

# Chapter 17

## Impacts of Electronic Public Procurement in the Portuguese Construction Sector: Several Years After Implementation

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### ABSTRACT

*The adoption of fully electronic public procurement (EPP) systems is a requirement laid out in a group of European Union directives. These standards seek to improve the rationalization of resources (i.e., on an economics level) in public administration through the replacement of paper-based procedures with electronic services (i.e., e-services), thereby contributing to the growth of electronic government (i.e., e-government) in all member states. This chapter evaluates the impacts of EPP based on information and communication technologies. Research was conducted in Portugal, in which data on five companies operating on an international scale were examined for any organizational difficulties in the adoption of e-procurement. The findings include the positive impacts of following the objectives of the European Union directives in question. User satisfaction regarding EPP-related electronic platforms was also investigated.*

### INTRODUCTION

With the evolution of information and communication technologies (ICT), the expansion of electronic services (hereafter, e-services) with extensive technological support and reduced physical media circulation has become increasingly important in dematerialization (i.e., on an economics level). This strategy has gained general credibility due to the positive impacts of these innovations on institutions and citizens, such as hindering corruption, reducing transaction costs, and accelerating decision-making processes.

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These benefits are the basis for the European Union (EU) directives—with legal precedents in member states—that recommend the implementation of e-services in public administration (PA) as a way to change the formal relations between the central state and private sectors. The automation of government administrative services by moving to e-services has become essential to and, in some cases, required of EU member states. As a result, numerous electronic public procurement (EPP) implementation projects have been launched in the EU. EPP can be defined as “a comprehensive process in which governments use ICT systems to establish agreements for the acquisitions of goods and services” (Adebayo, 2016, p. 1), which is considered one of the most significant electronic government (hereafter, e-government) initiatives (Ferreira & Amaral, 2016).

In Portugal, a new public contract law (PCL) was revised and published (Diário da República [DR], 2008). As a result, this country's PA underwent significant changes in procurement procedures, especially the replacement of physical materials (e.g., paper) with electronic contracting (EC, 2004c, 2010), which became mandatory on November 1<sup>st</sup>, 2009. Although, Rosa and Almeida (2017) report that EPP in Portugal has had the expected success and state that the country can be regarded as both a unique case and a good example for the rest of Europe (Ferreira & Amaral, 2016), the impacts of EPP still need to be evaluated. This innovation requires all stakeholders to make adjustments when dealing with new systems that require user preparation. In addition, studies should assess how technology can best contribute to building an economic information society incorporating both institutions and citizens.

In this context, the present research's general objective was to evaluate the impacts of EPP in the construction sector two years after EPP became mandatory in the Portuguese PA. This study's purpose was also to suggest measures and dimensions that might address the limits reported in the relevant literature on the feasibility of developing accurate evaluation models. The following objectives were specified:

1. To identify organizational difficulties with the implementation of EPP in companies' operations
2. To assess the impacts—and their determinants—of the legal imposition of EPP on companies, as suggested by the objectives of the relevant EU directives
3. To evaluate users' satisfaction regarding the relevant electronic platforms
4. To identify improvements that could enhance the current EPP system

Five top international construction companies operating in Portugal were contacted, and surveys were carried out in these corporations. The questionnaire sought to identify both organizational difficulties with and positive impacts of the adoption of EPP, in line with the objectives of the EU directives that encourage EPP implementation (Ilhan & Rahim, 2017). Furthermore, the levels of user satisfaction with electronic platforms were also examined, and several significant potential improvements were identified.

## **BACKGROUND**

Across Europe, governments are determined to optimize resources and processes based on technology innovation to improve productivity and decision-making processes. According to Voet, Oers, and Nikolic (2004), dematerialization (i.e., on an economics level) is often cited as a strategy or an indicator of sustainable development, encouraging the reduction of information circulated through physical media. ICT facilitates physical media reduction through the transfer of electronic data and delivery of e-services, especially between organizations and clients (Guedes, Santos, & Ferreira, 2009). E-services are the basis

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