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The Use of Social Media in Public E-procurement: Some Possibilities and Challenges

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The Use of Social Media in Public E-procurement: Some Possibilities and Challenges

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Abstract

Social Media (SM), in recent years, is emerging as a common platform for low cost information exchange, and has attracted a critical mass of users both at corporate and retail levels. Theoretically, SM can thus be used as a tool to strengthen e-procurement in the public sector. Towards this end, we have prepared a conceptual model drawing on literature reviews and some examples while identifying a set of expected benefits and challenges within four stages of e-procurement. Using the framework, a case study has been conducted involving Australian public procurement initiatives and 15 federal government senior officials engaged in e-procurement. They have been interviewed to shed light on the possibilities and challenges of using SM in the public e-procurement context. The findings of the study suggest a limited scope for SM usage in the Australian public sector e-procurement process. The implications of the findings are discussed and some recommendations offered.

Keywords

E-procurement, social media, public sector, potentials, challenges

INTRODUCTION

Procurement of goods/services by an organisation via the Internet (commonly known as E-procurement) has received considerable popularity worldwide since the 1990s (Gunasekaran, McGaughey, Ngai, & Rai, 2009). Despite many benefits that organisations may experience from the implementation of e-procurement initiatives (e.g. reduced administration costs, shortened procurement cycle, greater data accuracy, enhanced buyer image), they are not without criticisms. In many cases, e-procurement is costly (Raymond, 2008), inflexible (Devaraj, Vaidyanathan, & Mishra, 2012), not fully transparent (Puschmann and Alt, 2005), and even inefficient (Australian National Audit Office, 2010).

In recent years, social media (SM) technologies such as Facebook, Twitter, YouTube, LinkedIn are increasingly being used for low cost information transfer and wide circulation of information promptly (Bertot, Jaeger, & Grimes, 2012; Neiger et al., 2012; Zavattaro, 2013). It could, therefore, be argued that SM can be considered as an emerging technological innovation which, if carefully manipulated, can help strengthen e-procurement initiatives. SM could help organisations to broadcast about tenders more efficiently and quickly reaching a wider audience, facilitate stakeholder feedback on procurement related issues, and, at the same time, contribute to establishing transparency in the process. This in turn could improve efficiency and effectiveness of the e-procurement process. However, little attempts in this regard have so far been reported in the scholarly literature which thus necessitates further research to investigate the potential usage of SM within the public sector e-procurement context and to identify the challenges that could hinder the integration of SM in e-procurement. Arguably, public procurement officials may benefit from a better understanding on how SM could be effectively used in public e-procurement initiatives which may prompt them to integrate SM into the existing e-procurement setting. Based on the extant literature and experiences, we have initially developed an initial conceptual model that identifies a set of challenges within the four stages of public sector e-procurement process and link them to the key procurement issues. Using a case study approach and the conceptual model, 15 senior executives from a selection of major Australian federal government agencies involved in public procurement function were interviewed in order to identify the potential use and challenges of introducing SM to complement e-procurement initiatives. The findings helped refine the model, present several possibilities, and identify a number of challenges for the public sector organisations to adopt SM within their e-procurement initiatives.

The paper provides a brief synthesis of the relevant literature on e-procurement and SM which is followed by an introduction of an initial literature driven model. Then, the research approach is presented and the empirical findings are described and discussed in light of the model. Finally, some concluding remarks are made highlighting the contributions of the paper and identifying future directions of SM-driven e-procurement research.

PUBLIC E-PROCUREMENT AND THE USE OF SOCIAL MEDIA

E-procurement: Defining e-procurement is a challenging task as scholars have defined this concept using different perspectives. One group of authors describes e-procurement as an Internet-based technological solution for corporate purchases (e.g. Alaniz and Roberts, 1999). In contrast, Mccue & Roman, (2012) adopt a process oriented view and define e-procurement to be an automated purchasing process employing web-enabled information technologies. In agreement with the process oriented view, Wu, Zsidiisin, & Ross, (2007) conceptualise e-procurement as managing the information flow between an organisation and its suppliers while obtaining materials. Tatis et al. (2006, p.63) further extend the process oriented notion of e-procurement and describe it as, “*the integration, management, automation, optimization and enablement of an organisation’s procurement process, using electronic tools and technologies, and web-based applications*”. These varied views about e-procurement indicate that it is not a one-off event of electronically purchasing goods/services and that it includes an idea of exchanging product/service related information among various stakeholders. This view further involves execution of a series of activities which can be organised into several stages from an intention of obtaining goods/services to the actual obtaining of a product or service.

Regardless of how e-procurement is defined, there exists empirical evidence which suggest that many organisations across the world have moved away from the traditional paper-based procurement processes and embraced new technologies supporting e-procurement process (Bertot et al., 2012). Adopters of e-procurement have reported gaining significant benefits (Croom & Brandon-Jones, 2007). According to Caniato et al. (2011), these benefits can be grouped into two types: i) process benefits, such as reduced cost involved for processing orders due to error reduction (Ageshin, 2001, Nergiz and Rahim, 2011), shortened sourcing cycle time (Presutti, 2003), greater simplicity due to process streamlining, maverick buying reduction (Subramaniam & Shaw, 2004), and ii) organisational benefits, such as reduction in inventory costs (Ageshin, 2001), reduction in contract compliance (Subramaniam & Shaw, 2004), enhanced organisational image perceived by suppliers (Nergiz and Rahim, 2011; Rahim and Bintawal, 2012), greater decision support, and increased transparency (Rahim and As-Saber, 2011).

Despite many benefits associated with e-procurement, progress in adoption and subsequent diffusion of these initiatives is still less than satisfactory across many countries including in Australia. Total internet commerce for business-to-business [including e-procurement], and business-to-consumers still only represents 2.2 per cent of sales turnover in Australia, 1.3 per cent in Canada and ranges from 0.01 to 17 per cent for European countries (Walker & Harland, 2008, p. 835). Several challenges prevail around existing e-procurement initiatives which inhibit organisations to implement these initiatives in fast pace (Rahim and As-Saber, 2011; Bertot et al, 2012). Commonly reported challenges include: high cost of implementation (Angeles and Nath, 2007), increased cost in electronic interface for communication (Subremenium and Shaw, 2004), high training cost for learning e-

procurement software (Ageshin, 2001), inability to integrate back-end systems to the e-procurement process (Hawking et al 2004), high cost of restructuring organisation (Ageshin, 2001) or organisational resistance (Mccue and Roman, 2012), unsuitability of software platforms, lack of strategic systems integration and failure to involve public procurement professionals in the design of e-procurement systems (Mccue and Roman, 2012), and lack of standard interchange formats for e-procurement (Angeles and Nath, 2007). In addition, buying organisations tend to become more dependent on a small number of suppliers due to limited registration of suppliers in any e-procurement initiative. This in turn leads buyers to dodge accountability and transparency (Ageshin, 2001). Furthermore, many of the current generation e-procurement initiatives are less responsive to medium and small suppliers, as not all small suppliers can provide sufficient catalogue information to the buyers (Vaidya, Sajeev and Callender 2006). Therefore, there is a need to consider bringing an improvement in e-procurement process to help mitigate some of these challenges. In this regard, we believe that SM technologies may bear considerable potentials to address some of the existing challenges associated with public e-procurement process.

Social Media: Social media is designed for many-to-many interaction (Porter, 2008). It is often used as a proxy for face-to-face interactions, and has a strong social connotation within a virtual platform. SM represents a collection of web-based tools (e.g. blogs, wikis, information sharing services and social networking services) that enable individuals and businesses to share content, communicate and interact in a social environment (Bartot, 2012). The SM enabled networking primarily consists of user generated contents shared either openly or across specific groups of individuals (Neiger et al, 2012). Its popularity together with the convenience and user-friendliness have already been capitalised by businesses around the world to promote their products and to interact with various stakeholders including customers and suppliers (Bertot et al, 2011, Robert, 2009, Zavattaro, 2013). Research indicates that 80% of physicians, who are involved in online consultation with patients, now use SM to share medical contents (Neiger et al 2012). SM further facilitates collaboration and deliberation among stakeholders which in turn helps make public functions more transparent and accountable (Bryer and Zavattaro, 2011, Zavattaro, 2013).

The Use of Social Media in the Public E-procurement: The public sector has begun extracting value from SM in optimising the use of scarce public resources (Zavattaro, 2013). Furthermore, owing to its many sharing features, SMs have seen applications in many e-government efforts (Bartot, 2012, Zavattaro, 2013). From an e-procurement perspective, the integration of SM appears to be fairly new (Bartot, 2012). Despite this newness, public officials strongly believe that business values could be added to the existing e-procurement process by creating a link between SM and e-procurement process (Robert, 2009). In keeping with this belief, we too expect that the potential use of SM in e-procurement process can offer some benefits but realisation of these benefits is not without challenges. However, no work has yet been reported in the scholarly literature that investigates the role of SM within public e-procurement context.

A CONCEPTUAL MODEL

Drawing on the relevant background literature (discussed in the previous section), we acknowledge that a range of activities are involved in the public procurement processes which are supported by e-procurement solutions. This view is in agreement with that of Morris et al. (2000), where they observe that a number of activities are involved to complete a purchase event. There is however no agreement in the literature on the number of specific activities involved in e-procurement process. Furthermore, the number of activities may not be same for all types of businesses (Presutti, 2003). We have accepted major activities involved within e-procurement process suggested by Subramaniam and Shaw (2004) and grouped them in 4 stages: searching, order processing, monitoring and control and coordination. Based on our reading of the e-procurement literature, we have further identified several key activities involved in each of these stages. This is clearly indicated in our proposed cyclic model (Figure 1). In the outer ring of the cyclic model, we identify possible impact (benefits) that could be brought in by the use of SM for that stage. The inner most ring highlights the 4 stages of e-procurement process and the intermediate ring shows the key activities within each of these stage. We now briefly describe each of these stages and explain how SM can influence the benefits for the activities representing those stages.

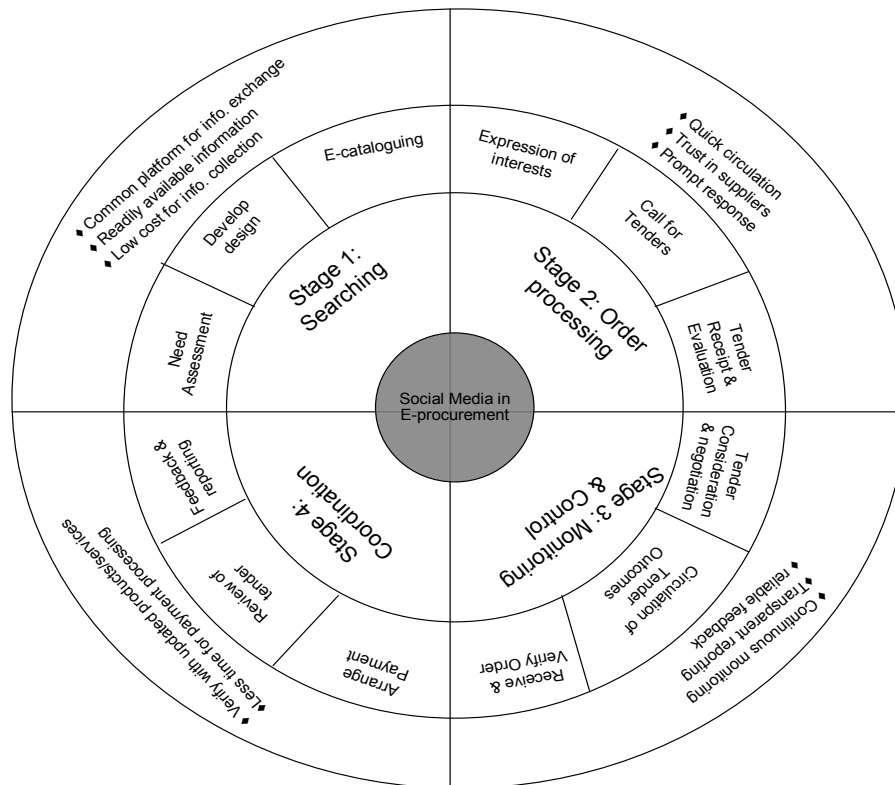


Figure 1: A conceptual model describing use of social media in e-procurement process

Stage 1 (Search): During the early need assessment stage of the e-procurement process, online networking (via SM) with citizens, community groups and prospective suppliers might provide feedback and ideas with respect to the actual need for the product or service including any requirements of special features. The size of the procurement and the urgency of procurement could also be determined based on such feedback. Once the need is assessed, social networking could even provide with out-of-box ideas with respect to the design or concept of the product or services. Using these inputs, management and procurement officials within the buying agencies might come up with an appropriate set of tender documents and e-catalogues. E-catalogues and interactive forms could be made available through SM enabled networking outlets in order to allow stakeholders to better understand the procurement process and to provide comments on these documents.

Stage 2 (Order processing): The call for expressions of interests could then be circulated via SM networks together with usual outlets (e.g. newspapers). The formal call for tenders could follow as the next step. Use of SM would help agencies to draw attention of wider group of suppliers across the world businesses. Once formal tenders are received, updates on the numbers of total bids and the outcome of the initial screening without referring to any name of suppliers may be disseminated via the social network. However, the actual tender consideration process would ideally remain confidential until the final decision is made.

Stage 3 (Monitoring & Control): Once the successful bidder is selected by the buying agency, documents and the reasons for such decision could be made public through SM. In addition to reporting to the regulatory agencies and sending individual letters to all participating bidders, this information could be posted to the SM network as well. Feedback and comments received through the network could be useful for the organisation to further improve the process.

Stage 4 (Coordination): SM would be able to provide advantages of coordination of information between buyers and suppliers. Because of the availability of soft information, buyers could easily be able to review the whole process and provide feedback, which may be used for future tendering processes.

We argue that all stages of e-procurement process would be benefited from the possible use of SM in e-procurement. For example, a rich body of information can be searched within short time for developing product design activity. Tender order can be circulated within wide range of suppliers. These possible benefits are all outlined in the outer ring of the model.

RESEARCH APPROACH

Selection of Research Method: This research has selected Australian government e-procurement system as a case study. In order to address the research concerns, an exploratory qualitative approach is undertaken. As the case study is suitable for exploratory kind of research (Neuman, 2003), this research adopted interview techniques to gather in-depth opinions about the motives behind considering (or not considering) SM as an e-procurement tool from key informants. The 'key informant' approach is well suited to gathering qualitative and descriptive data that are difficult or time intensive to collect through structured quantitative data-collection techniques (Tremblay, 1957). A semi-structured interview protocol was used to guide the interview process addressing the key questions.

Organisations Selected for Interviews: Focus group and face-to-face interviews were organised for officials / key informants from four federal government institutions who are directly involved in procurements in Australia. Altogether seven interviews (in the form of focus group and face-to-face discussion) were conducted during September-November 2012, as mentioned in Table 1.

Table 1: Organisations and Respondents

Brief Description of selected public sector entity (PSE) ¹	Position of interviewees	Interviewee Number	Data collection Method
<p>PSE-1 is the central body for publication of Australian Government business opportunities, annual procurement plans and contracts awarded. It is also known as the central procurement authority for public purchases in Australia. Suppliers register with this PSE to receive free information if any tender notice is circulated for procurement.</p> <p>Incumbent public organisations those want to buy something over AU\$10,000, posts a request to the PSE-1. Registered suppliers can download the request and submit bids electronically. There are around 86,000 registered suppliers at present. It evaluates the bids, negotiates online, and places the order with the lowest responsible bidder.</p>	Director/Assistant Secretary level executives	3	Focus group
<p>PSE-2 is responsible for publishing data related to government procurement and to help Australian business community in matters relating to government procurement activities. It is also involved in the development of procurement policy, managing e-tendering system, designing and implementing the tender processes, and establishing the contracts, for relevant government offices.</p>	Assistant Secretary	1	Face to face
	Assistant Director	1	Face to face
	Financial Officer and Officials responsible for Procurement Coordination	3	Focus group
	Director level officials,	1	Face to face
<p>PSE-3 has a program delivery role in supporting markets and business, and providing Commonwealth payments to the State and Territory governments. Regarding procurement, it publishes information about significant procurements and its future trends in an annual procurement plan.</p>	Executives at the level of Financial Officer/Director	2	Focus group
<p>PSE-4 is primarily responsible for auditing the activities of most Commonwealth public sector entities.</p>	Director level executives	4	Focus group

¹ Names of actual PSEs are not listed because of privacy and ethical considerations.

Collecting and Organising Data: A semi-structured questionnaire was used for interviews. The recorded interviews were transcribed into text manually. The interview texts were then organized under different broad descriptive codes. Texts referring to the same argument, particularly for potentials or challenges, were then taken out from each group of themes for further analysis. The developed themes were then compared and contrasted for thematic analysis (Welsh, 2002). Data from interviews, documents, and theories were finally triangulated to avoid any bias in analysis.

FINDINGS

Drawing on the thematic analysis of the interview data, we have identified three possible usage potentials of SM within public e-procurement context. We have further identified nine challenges that may jeopardise SM usage. These are briefly discussed below:

Potential 1 (Limited usage potential of SM): During literature review, based on the theories, this research assumed that the SMs have potentiality to be used in different stages of e-procurements, which consequently would make the system more efficient. However, the data analysis shows that most of the interviewees believe in the use of SM in e-procurement processes differently. Some of the interviewees claimed that they are already using a kind of SM, and that is the end of using SM in procurement. The social media is not possible to use across all the stages of e-procurement. One manager from PSE-1 mentioned:

“I think e-procurement and social media are two different things...still don't see where social media fits into any of that...I think there is a distinct difference between social media and e-procurement..., we have yet to understand, we have yet to think that there is a role for social media in our procurements base. That's not to say there never will be but in this current environment... we're trying to understand what we could possibly achieve via social media that we don't already...”

Though SM can be used in e-procurement, it cannot be possible in all stages; it could be useful for only limited stages. One of the Directors working in PSE-1 suggested:

“I guess the more that I've thought about it I think that focusing on the expression stage and the reporting stage is certainly doable. For mine, what you'd need to be able to address are the probity control requirements that are inherent in the other phases.

Potential 2 (Quick updating of suppliers): Some interviewees support the use of SM. They acknowledge the potential use of SM like twitter. SM can be used in big and lengthy procurement (takes many years or decades sometime) in particular where tenders are required to be revised; it is necessary to use such tools to quickly and cost-effectively appraise the suppliers of the changes made in the tender. This sentiment is reflected when a senior manager remarked:

“And often in my memory they would go out with a tender, a Request for Tender, and then the tender itself would change constantly as they discovered more as they found out what the potential solutions were and they would then have to send out the revised tender to all prospective candidates who might bid for the work. And it struck me, just on my quick walk down here, that that's where something like Twitter would be useful, saying to everyone's who's registered for a bidding process, the tender has now changed or these requests for clarification have now been published, or whatever. So a general updating of the process over a long and complex tender I think would be certainly useful.”

Potential 3 (Informal collection of supplier feedback on complex tenders): During focus group interview most of the interviewees acknowledge that SM can be used either in small or large scale. Use of SM is suitable for doing research to prepare document at the stage of 'calling for tender'. A perfect communication is mandatory to make e-procurement successful, and SM can help in this regard. One respondent from PSE-3 mentioned during interview that SM might help to streamline the process and reduce the complexities in tender documents.

“I've discovered this, you can do as much work on a tender, yeah, you can spend weeks on it, get it together, yeah statement of requirements, you think it's perfect, you get it out there and the saddest thing is when no-one responds to it... Because they can't understand what you're asking for or you've made it too complex or too... the amount of... I had a tender that fell over 'cause they couldn't actually understand what we wanted... you spent thousands of man hours on something and you're going to get no response, what a waste of time.... social media would help, just might have made that more efficient... I see that's where it's in, especially when you're building very complex type procurement arrangements or community...if you're advanced of the tender and you've got a draft of a tender out, you're trying to attract as many people as you can to look at it so they can, I guess, they can share their views on the tender...”

Challenge 1 (SM adds additional costs): Though SM is free to use and therefore perceived to be cost effective, the interview data contradicts this view. Interviewees pointed that the extraction of appropriate information from

SM for procurement will be costly. During interview, one manager posited that the present e-procurement system is very cost effective, and use of SM will make e-procurement enabled procurement process more costly because it will require hiring of new employees to extract raw data. More information while is expected in procurement process but it may increase cost to analyse and find out the desired information. According to a respondent from PSE:

“So there’s, in terms of social media, there’s probably, there’d probably be, I mean yes, the technology’s free, but there is a cost for managing a Twitter account, for example, that doesn’t exist at the moment because we don’t have one. But in terms of further automating our processes, yes there probably is scope for us to do that, but that’s quite different than necessarily e-procurement and necessarily using social media...for example just theoretically, we start having different ways of approaching the market and generating responses to requirements, all of a sudden you need a lot more people on-board to manage that. Where does the Commonwealth get its money from? Taxes; but all of a sudden if we start putting more opportunities out there or advertising those opportunities in a different way, it’s costing time for people who respond to those, so they build that into their process to cover those costs, the cost of doing business and the cost of what we’re buying goes up, the cost of doing business goes up and it’s... are we creating something we don’t want to create there?”

Challenge 2 (Difficulty to locate information relevant to procurement): The present structure of SM while has seen suitable for sharing huge information, it may also bring trouble to find the correct information. One manager from PSE during interview finds existing SM to be unstructured in nature and suggests that SM needs to be more structured to be cost effective:

“But the problem again is structure. If you’re going to do something like that, particularly if it’s a ultimately going to end in procurement, right, you want to put it out in a structured way. So people are notified about it in accordance with their business profile so they response formally, rather than ad hoc commentary. You know it’s one of the great challenges I think for social media is getting some structure into it so that we’re not just rounding in, as Yvette said, in 95% of the information we get, we’re not interested in...And again, there’s a cost both ways to do that type of business. So the reality is it takes your time, it costs money regardless of whose side of the fence you’re sitting on, so the Commonwealth government, well people mightn’t see it, but we try and run as lean as we can, just like the private sector, just that we have a few more hoops that we need to jump through with regards to accountability and transparency and due process. So certain things that we have to do, so if we were to start to introduce additional requirements, the cost of doing business just for all, just increases dramatically and that has to be funded from somewhere...it’s unstructured, so how do you find what you’re looking for. And I mean we’ve all trawled through blogs and so on, I mean there’s so much, you know information that’s really not very useful. How do you ensure you don’t miss something important if you’re not in a structured database environment?”

Challenge 3 (Compromising trust between suppliers and procuring agencies): Moreover, trust in each other is very important to develop a responsive relation (Croom & Brandon-Jones, 2007). SM is very open and wide, which is not suitable to develop a trust based relation. This would be an issue to create a network with stakeholders. Suppliers may not respond in SM when they find a lacking of trust in their private information that they need to provide in procurement systems. One high official from PSE mention that:

“The requests for tender, all of that information from the government’s perspective is in the public domain. What we have is a great deal of trust from our suppliers that the information they give us is secure and isn’t going to be in the public domain in any way, shape or form.”

Challenge 4 (Lack of legal binding of suppliers to respond): A legal binding is required in order to build a responsive relation between all stakeholders in an e-procurement system. SM is far away in this regard. These are no guarantee that suppliers will participate or respond even though they were invited to participate through SM. SM is not a legally binding tool that could ensure response of targeted suppliers. One interviewee expressed concern about the consequences of irresponsiveness to the buyers’ requirement in SM because no one is legally bound to respond in SM. According to a senior executive from PSE-3:

“What if no-one ever answered? ...I just don’t, I... the challenge I think around this there are a couple of issues.”

Challenge 5 (Transparency in e-procurement enabled process): Transparency, which is openness of tendering process to all stakeholders, is not possible to maintain in all stages of e-procurement. Analysis of interview data shows that SM would be helpful in terms of making procurement more transparent because more people would be able to follow the process, but in many stages SM is unsuitable to use because it may uncover confidential information. Thus SM cannot be used in e-procurement for the sake of maintaining transparency. One manager from PSE-3 in the interview mentioned that SM could be used to make the procurement process transparent to a greater number of people.

“Transparency does not mean that procurement process should be visible to everyone. It is about maintaining integrity and fairness in the process. Moreover the process can be examined or reviewed. The definition of transparency needs to be made public for appropriate and uniform understanding.”

Challenge 6 (Data security): Security of data is the main concern in using SM because SM is commonly open to all. Maintaining confidentiality of data interchanged between buyers and suppliers are very important function in e-procurement process. One respondent from PSE maintained that security would be a major concern in using SM:

“... it's a major requirement from us is data security. So we've got requirements that were placed upon us by government that we have certain security arrangements in place for data; and I don't know that these other platforms would be able to meet the current defensive or strategy requirements. [033]...if the Department of Defence puts something out there we've got to... we want to procure something here, and it might be non-military, but it's Department of Defence... how inviting that is to hackers to get on there and manipulate that data.]...Commonwealth procurement, there's a range of elements there; there is confidentiality requirements. So if we're issuing tenders for the ASIO building that's just been built over here for example, we don't want hackers or foreign nationalities to be able to access that to look at it. We don't want people to get in there and have a little bit of fun and manipulate so all of a sudden instead of buying some toilet paper, the Department of Defence, all of a sudden they're buying lollypops, I don't know, instead of toilet brushes they're buying Chuppa-Chups because someone jumped in and, for fun, manipulated a Government website. ... Why would you do that when you've got a system that handles that in a secure environment now?”

Challenge 7 (Accountability): Accountability to all suppliers needs to be ensured in the e-procurement process, which may not be possible if SM is placed in the procurement system. SM make all information open, which may not ensure accountability of buyer to a particular supplier and vice versa. A buyer may overlook an important question from a supplier and a supplier may overlook an important question from a buyer. Thus, SM may undermine the norms of accountability. One Director from PSE-1, claimed for control over information which will be easily available through SM during e-procurement.

“...you are in a procurement process the way you interact with your suppliers has to be very controlled. Certainly in the lead up to that, we mail our potential suppliers for information and ideas in exactly the same way as there's an interaction there. But the minute we actually go out to a process all contact has to be completely controlled; it has to be monitored, records of it have to be maintained and all that sort of thing. So, again, we use AusTender; if you're in a procurement process, a question's asked, all suppliers have to receive the question and the answer at the same time, so it's done through the AusTender system and they're notified that there is...”

Challenge 8 (Not suitable for usage for all activities in e-procurement): Not all SM is equally applicable in procurement process. They cautiously approved about twitter and blog, but have concerns about Facebook. They want to say Facebook could be useful for human procurement, such as, hiring, but not for material/service procurement. One manager from PSE-3 outlined that:

“...outside Twitter and the blog, I haven't seen like Facebook used in government at all for that [e-procurement] purpose.”

SM, as data analysis reveals, may not be effective as it was predicted initially. Most of the participants were found in dilemma with the use of SM in a larger scale, rather they press that the present e-procurement system for public purchase is adequately effective. They also mentioned that they are already using SM like tweeter and blogs along with the existing e-procurement systems. They do not see any further benefit from using SM across all the stages of e-procurement. They emphasised to focus on better outcomes rather not only focusing on transparency and collaboration in terms of using SM in e-procurement process.

Challenge 9 (Outcomes Vs transparency – less priority given to transparency): The managers suggested that SM would help to make e-procurement more participatory and accountable, but they are concerned with over-transparent and less efficient. Particularly they concern about handling of unstructured data through SM. No doubt the implementation and use of SM is free and thus huge information can be gathered within short time. More information while is expected in procurement process but it may increase cost to analyse and find out the desired information. Unstructured information available in SM may not be suitable for both the buyers and sellers. However, for the initial stage of documentation and at the stage of reporting SM may bring some advantages. The overall potential and challenges, unravelled through interviewees, can be depicted in Figure 2.

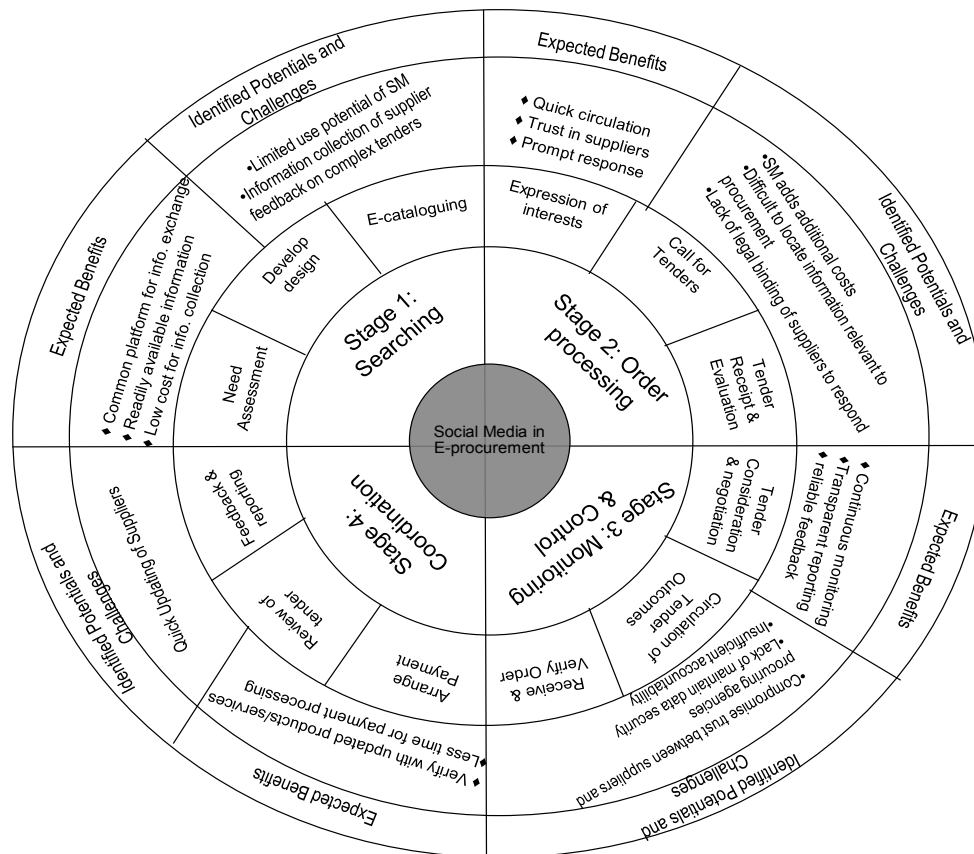


Figure 2: Potentials and Challenges of Social Media in Using for e-Procurement

Based on interviewee responses, the second-last outer ring of the model lists issues, possible potentials, and challenges of using SM in public e-procurement process.

DISCUSSION

We now reflect on the nature of the challenges identified in the previous section. Most of them are internal in nature, while a few involve external players. For example, except challenges 3 and 4, the remaining challenges are primarily concerned with intra-organisational issues. Challenges 3 and 4 involve trust and legal issues with suppliers (external players). We further observe the dominance of the managerial challenges. Only two challenges (e.g. challenges 2 and 6) involve technological concerns in terms of ensuring data security and difficulty of locating appropriate information. These challenges can be addressed using technological innovations. We thus suggest that successful implementation of SM within public e-procurement would require more managerial considerations.

CONCLUSION

Given the increasing use and popularity of social media as a means of communication, its integration to public e-procurement process may provide some advantages in making the process more dynamic, transparent and fast. However, little research has so far been done or reported linking social media to public e-procurement. To address this apparent gap in the literature, we have proposed a conceptual model that suggests several possibilities and challenges of using social media within the public e-procurement process. Using this model, a case study involving several Australian federal government agencies has been conducted which, however, paints a different picture about the potential use of social media in its existing forms. According to government officials involved in Australian public procurement, limited improvement in tender circulation and transparency is possible with the use of social media. In its current form, social media may not be considered suitable to use across all stages of e-procurement process. However, there appears to be limited scope of using SM in stage 1 (searching), stage 2 (order processing) and stage 3 (monitoring and control), especially to assess the need, e-cataloguing, submission of the expression of interests, call for tenders and disseminating the tender outcomes. The challenges constraining SM usage are primarily managerial and intra-organisational in nature. However, these challenges should not undermine SM's needs and potential in enhancing efficiency in government

procurements. Therefore, our research contributes to knowledge by identifying a number of critical issues (e.g. challenges) which serve as a springboard to initiate further detailed investigations. The findings reported in this paper however cannot be generalised due to limited focus on the buyer side and because of its reliance on data from the public sector only. Hence, future research is needed to solicit the viewpoints expressed by suppliers as well as the potential role and challenges associated with SM in e-procurement context.

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