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Public Procurement as a Demand-Side Innovation Policy Tool

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Abstract

The purpose of this paper is to lay groundwork for academic and public policy discussion of a demand side innovation policy that engages government initiatives supporting sustainable innovation in Albania. The analysesgoes through OECD innovation manual and a wide literature on the topic and tries to set a conceptual framework of an unexplored terrain related with public procurement and innovation. The implications of this article are academic for research purposes and practical for government organizations. Data from analyzing similar policies in EU and wider show that public procurement can stimulate sustainable innovation when standardized and optimized for the purpose, and it can affect different industries such as manufacturing, tourism, and technology. Laying down an academic background for analyzing the relationship between public procurement and innovation, and a framework for using it to support innovation is important for the Albanian economy and particularly the innovation ecosystem.

Keywords

Innovation, public procurement, policy tool, measurement framework

JEL: O31, Q55,

Introduction

Innovation is pivotal factor and driver of economic growth, market competitiveness, and economic sustainability. Recent research shows significant developments in innovation theory with new approaches and frameworks emerging. Globalization beside that for such a long timeenabled organizations worldwide to optimize their value chains economically (Gölgeci et al., 2020), it also laid down the blue print for collaborative platforms that created products and services in unprecedented scale around the world. From the innovation theory perspective, this movement was defined as open innovation theory. The most influential pioneer that developed and structured the shift towards a more open and collaborative approach to innovation and creation was (H. Chesbrough, 2017; H. W. Chesbrough, 2003). Later, open innovation theory was further studied with main innovation theories investigating their antecedents, innovation output, strategic implications of the theory and practical implications (Fink et al. 2020; Bogers et al. 2017; West and Bogers 2014).In this including approach, "system of innovation" has gained relevance in research by moving the analyzing perspective from individual organizations to a network of organizations bringing it to a systemic level (Geels, 2004).

Innovation theory has been marked by another important development such as ambidexterity theory. The main principle of this theory is that organizations to achieve sustainable innovation, they must weight a good balance between exploration and exploitation activities. Different authors path the ambidexterity theory in different contexts such as digital innovation (Teece, 2018), social innovation (Nicholls, 2019), and sustainability. Authors, (Gupta et al., 2021; Ritala et al., 2020; Tantalo, 2014) have analyzed in different organizational settings the antedecedents, outcomes, and managing ambidexterity.

An important theorical development in understanding the innovation framework has been the institutional theory. In principle, the theory emphasizes the role and importance of social norma, rules, and beliefs in shaping innovation behavior and outcomes. There has bee wide research covering the role of institutions in promoting or impeding innovation, and substantial implications of institutional pressures on business organizations (Hinings et al., 2018; Vadera & Pratt, 2013). Overall, late developments in innovation theory emphasize the importance of openness, balancing exploration and exploitation in firm resources, and institutional context for sustainable innovation achievement. By embracing these frameworks, business organizations can better understand

factors, drivers, and outcomes of innovation, and develop strategies or small-scale approaches that commit to their values and long term goals.

Innovation is an important driver of economic growth, new products and services, competitiveness, and sustainability. Recent developments in innovation theory have not been aside of developments in industries and market operations. Research identifies several emerging trends, especially with the unfolding of the pandemic. The most prominent is the growing importance of digital technologies, their evolvement and widespread transformation that these technologies are causing. Technologies such as artificial intelligence, big data analytics, blockchain, etc., are driving innovationfrontiers with new market applications. (Sheng et al., 2021) reveal in their study that companies that are prone to adopting digital technologies have a higher propensity to introduce new products and services and aim for higher levels of innovation.

As noted earlier, open innovation has spurred collaborating platforms that include wider scope of stakeholders such as customers, suppliers, and higher education institutions in product and service development. Increased flexibility, reduced costs, access to unprecedented knowledge resources are some of the benefits of oppen innovation approach (Chesbrough & Bogers, 2014). In addition, companies that adopt sustainable innovation strategies have the same benefits in relation to innovation (Golgeci & Yildiz, 2020). COVID -19 pandemic, had also an impact on innovation and digital technologies by rushing firms to adapt to new challenges and opportunities. However, resilience, agile frameworks, and innovation are important in responding to the pandemic challenges (Audretsch et al., 2022). Overall, companies all over the world have used technology and open innovation solutions to thrive emerging changing business environment.

1. Literature Review

Innovation theory and practice developments have also a practical perspective in relation to the government, and specifically public procurements. The OECD has put forward a framework of analyzing the relationship of public procurement and innovation and the role it has on it as policy tool. As a definition “public procurement” is *the purchase by government and state-owned enterprises of goods and services*(Appelt & Galindo-Rueda, 2016), and in relation to innovation it creates a demand-side innovation policy instrument (Edquist et al., 2015). Demand side innovation has been in discussion for a long time now and demand role as an innovation source and enabler

has been a persistent topic of discussion in economics (Izsak & Edler, 2011), in addition the sheer size of general government expenditures and the economic significance of procurements make it a relevant topic of discussion and object of interest as an innovation policy tool among others(Uyarra & Flanagan, 2009). In theory, demand can be responsive to innovation, or it can trigger it. Whichever happens, needs to be in consideration another dimension that deals with standards and standardization processes as they formalize buyer's expectations and facilitate market growth. Research shows that in raising innovation performance, government has a role through its procurements and demanding regulatory standards(Izsak & Edler, 2011).

In theory this remains a topic of discussion with many approaches and illustrations that demonstrate both, the benefits, and costs of public procurements as a demand side innovation policy. The role of government is broad, especially when it comes to government specific conditions. However, for the purpose of this paper the definition of demand side innovation policy that we will use is as defied by (Edler & Georghiou, 2007a)"*a set of public measures to increase the demand for innovations, to improve the conditions for the uptake of innovations or to improve the articulation of demand in order to spur innovations and allow their diffusion*". Research shows government decision-making related with public procurement has innovation as a strategic pillar in the process (Appelt & Galindo-Rueda, 2016).On the other side, public procurement as an innovation policy tool has its drawbacks when it comes to limited examples not being representative of public purchasing, a tendence to downplay procurement practices, or whether it misrepresents its public policy objectives (Uyarra & Flanagan, 2009).

OECD analysis show that across OECD countries, the percentage of firms that delivered goods or services to public authorities (2010-2012) varied from 9% to 34%. What is most important is that the greater the firm size, the grater the percentage supplying to public sector. This is a rule of thumb that can be detected even in Albania, when analyzing public procurement despite the lack of data. On the other hand, while analyzing the relationship between public procurement and innovation a study in UK finds out that the effect of acting as a significant driver of innovation was evident particularly in small and mid-sized companies(Mina et al., 2013).In theory, it is presumed that governments can exercise an extensive role on innovation within firms, by leveraging their purchasing power. Governments create demand for innovative goods and services (DARPA and NSA style), thus spurring innovation and enabling the development of new products

and technologies.Edler & Georghiou (2007) analyzed the relationship between public procurement and innovation in the EU, and they found that the previous can be used to stimulate the former. Most importantly, public procurement investments in innovative products and services can help firms override impediments while attempting to innovate(De Fuentes et al., 2019; Edler & Georghiou, 2007). As mentioned earlier, standardization and criteria can be artificially helpful to innovation if governments set standards that affect the products and purchases made that specify innovative conditions. According to data 14% to 36% of companies that dealt with public procurement activities reported to have carried out an innovation activity as a part of the contract (Appelt & Galindo-Rueda, 2016).

Overall, literature suggests that public procurement can be helpful tool and an innovation driver for firms, especially in small and medium enterprises, and economies with weak innovation systems. In addition, public procurement can also play a substantial role in emphasizing sustainable innovation by determining standards, procedures, and criteria for the products and services they purchase.

2. A framework for Albania

In Albania, during the last decade have been many attempts to build an innovation ecosystem. Millions have poured as donor money in innovation related agendas;however, they all have failed to create an ecosystem. Investment sources when they are not organized to create synergy, they produce a shadow innovation system like the one in Albania. What is more important than the system itself, is that many ecosystem stakeholders have failed to notice the absence of a national innovation system. Despite this, all have continued to pour investments in industry therefore producing mirages of the process. In Albania, public procurement has gone through fundamental changes. In 2009 the Albanian government received the second prize of the UN Public Service Awardfor excellence in public service (IDM, 2015). Reforms and evolvements in this regard has been carried out in compliance with general principles of EU law and public procurement principles of EU such as free movements of goods, services, freedom of establishment, etc.(AIS,

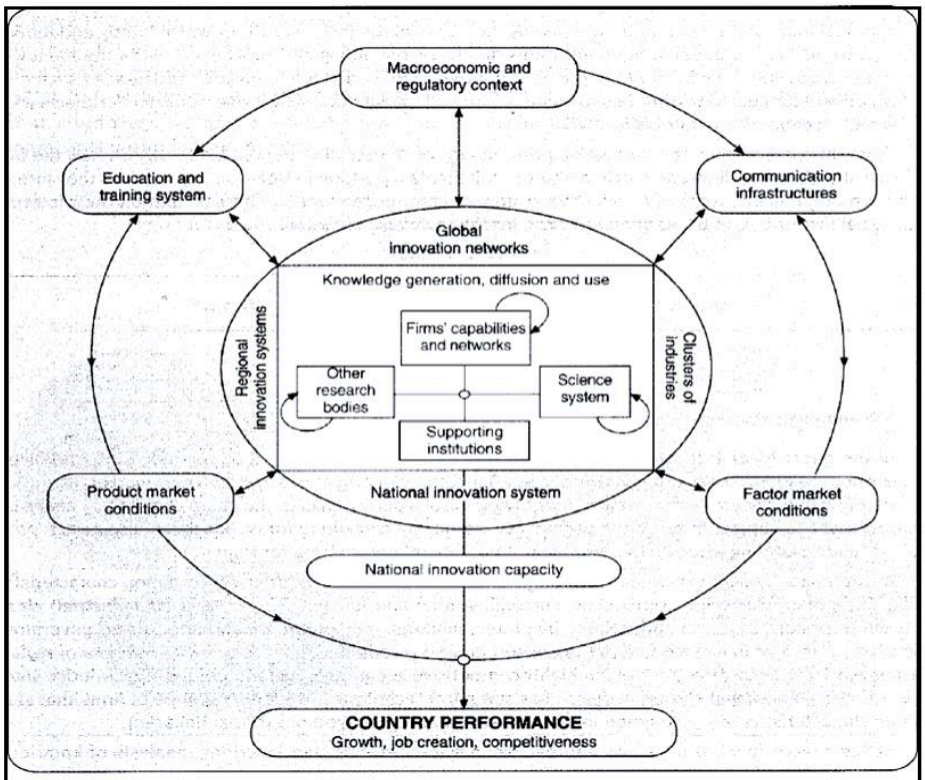
2022), and always has been analyzed from the integrity approach (AIS, 2022), but never from the economic standpoint or the perspective of innovation.

During the last decade the interest in innovation policy and innovation as a practice has grown significantly. This specific niche in the innovation theory makes for the Albanian Government a gap in policy making that needs to be analyzed and addressed. We clarified that this tool is related with demand side innovation policiesand the need to standardize, regulate, and put forward market incentives that drive innovation initiatives. Many countries have put forward active innovation policies for decades now (Appelt & Galindo-Rueda, 2016), and it looks appropriate now that Albania does the same thing with an advanced technology system of public procurements in place.

The framework proposed for initial academic discussion and institutional practice is conceptual structure based on the OECD national systems of innovation framework, approaches from

literature, and country based best initiatives(Box, 2009; Lenderink et al., 2022; Uyarra & Flanagan, 2009).

Figure 1 Preliminary Conceptual Framework



APPROACHES						
Public procurement innovative solutions	Innovation-friendly procurement	Public procurement for innovation	Forward Commitment procurement	Using procurement procedures which provide possibilities for negotiations with suppliers	Pre-commercial procurement	Innovation partnership
INNITIATIVES						
Programmes to fund R&D in the early stages of product development.	Include public procurement in the strategy of "Research Innovatin, and Technology".		Pool knowledge and experience by offering training to government bodies.		Innovation in public procurement programme.	Promote Public procurement innovation and secure SME access.

3. Policy implications and future research

Literature shows that there are a variety of concepts mentioned in academic research to describe and analyze the phenomenon of stimulating innovation with a policy tool such as public procurement. In addition, it demonstrates many approaches, successful and unsuccessful cases that

have produced know-how in the process, concepts, and typologies of public procurement initiatives that stimulate innovation.

Beside the conceptual and theoretical basis, literature identifies many contextual factors that evaluate the efficacy of each approach and how sustainable it will be in the long run. Some main elements noticed as important factors are the characteristics of the procurement organization, the demand side of the process meaning what is to be procured, and technology, product, or service characteristics related to maturity or market readiness, or the maturity of the solution that might be offered by a specific supplier.

This article supports the idea that public procurement policy in Albania should consider an approach to stimulate innovation. For that to be systemic, public organizations should be open to discussion and to allocate temporary resources to sharpen such a public policy tool. Public procurement can be an instrument to foster innovation and competitiveness, not a sole one, but taking in consideration the sheer amount of activity that the government does it can be very helpful and impactful at the same time. In a government context the initiative shall consider the fundaments of a national innovation system. With a national innovation system in place, it is a sign of sustainability that additional integrations occur while a considerable structure is in place. Being at such an early-stage policy wise and institutionally makes it a necessary condition to start with the creation of a national structure carefully embedded in government institutions and wider.

Regarding future research, this paper is a first modest attempt to discuss the notion of public procurement as a demand side innovation policy tool. Several theoretical implications must be researched in this perspective. More research should be carried out investigating many details including nominal values of public procurement, their composition in time, relations with different industries, company sizes, and many more factors. Research and academia must work closely together to fill the gap of a blind spot in literature, and most importantly the lack of skills, knowledge and resources in public organizations that has been a considerable barrier not only for the use of public procurement as innovation stimulator but also wider.

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