

## IN SEARCH OF SUSTAINABLE PROCUREMENT: FROM EPROCUREMENT TO PROCUREMENT 4.0. LIT REVIEW AND POINTS

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### **Abstract**

The paper is a first tentative to understand the existing literature on innovative public procurement and to clarify how it can contribute to sustainable development. It will be the basis for a second stage of the research, in which we will identify the legal challenges posed by the shift from eProcurement to Procurement 4.0. Sustainable procurement aims to contribute to the resilience of communities, and needs to be operationalized through legal norms and procedures, all carried out within the rule of law principle, which can be challenging.

#### (ii) research problem addressed

The paper will discuss how Industry 4.0 can lead public procurement to a new level of maturity, that goes beyond eProcurement. Firstly, we will identify the main characteristics of eProcurement and Procurement 4.0 (procurement that uses Industry 4.0 technologies, such as Internet of Things, Big Data, Clouds) and understand the elements they share, as well as the aspects that distinguish them. By doing so, we will define the two concepts and clarify the relationship between them. We will critically discuss the literature that argues that Procurement 4.0 surpasses eProcurement, and could bring significant advantages to the procedures in multiple areas. Our attention will be particularly drawn to the possible ways in which public administrations can use Industry 4.0 in order to achieve sustainable development goals.

#### (iii) methodology

Our research relies on a literature review on the characteristics of two main concepts: eProcurement and Procurement 4.0, as well as the literature that investigates the relationship between the two concepts. We will perform an exhaustive review of the juridical and administrative literature on the topic.

#### (iv) scope

This paper will tackle the realm of the EU. However, innovative uses of emergent technologies outside the EU will also be considered. This paper will offer a theoretical approach and will limit itself to the description of the characteristics of eProcurement and Procurement 4.0, as well as the advantages of Industry 4.0. Nonetheless, our approach will project practical applications of our findings in the procurement procedures within the EU.

#### (v) expected findings

This research will hopefully shed light on how Industry 4.0 arguably leads public procurement to a new level of maturity, through emergent technologies: going beyond eProcurement and reaching an innovative Public Procurement 4.0. The literature argues that through the use of new or disruptive technologies, Industry 4.0 has the potential to innovate all stages of the procurement cycle, with important positive effect on: sustainability, efficiency, automatization, flexibility, transparency, quality and cost. Based on then lit review and by comparing the characteristics of the two concepts, we will conclude whether Industry 4.0 has the capacity to offer more advantages than eProcurement and truly represents a new paradigm in public procurement.

#### (vi) academic and/or practical contribution

The topic of this paper presents a high interest for EU public administrations, regulators and policy makers. Multiple studies on this topic exist. However, the originality of our study relies on the explicit identification of the state of the art in this field, and on pointing the main challenges for administrations and legal scholars as regards the transition between eProcurement and Procurement 4.0.