

https://dspace.org/

Implementation of e-procurement by the Gauteng Department of Infrastructure Development and its impact on the development of small and medium construction firms

Sithole, Ronald Alfred

2017

https://hdl.handle.net/10539/24199

Sithole, Ronald Alfred (2017) Implementation of e-procurement by the Gauteng Department of Infrastructure Development and its impact on the development of small and medium construction firms, University of the Witwatersrand, Johannesburg, <http://hdl.handle.net/10539/24199>

Downloaded from a DSpace repository. https://dspace.org/

IMPLEMENTATION OF E-PROCUREMENT BY THE GAUTENG DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT AND ITS IMPACT ON THE DEVELOPMENT OF SMALL AND MEDIUM CONSTRUCTION FIRMS

DISSERTATION ABSTRACT

Ronald Alfred Sithole

Student Number

421990

A dissertation submitted to the Faculty of Engineering and Built Environment, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Master of Science in Building (Project Management).

Supervisor

Professor Samuel Laryea



School of Construction Economics and Management

University of Witwatersrand

Johannesburg

18 OCTOBER 2017

ABSTRACT

E-procurement has been implemented globally with the aim of optimising efficiency and effectiveness within procurement processes of organisations and has become one of the preferred systems for the acquisition of goods, works and services. In recent years, e-procurement processes have been widely adopted and their application has been the norm in many organisations' procurement processes. However, while e-procurement presents some significant opportunities, a set of challenges has emerged with the implementation of e-procurement. For example, in the South African context, small and medium construction firms (SMCFs) that do not have access to technological infrastructure are often not able to participate fully in the e-procurement transactions. In that regard, the implementation of e-procurement by the Gauteng Department of Infrastructure Development (GDID), a public sector organisation within the Republic of South Africa (RSA) and its impact on the development of SMCFs was investigated in this study. This was done to ascertain the extent of e-procurement implementation and the experiences of SMCFs, benefits and challenges associated with this in the study area. In order to address the research question, the research design adopted involved a detailed examination of the e-procurement methodologies used by the GDID in its procurement for infrastructure projects. This was done through the utilisation of questionnaires. 10 GDID officials chosen through the utilisation of a combination of the stratified random and purposive sampling methods, participated on the research. Secondly, to ascertain the impact of e-procurement implementation on the development of SMCFs, 250 SMCFs within the GDID supplier database were emailed questionnaires to obtain information regarding their experience, benefits realised and the inhibiting factors associated with their participation in e-procurement. The 250 SMCFs were selected through purposive sampling method were selected on the basis that they participated in the procurement of infrastructure projects implemented by GDID in the previous three financial years which are 2014/15; 2015/16 and 2016/17. Twenty-seven of the 250 SMCFs responded. The e-procurement methodologies used by the GDID were found to be e-notification, partial e-tendering, e-contract award, e-contract management and e-maintenance, repairs and operations (e-MRO). There was no single integrated e-procurement system used for carrying out all the e-procurement activities. E-notifications were done through the

notification of tender opportunities for infrastructure projects through the Government Tender Bulletin, Construction Industry Development Board (CIDB) website, Department of National Treasury e-tenders' portal and the Lead-2-Business website. Partial e-tendering is carried out through the Department of National Treasury e-tenders portal. E-contract award was done through sending of award letters to service providers as email attachments. E-contract management is done through the utilisation of Oracles' Primavera P6 and Unifier software and Microsoft Project and emails for normal formal communication and circulation of instructions and project reports. E-MRO was done through the e-maintenance software developed by GDID. It was also found that only around 33.3% of the 27 SMCFs that responded were able to fully engage with all the 5 major e-procurement methodologies, excluding e-MRO implemented by the GDID. The remaining SMCFs still relied on the utilisation of a combination of both electronic and paper based systems. The main impact of e-procurement on the development of SMCFs was found to be both positive and negative. On the positive side, it increased profitability through cost saving benefits and reduction in time required for transactions, increased their market access (as they are able to view more tender opportunities), made transactions faster, increased production rate on site (through reduction in the time spent on tendering, thus releasing more time for managing projects on site), and safer storage and back-up of information for reference purposes and benchmarking of other projects, as well as, for dispute resolution. The main disadvantages were found to be high capital cost of procuring and installing Information, Communication and Technology (ICT) infrastructure, the lack of resources, unreliable power supply, security risk and the lack of infrastructure and the non-compatibility of different software packages and application (interoperability challenge). The study confirms that the use of e-procurement by the GDID is still evolving and is yet to be fully implemented in a way that guarantees its full potential and benefits. It also confirms that e-procurement impacts both positively and negatively on the development of SMCFs, and that the systems need to be carefully designed and applied in order to ensure the growth, inclusiveness, sustainability and development of SMCFs in South Africa.

Keywords: e-procurement, implementation, inhibiting factors, benefits, development, Small and Medium Construction Firms (SMCFs).