


Chapter 1

Exploring the Mechanisms for Value-for-Money Diffusion in the Design and Procurement of EU Public Infrastructure Projects


Fani Antoniou

 <https://orcid.org/0000-0002-0773-5144>
International Hellenic University, Greece

Marina Marinelli

 <https://orcid.org/0000-0002-6509-0612>
National Technical University of Athens, Greece

Kleopatra Petroutsatou

 <https://orcid.org/0000-0003-4477-8693>
Aristotle University of Thessaloniki, Greece

ABSTRACT

This chapter presents procurement and design options that can lead to public projects of higher value for money (VfM) within the currently applicable EU legislation. It particularly highlights how the timing and extent of the contractor's involvement in design enables value management/engineering and constructability reviews and maximizes project VfM. Furthermore, this chapter demonstrates how the best VfM can be achieved with the integration of features from the open tender and the Competitive Dialogue (CD). This hybrid approach gives to any contractor the option to submit value-enhancing design variants within the context of an open procedure and processes their submitted proposals as per the main principles of the CD. In

DOI: 10.4018/978-1-6684-7786-1.ch001

this context, the contracting authorities need to select specific VfM-enhancing criteria as well as an efficient and objective method to address the emerging design comparisons, evaluations, and bid rankings. The authors address this gap with a multi-criteria decision-making model and provide a detailed example in line with the EU procurement legislation.

INTRODUCTION

Infrastructure projects, typically requiring large financial investment, are crucial in promoting the socio-economic development of countries and regions by enabling transport and providing access to health, education and housing to millions of people. Therefore, the ability of European Union (EU) countries to deliver infrastructure investment priorities efficiently and effectively is crucial to achieving growth objectives, especially after taking into account that the proportion of the EU population residing in urban areas is expected to increase to 82% by 2050 (European Court of Auditors, ECA 2014). The EU legislation for public procurement is included in the Directive 2014/24/EU and its main principle is to promote the idea of creating open and fair competition among as many suppliers as possible (Torvatn & de Boer, 2017). In particular, transparency, equal treatment and non-discrimination are necessary as minimum conditions for high level competition.

Furthermore, ensuring the most efficient use of public funds and achieving Value for Money (VfM) are central objectives for governments who can define value according to their priorities, typically encompassing the project's life-cycle cost, as well as organizational, social and environmental aspects. There is no doubt that the procurement mechanisms, typically controlled by governments in public works, make an excellent opportunity for the state to incorporate VfM requirements into project design and construction. Nevertheless, delivering a public infrastructure investment program that achieves VfM returns as planned has been revealed, from relevant European Court of Auditors (ECA) audits, as a particularly difficult mission for EU countries. Indicatively, it is not uncommon for EU projects to present significant delays and cost overruns in excess of 20%, for a variety of reasons including late modifications, coordination problems, technical difficulties, and delays in making land available (European Court of Auditors, 2014). In this context, concerted efforts by the stakeholders and particularly the contracting authority (CA) are necessary to promote value and minimize cost in public works. These efforts could tremendously benefit from the implementation of the structured process of value management (VM) for the main design choices, as well as the scrutiny of the technical solutions in the light of the principles of value engineering and constructability. For those well-established methods to be effectively implemented though, the engagement

29 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/exploring-the-mechanisms-for-value-for-money-diffusion-in-the-design-and-procurement-of-eu-public-infrastructure-projects/333675

Related Content

Introduction: History of Gate Failures and Overview of Vibration Mechanisms
(2018). *Dynamic Stability of Hydraulic Gates and Engineering for Flood Prevention* (pp. 1-43).

www.irma-international.org/chapter/introduction/187993

On the Mechanical Behavior of Masonry

Vasilis Sarhosis, D. V. Oliveira and P. B. Lourenco (2016). *Computational Modeling of Masonry Structures Using the Discrete Element Method* (pp. 1-27).

www.irma-international.org/chapter/on-the-mechanical-behavior-of-masonry/155427

Impact of Digital Twin on Smart Communities: Insights from the Putrajaya, Malaysia

Normalini Md Kassim, Nor Hazlina Hashim, Jasmine A. L. Yeap, Saravanan Nathan Lurudusamy and T. Ramayah (2023). *Impact of Digital Twins in Smart Cities Development* (pp. 254-275).

www.irma-international.org/chapter/impact-of-digital-twin-on-smart-communities/319120

Benefits Forgone: The Cost of Not Building Higher Performing Passenger Rail

Eric C. Peterson (2016). *Emerging Challenges and Opportunities of High Speed Rail Development on Business and Society* (pp. 53-80).

www.irma-international.org/chapter/benefits-forgone/152051

Prevention of Corrosion in Austenitic Stainless Steel through a Predictive Numerical Model Simulating Grain Boundary Chromium Depletion

M.K. Samal (2017). *Modeling and Simulation Techniques in Structural Engineering* (pp. 374-389).

www.irma-international.org/chapter/prevention-of-corrosion-in-austenitic-stainless-steel-through-a-predictive-numerical-model-simulating-grain-boundary-chromium-depletion/162926