



The Journal of Social Sciences Research

ISSN(e): 2411-9458, ISSN(p): 2413-6670

Vol. 2, No. 1, pp: 1-7, 2016

URL: <http://arpgweb.com/?ic=journal&journal=7&info=aims>

Assessing E-Procurement Knowledge of Procurement Staffs of AngloGold Ashanti Ghana Limited

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Abstract: This paper aim at assessing e-procurement knowledge of procurement staffs of AngloGold Ashanti, Ghana. The key issues examined in this paper are understanding and perception of e-procurement, benefits and challenges of incorporating e-procurement. Purposive sampling was adopted in selecting the company and the procurement department for the study. Questionnaires were used to collect data and information from the respondents. Descriptive statistics was used to analyse the data. The findings of the study revealed that e-procurement is yet to be accepted fully as a replacement to the manual system; staff knowledge on the e-procurement is not satisfactory; benefits and challenges of e-procurement were highlighted. It is recommended that AngloGold must make it mandatory for all its strategic partners to be e-procurement ready to be selected as suppliers for both parties to reap the full benefits of e-procurement adoption and training of staffs on e-procurement software systems.

Keywords: E-procurement, Mining, Supply chain management, AngloGold Ashanti.

1. Introduction

Procurements forms an essential link among businesses in the supply chain, this gives a platform for a smooth flow of materials between suppliers and customers. Procurement plays a major function in the supply chain of a large number of businesses to meet the needs and demands of both internal and external customers of the business. Procurement can be explained as the acquisition of goods, works and services, which go beyond purchasing of goods, but also subcontracting and outsourcing of services.

E-procurement has been a common theme of many organisations for the promotion of transparency and good governance in procurement. E-procurement system allowed organisations to apply standard procurement processes across departments, using appropriate monitoring and management controls to delegate more responsibility to the individual procuring entities. It is important in any discussion on e-procurement implementation to consider these three concepts among others: e-readiness, e-intensity and e-impact.

E-readiness refers to the current use and potential levels of adoption of e-procurement in organisations, shaped and constrained by technological and institutional environments and events at the operational and strategic levels. E-intensity refers to the uptake of e-procurement, such as the size, growth and specific forms that are actually adopted. This concept addresses what e-procurement activities are currently being undertaken, including business designs, e-integration and security & authentication. E-impact refers to the ways in which e-procurement has transformed business models and values chains in organisations. The concept addresses key outcomes from its use, major impediments to progress and goals for the future, incorporating issues such as social, e-business performance and operational performance. Information about the potential benefits of e-procurement is plentiful while's details on the impacts and consequences of e-procurement implementations are thin on the ground.

It is becoming impossible to do business especially in the mining sector without considering electronic procurement popularly known as e-procurement. E-procurement can be said to be an aspect of the procurement function supported by various forms of electronic communication.

E-procurement has become crucial to valued data for improved and quicker operations management. Its application delivers a mechanism that speedily and efficiently linked mining operations and suppliers via the internet and both sides can provide and access data that allows them to monitor supplies, inventory tracking, pricing and sourcing decisions to increase profitability through just in time and demand management and elimination of waste by making the procurement system a bit lean.

AngloGold Obuasi has been using the traditional procurement processes which take a long time from the point of requisition to delivery of the items to the company. Beyond that the manual system slow down processes and even handling transactions from user departments to suppliers, as a result procurement officers are forced to handle errors in ordering, costing and invoicing which are often time consuming and risky to trace. The study is aimed at assessing the e-procurement knowledge of procurement staffs of AngloGold Ashanti.

2. Literature Review

Procurement and supply is an activity that has usually generated and employed large quantities of paperwork. This paperwork was necessary to communicate information from one function to another in order to facilitate action, to indicate requirements to suppliers, and to obtain the necessary goods and services on time and to specification.

The advent of information technology and more integrated software systems have radically changed matters. Although the paperless office may still be in the future, and indeed may never come about, simple transactions are today seldom paper based. The internet has provided further opportunities for electronic procurement, and has made new approaches possible with the almost universal acceptance of e-procurement.

Companies are realizing that they have opportunities to reduce their procurement processing and acquisition costs by revising their internal procurement policies and by fully leveraging their buying power by using the internet.

Tanner *et al.* (2007) in their study identified that electronic orders and invoices are the business documents that are most often exchanged electronically between partners in a longitudinal study on the use of ICT for B2B-related business process in large Swiss Companies with the aid of sixty-eight (68) questionnaires collected personally from procurement heads. Singh and Punia (2011) in their study assesses the organisational and individual determinants that influence the use of e-procurement system in Uttarakhand Public Sector in India. The study provides managers with the valuable information to take intervention programs to achieve greater acceptance and usage of e-procurement system.

Engstrom *et al.* (2009) in their study through a qualitative study in a longitudinal approach on implementation and use of e-procurement, it was found that e-procurement have an input on the buying behaviour that is the buying process and the selection criteria of suppliers. Callender *et al.* (2006), their study reviewed literature on the critical factors that influence e-procurement implementation success in the public sector for the period of five years. The paper assesses the critical success factors that are likely to influence the success of e-procurement issues in the public sector. Smart (2010), his study looked on exploring the business case for e-procurement where the findings of the study identifies eighteen (18) drivers which form the basis of a business case for e-procurement and a further seventeen (17) problem factors which have the potential to militate the original case.

2.1. What Is E-procurement?

Procurement can be explained as a process in which companies establish agreements for the acquisition and purchasing of goods and services in exchange for payment. E-procurement refers to the use of information technology in the procurement process Baily *et al.* (2008). Using electronic methods as a platform within the procurement processes can be termed as e-procurement as suggested by Baily *et al.* (2008).

In other words, e-procurement includes a range of technologies that apply the speed of computer processing and the connectivity of the internet to accelerate and streamline the processes of identifying and selecting suppliers of goods and services; placing, receiving and paying for orders, assuring compliance with procurement procedures, consolidating purchases to achieve leverage and providing visibility of information between collaborative partners.

The use of the internet to operate the transactional aspects of requisitioning, authorising, ordering, receipting and payment processes for services or products is the Chartered Institute of Procurement and Supply (CIPS) definition of e-procurement as cited by (Baily *et al.*, 2008).

In most e-procurement models there can be found the following key processes:

- 1) E-sourcing - for contractual processes. Tools include e-tendering, e-RFQs (Request For Quotations) and e-auctions;
- 2) E-procurement – for transactional processes. Tools include marketplaces using techniques such e-catalogues;
- 3) E-payment – tools include virtual or embedded PC (procurement cards), e-invoicing and self-billing.

2.2. Forms of E-procurement

There are three forms of e-procurement which are informational perspective, infrastructural perspective and transaction perspective.

2.2.1. Information Perspective

The information perspective focuses on the use of e-procurement in assisting information flows, for example informing suppliers regarding procurement related issues. (Boer *et al.*, 2002) said that e-sourcing, e-collaboration and e-informing are all part of e-procurement. They went on to say that e-sourcing involves buyers probing which supplier to use via internet technology whiles (Bajwa *et al.*, 2008) considers e-collaboration as people within an organisation interacting with others using internet technology to achieve procurement objectives.

This can also be done by communicating with suppliers to negotiate contracts and to resolve supply issues through e-mail, video conferencing among others (Teo *et al.*, 2009). According to Essig and Arnold (2001), e-informing involves buyers making good use of information about the needs of their operations to potential suppliers via internet technology. Using the extranet to publish product requirements specification which will make it possible to be accessed by both internal buyers and suppliers can be an example of e-informing according to Wu *et al.* (2007).

2.2.2. Transaction Perspective

These form part of the transaction perspective: e-catalogue, e-tender, e-auction among others. E-catalogue as explained by (Baily *et al.*, 2008) as procuring goods and services online, via online catalogues provided by suppliers. Baily *et al.* (2008) suggested e-tender as an invitation by buyers to suppliers for the supply of goods or services. The following are all examples of e-tendering: electronic contract notices, evaluating tenders and monitoring the track of awards of contracts via a web based tool. The e-auction has two types; these are direct (forward) and reverse. Baily *et al.* (2008) indicated that direct auction makes it possible for buyers to compete online for goods or services offered by a supplier, on the other hand in a reserve auction, suppliers only compete online to provide goods or services at the request of a buyer.

2.2.3. Infrastructure Perspective

This is a platform where access to e-procurement functionalities are activated and controlled such as e-marketplace, intranet, and extranet. E-marketplace is explained as internet website which allow multiple buyers and suppliers to communicate and exchange goods and services (Cheng *et al.*, 2006).

2.3. Benefits and Perceived Challenges of E-procurement

2.3.1. Benefits

Most organisations which use e-procurement are likely to benefit from the following advantages as suggested by researchers in their various studies: price reduction in tendering by Eadie *et al.* (2007), Gebauer *et al.* (1998) and Davila *et al.* (2003) affirmed cost and time. Rankin *et al.* (2006) argues lower administration costs while Eadie *et al.* (2007) mentioned improvement of communication in the procurement process. Moon (2005) suggested efficient procurement processes and went on to argued that it contributes to better control over procurement spending and employee compliance.

2.3.2. Perceived Challenges

Notwithstanding the benefits of e-procurement, it also has its challenges as enumerated by the following researchers: Eadie *et al.* (2007) identifies weak company culture and lack of senior management support: Davila *et al.* (2003) identifies resistance to change and lack of leadership as some of the biggest barriers to the introduction of e-procurement within organisation.

Eadie *et al.* (2007), pinpoints that lack of IT infrastructure is a challenge as most companies lacked the relevant technology to carry out e-procurement. Heywood (2002) recognizes that large investments of time and money can be offshoot of e-procurement with no absolute certainty of achieving its benefit is a big barrier. In addition, (World Bank, 1995) noted that most organisations lack the expertise to operate the e-procurement system even if initiated. There is lack of commitment from most of the suppliers for the need of e-procurement platform can be contributed to lack of business relationship between suppliers and buyers as argued by Hawking *et al.* (2004).

3. Study Area and Methodology

3.1. Study Area

Obuasi Municipal Assembly was carved out of the erstwhile Adansi West District Assembly on the strength of executive instruments, 15th of December, 2003 and Legislative Instrument of 17th March, 2007. The Municipality is located between latitude 5.35N and 5.65N and longitude 6.35N and 6.90N. It covers a land area of 162.4sqkm. There are fifty-three (53) communities in the Municipality which share thirty (30) electoral areas.

3.2. Methodology

All the staffs within the procurement department of AngloGold Obuasi were part of the target population. The study adopted the non-probability sampling approach but the focus was on purposive sampling where the researcher selected the respondents based on his laid down checklist which made it possible to discriminate to get the appropriate sample size.

The sample size was twenty-two based on the criteria below: the person is involve in buying items for the company; the person must have been in the company for at least three years; minimum the person must be in a position as a supervisor and is prepared to fill the questionnaire voluntarily. The main source of data was gathered through the use of the questionnaire. The questionnaire was self-administered as the respondents have a working knowledge of the topic. A survey strategy is appropriate for cross sectional study. Descriptive statistics were used to analyse the data.

4. Results and Discussion

4.1. Demographic Characteristics of the Sample Respondents

a) Years of Procurement Experience

The study considers procurement experience as a necessary item as even those who do have a procurement background can still be trained on the job to acquire the relevant skills to practice under procurement. Experience is a positive extension to knowledge therefore it was found out that ten respondents representing 45% had between one

year and three years' experience on the procurement job which can be said that significant of the respondents are not really experienced as they are below the five years brackets who will suit day to day and routine purchases.

Nine of the sampled respondents representing 41% had on the job experience between three to six years. In terms of contribution they will have a lot to give in the area of procurement issues as they will be in a position to adhere to good ethical procurement practices and compliance related matters. Their experience can be tapped in the area of training and development of the less experience and even part of induction training for the newly recruited staffs. It is not surprisingly that only three respondents have on the job experience within the bracket of seven years to ten years representing 14% of the sampled population, therefore their input will be more on the strategic issues on procurement where huge sums and capital intensive procurements will be used.

b) Gender

The composition of the gender comprises of fifteen male representing 68% of the sampled population and that of female was seven representing 32%. From the above composition it is evident that there are more males in the procurement department than female which might be accounted for several roles they play and in our normal business setting most of the time males occupy some of the strategic position based on assumed leadership qualities and competencies. This information portrays the supremacy of men over women at the workforce level.

c) Education

The staff strength of the department has a diverse composition of different educational level which makes it easier to allocate jobs/task in line with senior management staff, line managers, supervisors and junior staff.

The Diploma in Business Studies (DBS) holders were two representing 9% of the sampled population while the Higher National Diploma (HND) holders were seven in number representing 32%. The first degree holders though the study did not captured their various disciplines accounted for eleven respondents representing 50% of the sampled population while the second degree holders were two respondents representing 9%.

The educational information in the sampled population is very important as certain level of education and competencies are needed to practice and comply with the procurement issues since it is a specialised area so not everybody can do it especially at the operational and strategic level.

d) Years of Service

Period of working considered how long respondents have been working with AngloGold Obuasi not necessarily the procurement department as some of the respondents started from some sections/departments but ended up with the procurement department. Seven of the respondents representing 32% have been with the company for less than one year which means that they are too inexperienced to appreciate the organisational culture and adjust to it. There must also be the problem of indecisive in the area of commitment on the job as it is a function of how long they want to stay and what the future holds for them.

The one year to three years bracket accounted for six respondents representing 27% of the sampled population. Seven of the respondents representing 32% have been with the company between four and six years which means they are experienced enough to appreciate the organisational culture and be mindful of the consequences of not doing the right thing or not following the right procedures for getting things done. Two out of the twenty-two respondents who took part in the study representing 9% have spent ten years or more at work. The quality of the number of years that respondents have spent in their work place can determine their experience to an extent.

4.2. Understanding of E-Procurement and Use of Designed Software

It was evident that all the sampled respondents through their feedback on the questionnaire acknowledged the existence of the e-procurement system within the company but further probe showed unsatisfactory knowledge and understanding of e-procurement activities of AngloGold Obuasi. This result confirmed the study of [World Bank \(1995\)](#) which suggested that most organisations lack the expertise to operate the e-procurement system if it is initiated. It can be advised that management must not be in hurry to implement e-procurement system if it is not ready and cannot align it with the long term strategy of the organisation; benefits alone should not be the key decision.

Table-1. Understanding of e-procurement

Variable	Category	Frequency	Percentage
Mode of procurement	e-procurement	5	23
	Traditional procurement	17	77
	Total	22	100
Use of designed software	Yes	9	41
	No	13	59
	Total	22	100

Source: Fieldwork data, 2015

On the mode of procurement which was a choice between e-procurement and the traditional procurement, out of the sampled population 23% accounting for five respondents said that they use e-procurement to procure items from

supplies while seventeen respondents representing 77% agreed to procuring items through the traditional procurement. Irrespective of the benefits of e-procurement, organisations and buyers still feel comfortable using the traditional way of procuring things. The findings of the study aligned with Baily *et al.* (2008) where they differentiated between the two modes of procurement.

On the issue of designed software usage, thirteen respondents representing 59% of the procurement department staff said there are no such software that are connected to the supplier end for synchronization to generate on time orders. They went ahead to say that their purchase orders are printed and sent it to the supplier. Forty-one percent of the sampled respondents representing nine respondents indicated that there exists such designed software to do the transaction.

They went further to say that the designed software from the suppliers end could easily generate the order and transfer it to the warehouse for issuance of that item. This save time and brings about efficiency and a quick response to both internal and external customers. This result goes against the advised by Boer *et al.* (2002). They said that information perspective of e-procurement is critical for building supplier relations but with this finding it will not achieved the desired result for the organisation.

4.3. Perception of E-procurement System and Suppliers' Electronic Mode of Operation

This section considers the perception of e-procurement and suppliers electronic mode of operations through the questionnaire administered. Twelve of the respondents said “yes” which represent 55% which agrees that there is some form of integration between the suppliers end and the procurement department of AngloGold which made it easier for smooth operations of the department.

Which indicate that some of the suppliers respond electronically to the procurement process to make it agile? On the other hand ten respondents accounting for 45% disagreed and responded “no” with the view that some of the suppliers do not have the platform to integrate their system with that of the AngloGold Obuasi procurement department. The result is diverse which does not give a concrete direction on the mode of operations of the suppliers of AngloGold Ashanti, this does not support (Cheng *et al.*, 2006), who advised on the importance of infrastructure perspective of e-procurement.

The discussion captured beyond the perception which also looks at the usage of the e-procurement platform which eighteen respondents accounted for 82% agreed that though it exist but not all of the suppliers make good use of it in the area of procurement transactions where four respondents representing 18% said that none of them use it at all.

It is difficult to understand in the same department why some agreed to certain issues while others disagreed. It could be said that some have access to relevant information where others do not. This may be due to the position of the respondent. There has to be some harmonization of the e-procurement practices and procedures at both ends.

4.4. Duration of Using E-Procurement and Its Benefits

On the issue of e-procurement and its benefits the respondents' views are discussed below. Nine respondents which constituted 41% said they have been using e-procurement within one year while 14% accounted for three respondents of the sampled population indicated that they have been using the e-procurement for the past two years.

It is important to say that ten respondents represented 45% have been using the e-procurement more than two years. Almost all the respondents touched on the benefits of the e-procurement as it is easier, faster, time saving, cost saving, quicker response from suppliers among others were recorded as indicated by Davila *et al.* (2003).

4.5. Purchasing and Transactions Modalities

In line with the purchasing procedure, respondents were asked about items they will wish to purchase through e-procurement and their responses were as follows. Twelve respondents representing 54% said furniture and fixtures while 23% respectively agreed that items needed for operations and routine items are what they will use e-procurement in buying. This shows that as much as e-procurement has its benefits you cannot avoid its limitations as well that is why there were different views in the purchasing of items using e-procurement.

Table-2. Purchasing and transactions modalities

Variable	Category	Frequency	Percentage
Purchasing	Furniture and fixtures	12	54
	Essential items for operations	5	23
	Routine items	5	23
	Total	22	100
Transactions	Strategic sourcing	17	77
	Spot buying	5	23
	Total	22	100

Source: Fieldwork data, 2015

In the area of transactions, the procurement staffs went in for strategic sourcing as seventeen of the respondents accounted for 77% went in for strategic sourcing while the other five chose spot buying representing 23%. It is not surprising that strategic sourcing had the highest response due to its impact on the operations of the company if

things got wrong with the suppliers and at times very difficult to replace in a short time. The result support Baily *et al.* (2008) suggested the use of transaction perspective in the area of e-tender, e-catalogue and e-auction among others.

4.6. Decision Making Process

Decision making process here refers to how purchasing decisions are made in the department and company at large. Eleven respondents accounted for 50% indicated that centralized decision making process is the best for the e-procurement procedure. While in another feedback, four respondents representing 18% suggested that decentralized decision making process is the best option. Remarkably 32% agreed to a combination of centralized and decentralized decision making process as this will bring about balance in the purchasing decision process.

It has to be said that the type of buying situation affect the decision making process whether to use centralized or decentralized depend on the advantages a particular decision making process bring to bear on the organisation in question. Most of the time it depends on product complexity and commercial uncertainty on whether it effect is low or high.

When the respondents were asked on the continuity of the e-procurement in the future these were the responses. Seventeen respondents accounted for 77% of the sampled population said “yes” since the benefits of e-procurement outweigh its cost. On the other hand five respondents accounting for 23% said “no”. Majority of the respondents who said “yes” are in alignment with Moon (2005), who suggested efficient procurement processes and better control over procurement spending as key benefits of e-procurement initiative.

4.7. Challenges in Incorporating E-procurement at Anglogold Obuasi

When asked how challenging it will be for the company to integrate e-procurement in their organizational culture, 27% of the sampled population responded that it will not be challenging at all. On the other hand 32% which accounted for seven respondents indicated they are not certain whether it will be challenging or not. However, 23% agreed that it will probably be challenging while 18% indicated that it will be very challenging incorporating e-procurement in their organisational culture.

The intentions behind their choices were influenced by factors such as cost of service providers and training costs of staff; damaged items cannot be returned and most importantly employee reluctance and resistance to change among others. Almost 50% of the respondents decisions were based on the perceive challenges with e-procurement integration with company-wide system which is an indication that they align with (Heywood, 2002); Davila *et al.* (2003) and Hawking *et al.* (2004).

4.8. Conclusion and Recommendation

Companies are realising that they have opportunities to reduce their procurement processing costs and acquisition costs by revising their internal procurement policies and by fully leveraging their buying power by using the internet.

Human-related issues are some of the challenges identified as most of the procurement staffs lack adequate knowledge in information technology. Their attitude to adapt to e-procurement was seen as a resistance to change. This implies that manpower training should be a requirement for future programs of this nature.

Buyer-supplier relationship is one of the key platforms for effective supplier chain management, this also implies that both partners must do well to be e-procurement ready. Management of AngloGold Ashanti must educate their suppliers through workshops, seminars and contracts requirements on the need to be e-procurement ready.

It is recommended that the usage of e-procurement must be seen as the way forward to procurement transactions to ensure that systems are put in place for its efficiency and effectiveness; AngloGold Ashanti must make it mandatory for all its strategic partners to be e-procurement ready to be selected as suppliers for both parties to reap the full benefits of e-procurement adoption; there must be seen a high level commitment from management to put in place on-going training of staffs on e-procurement and bring everyone on board for them to support the process in their quest to the parallel changeover.

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