

MANAGEMENT OF PUBLIC PROCUREMENT FOR INNOVATION AND DEVELOPMENT - EXPERIENCES OF DEVELOPED COUNTRIES

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ABSTRACT

Public procurement management is a process in which national governments, local authorities, and their agencies order and pay for products or services needed to carry out their operations. The amount of public procurement in today's countries includes a portion of government spending and constitutes a significant share of GDP. The type of public procurement also includes the emergence of goods that did not exist before. This type of public procurement is most interesting for analysis and research because it focuses on the potential of the public procurement system to stimulate innovative activities and the emergence of innovative products and services, leading to economic development and competitive advantages in the global market. In this paper, we will focus on examples learned from developed countries that utilize the public procurement system to encourage innovation and development.

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PUBLIC PROCUREMENT FOR PROMOTING INNOVATION AND DEVELOPMENT

Unlike regular public procurement, a special example is public procurement for innovation and development, in which a public agency orders a product or service from an organization that does not yet exist. This means that research and innovation are required before delivery, and the buyer must define the functions of the product or of the system, rather than the product itself. In the early 1980s, there was a lot of discussion about public procurement for promoting innovation and development, and research often cited demand as an important stimulus for it, which was later confirmed in practice. At that time, the United States was technologically far more advanced than Europe. In order for Europe to catch up with the United States in the emergence of new technologies, Rotwel and Zegvelt recorded in 1981 that a homogeneous market should be shaped (which is now one of the pillars of the European economic strategy). The authors believe that emerging technologies can be promoted with the help of public procurement systems, and that the government thereby reduces the degree of unpreparedness of potentially innovative enterprises because it clearly expresses needs and represents stable demand. The objectives of development-oriented and innovation-oriented public procurement are to improve the quality of goods used by the public sector, increase the quality of goods used in the public sector, and enhance the international competitiveness of domestic industries [1]. Rothwell later also found a positive impact of public procurement on development and innovation in the government's significant purchasing power, which can create a market for products,

services, or systems that did not exist before. Public procurement can stimulate the penetration of advanced technologies and represents a significant field for testing innovations [2]. The use of public procurement to promote development and innovation necessarily requires adaptation and specific organizational procedures. The limitations of using public procurement for development and innovation are reflected in a lack of consensus, particularly during times of political change, the need for additional regulation when the government lacks sufficient market power, and when governments do not behave rationally.

In the field of public procurement for development and innovation, there has been a lull after encouraging beginnings, with the exception of mentions by authorities about the potential use of public procurement in promoting innovation, until the end of the last century. During that time, Edquist rekindled these ideas when he discovered a range of political incentives for innovation and development on the supply side (such as subsidies for research and development) during the 1990s, highlighting the previously neglected demand side. After 2000, there were increasingly more examples of interest in public procurement for innovation and development, particularly at the EU level. The EU itself has since initiated and funded some of these studies. They show that government policies to stimulate the economy are mainly indirect (subsidies, tax reductions, government guarantees, and low interest rates), while in the case of public procurement, the state acts as a direct buyer, purchasing products and services from various companies, which is directly linked to their activities [3].

Although innovation is described as the main argument for utilizing public procurement for innovation and development, the true reason for their use is to meet human needs and address societal problems. Interestingly, despite the support for fostering innovation and development through public procurement, EU legislation itself becomes a barrier to that goal. Edquist and Zabela-Iturriagoitia argue that the problem lies in the fact that EU legislation attempts to create a unified market to promote competitiveness while simultaneously implementing interventionist measures to achieve social and economic objectives. However, interventionism is at odds with market creation. Therefore, the new EU guidelines aim to introduce a process of increasing flexibility and simplifying actions, advocating for the application of life-cycle costing principles in choosing among different offers instead of simply deciding based on the lowest price. In conclusion, the authors believe that public procurement for innovation and development requires a slightly different approach, as it is necessary to train procurement professionals to select more innovative solutions and to use public procurement in combination with other tools of innovation and development policies, which should enable the resolution of significant challenges and problems [3].

Miles identified sustainable development and energy efficiency as stronger incentives for innovation compared to the needs of public procurement [3]. Elder et al. define clearer expressions of innovation needs and improved conditions for their emergence and diffusion in the market as specific objectives of demand-side innovation and development policies. The emphasis is on the fact that demand-side incentives are only complementary and do not substitute for supply-side incentives. Within the EU, the Lead Market Initiative (LMI) is particularly important for public procurement of innovation (PPI). It was created to help the EU achieve the goals of the Lisbon Agenda and become a leading and growing economy that creates jobs. In the field of public procurement, the LMI aims to reduce market fragmentation across the EU through the use of procurement networks such as the Public Procurement Network (PPN), which would facilitate entrepreneurial behavior in public procurement, increase market transparency, and create better connections throughout the EU [4]. Therefore, innovation can be an explicit secondary goal in public procurement policy in cases where governments primarily strive for:

- a) enabling the performance of former government functions, such as protection against various shocks and hazards,
- b) obtaining better products for use in performing state functions, or
- c) appropriately utilizing market power to ensure more efficient satisfaction of the needs of those enjoying public goods.

Public procurement, and consequently PPI, is a tightly regulated field, and its implementation often involves standards that are meant to ensure a certain level of quality, satisfactory transparency, and integrity throughout the process [5].

Improvements in public services provide an advantage and intensify competition in the market. Innovations can reduce the costs of the entire life cycle of improved technology (lower energy consumption, maintenance costs, repairs, etc.). Sometimes, innovations can have a negative impact on public procurers due to higher prices of new features or improved product characteristics, increased risks

for users or the environment, as well as increased maintenance costs due to lack of experience with them. Some innovations can be carried out by only a small number of suppliers or a single company if there is a lack of competitive competition, which can subsequently lead to less initiative for future innovation [6].

EXAMPLE OF EXPERIENCES OF DEVELOPED COUNTRIES.

The use of public procurement systems to stimulate innovation emerged entirely by chance. American agencies primarily associated with the defense sector typically issued procurement calls in a manner that allowed for the creation of innovative solutions. These innovations were not limited to the defense sector but also extended to products or services used in the civilian sector (such as microwaves and their use in household ovens, the internet, GPS systems, etc.). Innovations did not arise from a targeted or centrally planned policy but rather from individual agencies acting in accordance with their rules and specific policies. Other developed countries adopted specific programs through which innovative solutions emerged as a result of participating in public procurement calls. In their book, Rothwell and Zegveld provide numerous examples of public procurement and research on their impact on stimulating innovation in the second half of the 20th century. They mention the U.S. ETIP program, which supports experimental techniques in the public sector, although its implementation highlighted the need to connect public procurement with other types of instruments for innovation stimulation.

In Germany, based on the American ETIP program, they analyzed the possibility of using public procurement in the civilian sector for items such as heat pumps, motor vehicles for public use, medical technology, equipment for the elderly and disabled, solar energy, and fire protection equipment.

The Swedish STU program demonstrated that their government is a serious buyer and can influence the stimulation of technological innovations, which can subsequently enhance the international competitiveness of Swedish products. Due to decentralization in Sweden, over 50% of all public procurements take place at the local level. Therefore, local authorities, based on the mentioned program, have created numerous innovations in waste collection and management, development of municipal data management systems, development of local transportation systems, measures to prevent crime in hospitals, and so on.

The Canadian Procurement and Services Branch is responsible for all public procurements, and within it, there is a research center that promotes innovation stimulation through the public procurement system. As early as the 1970s, they began implementing selection criteria based on socio-economic objectives, moving away from solely selecting suppliers based on the lowest price.

In the United Kingdom, there have been various local initiatives for similar processes, such as establishing a local service management system with the help of IT, which later merged with the Local Authority Procurement Board to improve local ordering through advisory roles, assist in advocating local interests at the national level, and stimulate research for the development of coordinated public procurement.

In France, the government intervened in the IT industry to stimulate emerging domestic production through prepared procurement from domestic manufacturers.

The interests in promoting development and innovation through foreign demand in the 1980s and 1990s somehow faded, but the articles by Equiste and Homen, as well as Equiste and other researchers, redirected attention to additional benefits for development and innovation policies. Based on this, research on this issue began in the EU in the early 21st century. Since then, the number of national and international research institutions and articles exploring different aspects and possibilities of public procurement systems that could influence the emergence of innovation and consequently economic development has increased.

In 2007, Niri and colleagues concluded that none of the studied EU countries keeps statistical data on the volume of innovation-oriented public procurement of technologically advanced goods. Five years later, most of the statistical data available for previous periods existed to enable support on the supply side. One of the recent initiatives in the field of public procurement of innovation (PPI) is an attempt to evaluate demand-side innovation policies. Over the past decade, there has been a shift in focus from supply to demand.

It is difficult to assess the effects of past policies due to inadequate metrics and methodology for storing such data. The development of methods and metrics for evaluation is the basis for developing policies that will not be solely based on intuition.

CONCLUSION

In the current crisis conditions, the efficiency of managing and utilizing public resources is even more important than ever. The SIGMA initiative - Support for Improvement in Governance and Management highlights the importance of ensuring value for money in the government public procurement system. Therefore, it is not indifferent what is being ordered in that process. A significant portion of public procurement relates to ordering regular and customary products, services, or systems (often in combination) that do not require anything innovative. The other type of public procurement involves the creation of goods that did not exist before and relates to the potential of public procurement systems in stimulating innovation and development. This type of public procurement is often referred to as Public Procurement for Innovation - PPI in the literature. The need for creativity can be seen in many segments of management, especially when it comes to trends present in the business world in the last fifteen years [7].

The fundamental importance of public procurement lies in treating all suppliers equally, promoting efficient competition and technical efficiency, which is why regulations and guidelines have existed for many years on how to conduct public procurement procedures, such as EU guidelines and regulations, the Government Procurement Agreement, and the WTO.

On the other hand, the policy of promoting development and innovation through public procurement (PPI) is not primarily focused on ensuring competition and equal competitive conditions but aims to create novelties and positive externalities for its environment. For this shift to truly happen, governments must engage in interactive learning and participation with the market, as it goes against the principles of the GPA.

Sometimes, public procurement for development and innovation represents a relatively high level of political and administrative power that developing countries often lack, and it is difficult to achieve based on prevailing WTO policies and principles. In addition, PPI represents a high level of existing competitiveness. Developed countries have greater policy and market competitiveness, so it is wise to deepen knowledge through PPI policies, as it increases the likelihood of success while respecting the GPA.

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