and the services of a third-party auctioneer are secured. Government agencies are also afraid of receiving bid protests (Gordon, 2013), hampering innovative practices and risk-taking in procurement. Furthermore, agencies are reluctant to fuel a flame of political resistance from the small business community that, generally, opposes eRA's usage; therefore, the absence of policy advocacy for eRA usage is not surprising. Agency managers rarely invite unwanted negative attention. For these reasons, adoption barriers for eRA's in government are understandably steep.

But winds of change were in the air. At the time of the case, less than a year had passed since publication of a Congressional Budget Office report that projected a conservative and incomplete cost of $1.2 to $1.7 trillion for the Iraqi War through 2017 (Orszag, 2007). Press allegations of corruption and poor fiscal oversight by military procurement managers dating back as far as 2004 motivated a renewed call to control costs and innovate spending procedures.

eRA Evolution

Reverse auctions emerged as a procurement technique prior to the dot-com hype of e-commerce. In traditional auctions, the seller initiates the auction, and bids increase the price for an item for sale so that the seller gets the most revenue. In reverse auctions, buyers initiate the auction, and various suppliers drive prices down so that the buyer gets the "best deal" (Fig. 1). The idea of an auction is to create a situation where buyers and sellers can share perfect information about the product, the buyer's needs, and the seller's pricing (Smeltzer and Carr, 2002). Reverse auctions rely on the availability of several suppliers to compete, and "dynamic" pricing resulting from real-time information sharing about the current lowest bid during the auction. Ideally, competition and open information balance supply and demand at a lower price in line with the seller's profit margin rather than information asymmetry between the seller and buyer.

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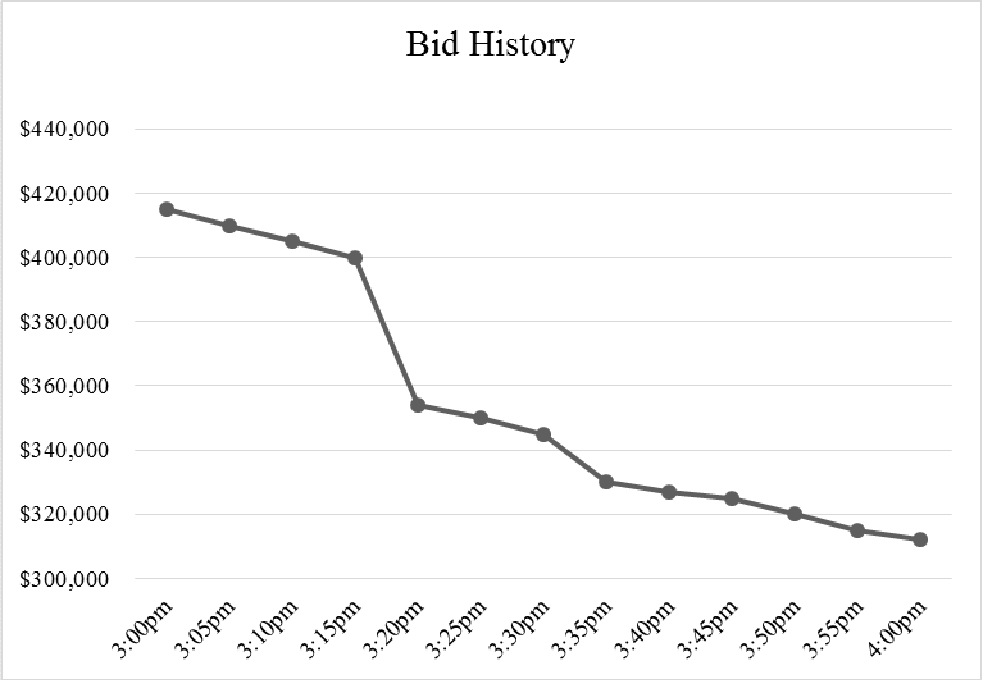

Figure 1: Sample Reverse Auction Bid History

Previously, organizational buyers conducted reverse auction with suppliers in hotel meeting rooms, using flipcharts to record bids (Simchi-Levi, *et al.*, 2003). Reverse auction pioneer FreeMarkets Online was created when Kinney and Meakem left GE to start to take the sourcing process online, outsource some of the buyers' procurement processes, and expand the scale of adoption. Applying the principle of minimum transactions, this newly invented channel for industrial buyers purported to disintermediate the supplier's sales representative (and their associated 4-7% commission). FreeMarkets' revenue model initially consisted of a per-bid-event fee to the buyer and a commission percentage of savings paid by the winning supplier.

Today, there are approximately 50 auctioneer suppliers of eRA auctioning services worldwide. In 2004, FreeMarkets was bought by an e-procurement leader, Ariba, who was bought by SAP in 2012. Revenue models also evolved into three fee structures: 1. The winning supplier paid a commission (% of buyer's savings); 2. The buyer paid an annual fee for support of a predetermined number of bidding events; or, 3. Do-it-yourself buyers pay a license fee to use the bidding software themselves.

The results of the eRA evolution and innovation have been astounding. In 1998, they reported average transaction savings of 15% (Simchi-Levi *et al.*, 2003). Our own recent research of 146 eRA's across a wide variety of industries, commodities and services, and volumes showed an average 20% savings (Hawkins, et al., 2010b). These savings are derived from a buyer's access to more suppliers, access to global suppliers, consolidated spending reaping economies of scale, lower supplier margins, substantially increased competition, and the buyer's access to more information.

The eRA provides a tool in the hands of the experienced purchasing manager that requires judicious application. As with any procurement tool, it can cause harm if

misapplied. Later in this case we present the eRA Appropriateness Model (Fig. 2) that procurement managers can use to evaluate the suitability of eRA for a specific purchase decision.

Theoretical Foundation

Developing a judicious approach to implementing an innovative procurement practice in a sensitive international setting benefits from a new framework and the development of a new theoretical construct. First *public value* theory is described as an important framework that relates for-profit to non-profit/governmental strategy making. This framework describes how public managers can successfully transfer private sector innovations to the public sector. Afterwards, consideration is given to theoretical underpinnings for determining *eRA appropriateness* as a useful construct to augment public value theory.

Government Management for Value

Managing for value, or the public value framework, has developed over the course of several decades starting in the early 1980s at Harvard's John F. Kennedy School of Governance. Mark Moore (2000) provides a comprehensive overview of the public value perspective of public management strategy. For-profit and government organizations both rely on three key dimensions of strategy: social value, financial performance, and organizational survival. For-profit organizations enjoy perfect alignment between these three dimensions. With financial performance defined by profitability, a company that provides a good or service at a profit has fulfilled its obligation for social value and assured organizational survival.

Public organizations do have an alignment between financial performance and organizational survival since no organization outlives its fiscal constraints. On the other hand, public organizations differ in their source of revenue and how they measure value. Non-profit and government organizations have their social value defined by outside stakeholders. In the case of the government, a collective political process establishes a mission, which receives funding from mandatory taxes levied on the populace. Unlike a for-profit mission, which is free to change in order to follow profits, government missions demand concrete and specific goals with regard to the business in which they can engage. This can lead to the problem of "mission stickiness," meaning that the organization remains committed to the mission even after the task environment changes. On the other hand, elected representatives constantly monitor for "mission creep" so that public managers remain focused on the mission for which their funds were appropriated.

To balance these forces, the *strategic triangle* describes strategy in the public sector. The three points of the triangle are *value*, *operational capacity*, and *legitimacy and support* (Moore, 1995). Managers strategizing how to implement an innovation must first assess the *value* relative to the organization's mission. Public managers must reconcile the reason for the organization's existence with the proposed innovation's claim to make the world better. *Operational capacity* refers to sufficient capability and knowledge to make the innovation doable. *Legitimacy and support* looks at the source of support for pursuing the value embodied by the innovation. The innovative manager cannot justify his innovation based on his own perceptions, but must convince the *authorizing environment*. In the government, the authorizing environment includes organizational managers and executives, in addition to citizens, elected representatives, interest groups, the media, and other stakeholders in the extended socio-political environment.

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The implication of the strategic triangle is that public managers must focus as much on political as organizational management. By watching for events occurring in the political arena, a public manager may find the opportunity to justify an innovative new practice. The strategic triangle also implies that public managers must question and justify the effectiveness of innovations for achieving the organizational mission. By focusing on the issue of public value, the prospective public innovator can justify changes to established practice.

eRA Appropriateness

Complementing the strategic triangle, the eRA appropriateness construct identifies contextual circumstances where eRA use is more likely to lead to success of the auction (Hawkins, et al., 2009). Use of eRA appropriateness functions as a mechanism to demonstrate operational capacity in a way that justifies value; as a result, it also proves a useful tool for garnering legitimacy and support. In keeping with public value theory, the three points of the triangle are self-reinforcing and interdependent. We define eRA appropriateness as the degree to which a sourcing professional views the use of an eRA as a fit between the attributes of the tool, the specific requirement being sourced, and the supply market. Determinants of eRA appropriateness include (Fig. 2): specifiability, competition, leadership influence, a price-based selection criterion (Hawkins et al., 2009), type of spend, expected savings, and attractiveness (purchase volume and excess capacity) (Hawkins, et al., 2010b).

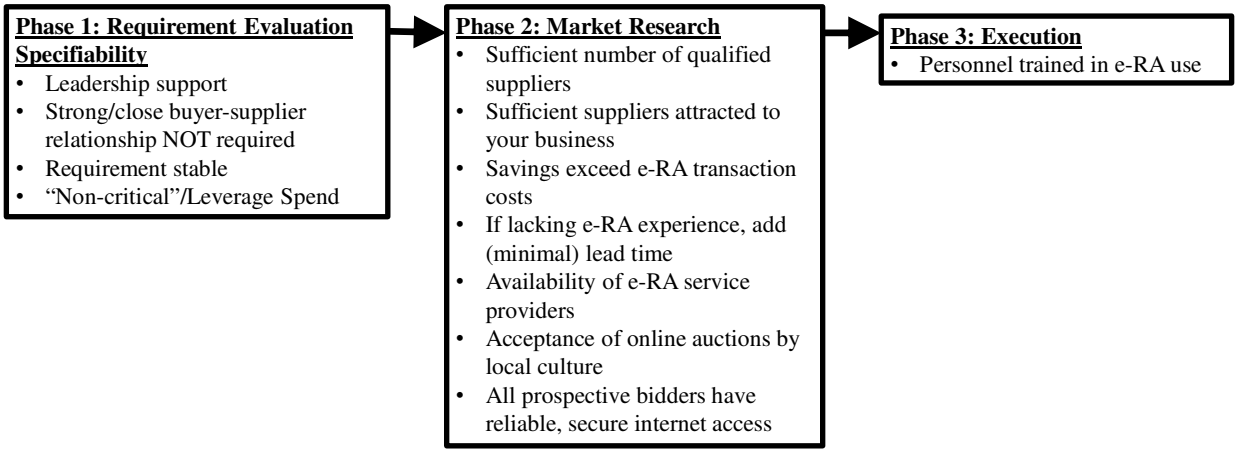

Figure 2: eRA Appropriateness Model

Price is an important factor for eRA appropriateness, but buyers can also evaluate non-price factors (e.g., delivery lead time, quality, warranty) using a multi-attribute auction, as described later in this paper (Hawkins *et al.*, 2009). The eRA ability

to evaluate both price-only and multi-attribute evaluations allows their use for three out of four types of spend: *non-critical* (low criticality, low supply complexity), *leverage* (high criticality, low supply complexity), and *bottleneck* (low criticality, high supply complexity) (Beall *et al.*, 2003; Kraljic, 1983). Generally, eRA's are inappropriate for *strategic* spend where the high criticality and high supply complexity make partnerships and alliances more appropriate (Beall *et al.*, 2003).

Another reason for public manager interest in eRA appropriateness is confusion over when eRA use is appropriate and how the improper use of eRA's may impact the buyer-seller relationship. The concern is whether short-term savings outweigh potential long-term consequences. Some view eRA's as technology-assisted "power-based bargaining" techniques that create distrust and invite retaliatory pricing, or fail to account for the total ownership cost (Emiliani, 2004). Others fear long-term buyer-supplier relationship erosion (Jap, 2003, 2007; Jap & Haruvy, 2008) because some suppliers feel buyers use the tool opportunistically (Jap, 2003) to squeeze supplier profit margins and overhead to a breaking point (Wagner and Schwab, 2004).

Very little empirical research has found evidence of a causal link to relationship (Jap, 2007) or performance degradation (Schoenherr and Mabert, 2007). In this case study, two no-cost modifications were negotiated, the contractor completed the work on time, and the government buyer was satisfied with the work. Nonetheless, it may be prudent for buyers to avoid using eRA's where many post-award changes are anticipated since suppliers may capitalize on an opportunity to increase their profit margin.

Methodology

Case study research is particularly useful when researchers need to provide insight and depth to a unique phenomenon (Ellram, 1996), such as *wasta*. We interviewed a broad range of participants including: the buyer, the prime offerors, one subcontractor, one firm that declined to participate in the eRA, the internal customer, the eRA service provider, and a U.S. government procurement official. The interview protocol was based upon archival review of contractual documents, the literature, and discussions with academic experts.

Initial interviews with Kuwaiti eRA participants were held at their business locations by researchers familiar with the culture of both the buyer and suppliers. The researchers were able to observe non-verbal cues and to probe deeper into answers requiring more detail. Interviews lasting 45 to 120 minutes were conducted in English; a total of 13 interviews were conducted, in keeping with reaching the theoretical saturation point of 10 to 30 interviews in qualitative research (Marshall, et al., 2013; Yin, 2009). The purpose of qualitative interviews is to achieve deep knowledge of a specific phenomenon rather than generalizability. Each interview was recorded then transcribed. Transcripts were sent to informants for an accuracy check, thereby enhancing construct validity (Flint *et al.*, 2002; Yin, 2009).

Analysis additionally included a review of archival data (Yin, 2009), including 58 e-mails, 17 contractual documents, and several procurement policy letters. In addition to the interviews with Kuwaiti eRA participants, key informant insights occasioned from access to the military procurement unit commander as participant-observer. The unit commander actively directed the entire eRA process from initial determination to implementation of the eRA. He provided rare insights into the strategy development, motivation, and closed-door negotiations. His insights were combined with the other researchers' insights in order to construct a comprehensive view of the eRA decision and

implementation process from multiple internal and external observer perspectives across multiple stakeholders.

Applying the Public Value Framework to Procurement Innovation

A U.S. military procurement unit in Kuwait identified the need for 29 standby power generators at forward-operating locations. The decision to use an eRA came from the unit commander after he reviewed the requirement, initial market research, and numerous discussions with the base civil engineer. The strategic triangle for public value describes the success factors for the commander to implement the new purchasing method. The active political debate and public outcry over Iraqi war expenditures provided a backdrop of implicit *legitimacy and support* for an innovative procurement method that saved money while meeting mission objectives; the timing was right to introduce the innovative procurement practice, if the commander could address the other two legs of the triangle: *operational capacity* and *value*.

The *operational capacity* to implement the strategy reliant on eRA's derived from the unit commander's experience and knowledge of procurement in the DoD setting. The commander based the justification of the *value* of eRA's to the unit mission based upon the three criteria for *eRA appropriateness*. First, the government pre-bid estimate (over $3M) made the tender *attractive* to suppliers. A sufficient number of attracted suppliers ensured adequate competition—a necessity for a successful eRA. Second, only five brands were determined to meet the government's requirements, which made the requirement highly *specifiable*. Consequently, *eRA appropriateness* bolstered both *value* assertions and calls for *legitimacy and support* for eRA use.

In February 2008, the procurement unit commander sent a notification of the impending event to 13 potential suppliers, along with a description of the eRA process as a condition of participation. Ten vendors responded with an interest to participate; nine ultimately submitted initial proposals to the government. Once the requirement was deemed appropriate for sourcing via eRA, the commander engaged Sorcity, a third-party eRA provider, to facilitate the eRA for a flat fee of approximately 3% of the pre-bid estimate, paid by the successful offeror after contract award. Sorcity provided the web-based auctioning software application, auctioning expertise, and commodity and market expertise to facilitate an optimal eRA event.

Proposals first had to meet "acceptable" technical standards in order to compete in the eRA based on: 1) technical approach, 2) management/technical support, 3) contractor's quality control, 4) project schedule, and 5) past performance. After final proposal evaluations, the award would go to the lowest-priced, technically-acceptable offer as determined by the total price, defined as the overall price that the government ascertained as reasonable and complete.

Timeline of eRA Execution

In March 2008, the contracting officer determined five offerors to be technically acceptable and, therefore, eligible to participate in the eRA. On March 17, 2008, the U.S. military procurement unit conducted the eRA. Over the course of 278 bids, five vendors competed for nearly four hours before reaching the final price of $1,588,000. On March 18, the offeror submitting the lowest-priced, technically-acceptable offer received the award in accordance with the Federal Acquisition Regulation and the stated evaluation criteria in the request for quotations. Unsuccessful offerors received notifications and all participants attended debriefings. Savings totaled $395,000—a 19.9% savings from the lowest proposed price received prior to the start of the auction. Consistent with the *strategic triangle*, procurement personnel were praised by the media (McCree, 2008) and their leadership for their innovative

approach that led to increased transparency and merit-based award selection. Transparency turned out to be perhaps the most appreciated consequence of eRA implementation among the supplier community. In a culture dominated by *wasta*, the suppliers enjoyed the clear-cut, merit-based virtues of eRA's. Rather than competing on intangibles and factors not directly relevant to the buy situation, suppliers enjoyed a rare opportunity to demonstrate acumen focused on the buy task. We discuss the importance of transparency to combat the downsides of *wasta* in further detail later.

On April 5, 2008, the contractor, engineers, and contracting officer held a pre-construction meeting and a site visit to discuss the timeline and logistics of the installation. On April 22, 2008, the government accepted the first delivery, accepting all but one generator that had minor damage to an exterior panel. On May 18, 2008, the contracting officer held a meeting to discuss progress. The meeting identified several problems including government delays surrounding the contractor's access to the installation, numerous changes to generator locations, and additional trenching and cabling that were needed. The negotiated changes led to a no-cost modification that extended the completion date from July 18, 2008 to August 20, 2008.

On May 29, 2008, the last generator was delivered and accepted by the government. Due to a number of generator location changes and site coordination issues, the government issued a second modification on August 20, 2008 that extended the period of performance to November 6, 2008. This modification de-scoped some concrete pads, switches and a fuel tank. It also added additional switches, cables, trenching, and weatherproof enclosures. These changes were signed as a bi-lateral, no-cost modification.

On November 17, 2008, the contractor officially completed the project, signing a release of claims for 447,180.80 Kuwaiti dinars, the exact amount of the original eRA award price. Interviews with the contracting officer and civil engineer indicated that the contractor's performance was satisfactory. In this instance, an eRA was an appropriate sourcing tool.

Discussion

Risks, Issues, and Obstacles

Critics of eRA's suggest that findings supporting per-unit-price reductions fail to take into account all of the costs that are incurred across the supply chain (Chen, Roundy, Zhang & Janakiraman, 2005) and, therefore, contend that the savings are overstated (Emiliani and Stec, 2002a, 2002b, 2005; Emiliani and Stec, 2004). This risk can be mitigated by evaluating total costs of ownership in concert with eRA bid prices. Critics also contend that reverse auctions represent a fundamentally coercive use of buyer market power that undermines long-term business success (Giampietro and Emiliani, 2007). This issue can be mitigated by applying the appropriateness criteria, that is, by using the eRA for *non-critical* and *leverage* types of spending where close supplier relationships are not as critical.

This case demonstrated the insights of public value theory's strategic triangle, specifically with regard to the importance of several factors in overcoming: (1) organizational resistance due to the risk of a bid protest that would slow delivery, (2) supply base resistance due to the obvious impact to revenues and profits, and (3) resource constraints. Organizational resistance was overcome with *organizational capacity* embodied in a procurement expert who knew the latest trends and technology in procurement. Operational capacity was abetted by *legitimacy and support* reinforced by a political environment characterized by a renewed drive to optimize efficiency and an

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underlying disdain with inefficiency and waste in the public sector, resembling an idealized prioritization of the ultimate stakeholder's interest (i.e., the taxpayer). The innovator used the construct of *eRA appropriateness* as a mechanism to demonstrate value to augment the legitimacy and support for his innovation from a coalition by influencing key stakeholders such as the organization that "owned" the budget, the executive leading engineering and procurement, and the accounting and finance department. The budget "owner" and the accounting and finance members of the team were won over by the *value* exhibited by the business case: the significant savings potential. The executive was won over by the risk reduction techniques. The buyer conducted extensive research on protestable infractions using eRA's. The buyer was also careful to utilize streamlined procurement procedures that involved less stringent procedures, that is, less opportunity to commit a protestable infraction.

After securing internal support, the innovator had to persuade the supply base—a group that is quite vocal in their opposition to reverse auctions. The innovator accomplished this by aggregating demand (i.e., the number of generators) across multiple military installations thereby increasing the value of the business such that prospective suppliers were more attracted by the potential amount of revenue and profit rather than the profit margin (that is typically squeezed during an eRA). The innovator also recognized that a key attribute of the eRA—price transparency—was highly desired by a supply base that often operated in a business climate of *wasta*.

Finally, with no funding, the innovator had to secure the services of a third-party reverse auctioneer. To do so, the innovator applied a critical tenet of strategic purchasing: collecting market intelligence, in accordance with market orientation theory (Kohli and Jaworski, 1990). This theory depicts how performance results from how firms collect information regarding customer needs, disseminate the information within the firm, and use the information to adapt products and services to customer needs. Market intelligence revealed an eRA auctioneer that employed an uncommon business model where only the winning supplier pays the eRA auctioneer's fee.

Best Practices & Lessons Learned

Government supply executives must recognize the value of individual and organizational learning with respect to eRA's. Since knowledge management can yield additional savings, supply leaders should institute structure to capture, understand, disseminate, and store eRA knowledge. Often, this is achieved by creating an eRA center of excellence and by hiring a dedicated e-sourcing manager who can develop mastery of auctioneer software, work with the auctioneer, evaluate auctioneer performance, assist commodity teams with eRA project management, report consolidated eRA results to executive leaders, assist in optimal eRA configuration, execute the eRA, and conduct buyer team and supplier team training. In contrast, an informal reliance on individual employees provides knowledge resident only in the memories of its agents, but memories are fallible and employees can shift jobs.

It is important not to lose sight of the ultimate goal of sourcing: to secure a high-performing, capable, acceptable-risk, reliable supplier who can perform at a reasonable total cost. An eRA can elicit a focus on price; buyers should resist this urge. After all, the eRA is but one tool that enhances certain dynamics of a procurement. In this vein, another lesson learned is the importance of conducting scrupulous market research. Since eRA success is largely measured by savings from prior-period spending, and since success hinges on the amount of competition, buyers must find the best-of-class suppliers and attract many of them to compete. Buyers must also be able to clearly articulate all performance requirements so that suppliers' offers can be compared and to

prevent post-award changes where suppliers may be motivated to "get well" when in a sole source situation (i.e., the contract holder).

eRA's in the International Setting

Examining a successful eRA event in Kuwait, this research explains how the integrity of the eRA, coupled with trust in the buying organization's use of the eRA, countered a unique phenomenon to the region: wasta. Before using the eRA's, US government claims of transparent and fair procurement methods suffered the distorting effects of wasta in the local markets, leading many Kuwaiti suppliers to lose faith in the purchasing process as being no different from their prior situation based on wasta. Kuwaiti offerors perceived eRA's to be advantageous enough to overcome their cultural predilection to avoid the uncertainty of a new procurement method, and to overcome the potential threat to profits.

Based upon our experiences in Kuwait, an eRA can be an appropriate sourcing tool in the MENA region since suppliers were highly satisfied by the eRA's inherent transparency and procedural fairness (Hawkins, et al., 2014). Procedural fairness afforded suppliers the ability to compete on the merits of their quality and price (i.e., efficiency) rather than on social influence, power, and connections (i.e., wasta). These findings reinforce past findings regarding the important role of a transparent e-procurement process to combat corruption and improve cost effectiveness in international e-government procurement (Rotchanakitumnuai, 2013).

In the context of wasta, the value of transparency and fairness can be an important cultural factor that attracted suppliers to participate in the eRA, and the experience left them satisfied ex-post – including firms that did not win the tender. Wasta ultimately contributed to the poor press perception of US government spending controls in the aftermath of the invasion of Iraq as government procurers initially reinforced previously established marketing regimes; eRA's provided government managers with a demonstrable means of establishing merit-based fairness and transparency. This finding, coupled with slow eRA adoption in the government, raises the possibility that the value of transparency and fairness is an important cultural factor buttressing the economic rationale for eRA adoption.

That eRA's enhance transparency is nothing new (Beall et al., 2003). However, ERA's have received criticisms as being unethical (Charki and Kosserand, 2008; Emiliani and Stec, 2002a) due to a vacuum of fairness. Only by establishing trust in the buyer, trust in the buying process, and trust in the eRA service provider can the eRA be a sustainable procurement strategy in the region. We found that in the MENA culture, eRA's can actually build trust. While some research of eRA use shows that suppliers' suspicion of buyer opportunism could cast doubt on trust, and therefore could harm a buyer-supplier relationship (Jap, 2003), the severely negative effects of wasta were so loathed that suppliers craved an effective defense, to the point that even when they lost a tender they were satisfied. Furthermore, even when they win at unusually low margins, they are satisfied. This is in stark contrast to mature markets where suppliers are commonly bitter toward eRA use due to the perceptions of buyer opportunism and reduced margins in a perceived zero-sum bargain (Emiliani and Stec, 2005).

Finally, eRA's can be an effective sourcing tool in the MENA region, and buyers have much to gain by its use. Assuming one third of the $770 billion of merchandise trade (World Bank, 2008) is B2B commerce, and that 25 percent of total spending is appropriate for eRA's (Hawkins et al., 2010b), a 20 percent savings would yield $38.5 billion. A drastic reduction in the costs of goods sold would render MENA buyers more competitive in a global market.

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Opportunity

The value of eRA's to bolster transparency and fairness may not be unique to a wasta culture. Although U.S. public policy prescribes processes designed to instill transparency and fairness, prospective suppliers quite often suspect nefarious behavior among government acquisition teams. Countless examples of favoritism and shirking rules to steer contract awards to "preferred" sources (Perlman, 2007) give "out-suppliers" reason for pause. For some acquisitions, this perceived inside advantage dissuades firms from competing (Curry, 2010). In such cases, an eRA may shed light on the relative positions of competing offers (either price point or relative price rank).

For acquisitions utilizing the full multi-attribute capability of eRA's, the eRA can offer transparency into the evaluation of not only price but also non-price evaluation factors. Generally, multi-attribute bidding assigns weights to certain factors, such as price, delivery, and quality. These factors can be dynamically bid in real time where a composite score indicates the best value. For example, public agencies contracting for fleet vehicle spare parts could allow offerors to bid varying prices for faster delivery times and a longer warranty period. The supplier would determine performance levels (delivery time and warranty period) and bid commensurately. The buyer would determine the relative weights of the evaluation factors and, with the help of the auctioneer's software, determine the computation of the composite best-value score. The offerors' scores and price points could be revealed during the eRA bidding event yielding full transparency.

Conclusions

This case provides a framework for creating and implementing a strategy for procurement innovation based upon the *public value* theory *strategic triangle* framework in the specific context of implementing eRA's at a military FOB. Additional contributions include the *eRA appropriateness* construct, insights regarding operating in the MENA culture, guidelines for managing risks, and some best-practice recommendations. In particular, *eRA appropriateness* provides a tool that addresses all three points of the *strategic triangle*. Public managers can easily re-conceptualize this construct in different venues in order to further other procurement innovations. This versatile tool provides reinforcement to public managers seeking stakeholder acceptance to overcome entrenched cultural practices and resistance to change. As demonstrated in the Peruvian water boiling example (Rogers, 2010) and the city manager example (Wahid and Sein, 2013), innovators must apply the tools of persuasion appropriate to the cultural milieu, keeping in mind that people implement (or impede) innovations.

Although government is often cited as a laggard in adopting effective private practices, public managers should feel optimistic with regard to innovative electronic solutions. In many cases, government managers adopt electronic methods concurrently or even ahead of private businesses (Gates and Nissen, 2002). Although government adoption of eRA's currently lags, exceptions exist. One example of a cutting edge innovative eRA occurs in human resource management where eRA's have been used to develop non-monetary incentives to military personnel. Allowing personnel to use eRA's to develop a semi-customized incentive package increased satisfaction from less than 50% to 80% (Coughlin, Gates & Myung, 2013). This method has also been studied as an experiment to identify the optimal mix of monetary and non-monetary incentives for talent retention in the US Navy's nursing corps (Levy, 2010). Looking forward, eRA's could be extended to the optimal determination of monetary incentives in situations such as retention bonuses and, conversely, voluntary separation incentives. Individuals could *bid* on the monetary values that would either retain them or motivate

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them to resign. The total cost across all individuals may be less than uniform, lump-sum incentives.

The diversity of these extensions highlights the versatility of an eRA as a source of continuing innovation. Additionally, this case could assist continued eRA diffusion in public and not-for-profit organizations' procurements. While the eRA is not appropriate for every transaction, our analysis indicates that government buyers are leaving billions of dollars on the table by not incorporating eRA's into larger acquisitions involving "non-critical" and "leverage" types of spend (Kraljic, 1983).
Our analysis sends an important message: An eRA is a powerful tool that, if used appropriately, has the potential to increase transparency, competition, efficiency, and taxpayer savings. The practices provided herein are designed specifically to help buyers overcome structural barriers including training, organizational inertia, and a lack of eRA policy and guidance. Specifically, this guidance should help buyers select appropriate requirements, select eRA service providers, appropriately structure eRA's for optimal savings, comply with procurement regulations, and mitigate risk.

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