



Foresight for public procurement and regional innovation policy: The case of Lombardy



Riccardo Vecchiato*, Claudio Roveda¹

Politecnico di Milano, Department of Management, Economics and Industrial Engineering, P.zza Leonardo da Vinci, 32, 20133 Milano, Italy

ARTICLE INFO

Article history:

Received 23 December 2011

Received in revised form 31 October 2013

Accepted 1 November 2013

Available online 5 December 2013

Keywords:

Regional innovation policy

Public procurement

Foresight

Demand and R&D management

Innovation

ABSTRACT

Public procurement can be a major source of innovation. The potential benefits of public procurement might be fully exploited through the acquisition not only of appliances which are already available in the market, but also of new appliances which are tailored to the specific needs of the local community and might be exported as well to the international markets. In this way, public procurement might allow to improve the services delivered to the local community and to increase the technological competitiveness of the local industrial and research system. In this context, regional foresight might help identify both long-term societal needs and the patterns of evolution of emerging technologies that can match these needs. The purpose of this paper is to illustrate, through the recent experience of the regional government of Lombardy, the role of foresight for enhancing public procurement and innovation policy at the regional level.

© 2013 Elsevier B.V. All rights reserved.

1. Introduction

Public procurement can be a major source of innovation. When oriented towards innovative solutions that improve the “quality” of the services provided to the society, public demand has the potential to strengthen the industrial and economic system through the effective involvement of the many and different players that are at the basis of the generation, implementation and dissemination of new technologies (Dalpé et al., 1992; Edler and Georghiou, 2007; Porter, 1998).

In the 1970s, a number of empirical studies explored the meaning of public procurement of innovation (for an overview, see Mowery and Rosenberg, 1979; Rothwell, 1986). Rothwell and Gardiner (1989) showed that, over longer time periods, state procurement triggered greater innovation impulses in more areas than did R&D subsidies. Geroski (1990, p. 183) also analyzed the quantitative and qualitative meaning of state demand for innovation and concluded that procurement policy “is a far more efficient instrument to use in stimulating innovation than any of a wide range of frequently used R&D subsidies”.

Nonetheless, with a few exceptions, in the EU the potential (and challenges) inherent in the use of public procurement have been largely ignored in public policies, both conceptually and in practice. Some scholars have argued that the introduction of more

stringent competitive regulations across the EU turned out to be a major driver of the declining use of this instrument (Edquist et al., 2000a,b). Such decline is confirmed by statistics and empirical evidence, showing that procurement in the EU is taken into account four times less than in the US in civilian sectors and two times less in defence (Directors Forum, 2006).

This trend was discontinued in the mid 2000s, as a new interest has emerged in the context of demand-side approaches to innovation and, more concretely, in the use of public demand as an engine for innovation in some EU Member States (Edler et al., 2006). The emphasis has been put on the link between procurement and perceived under-investment in R&D by the business sector. Edler and Georghiou (2007) argue that such interest in public procurement has been due to a sense that traditional supply-side innovation policies are insufficient to meet the challenges posed in promoting competitiveness. The way in which procurement has entered the policy agenda is itself an interesting issue. Following the work of an expert group, procurement for innovation was incorporated as an element of the European Commission’s Research Investment Action Plan to raise R&D expenditure to the 3% Barcelona target (Georghiou, 2003, 2007; European Commission, 2003). Follow-up work includes a specific action to support the development and diffusion of information to public buyers (for example, on the best available technologies) and an initiative to set procurement in the broader context of “policy mixes”, thereby exploiting synergies with other research and innovation policy measures, such as technology platforms.

Parallel to the renewed interest in the use of public procurement, a second research stream in the literature on innovation

* Corresponding author. Tel.: +39 2 23993994; fax: +39 2 23992720.

E-mail address: riccardo.vecchiato@polimi.it (R. Vecchiato).

¹ Tel.: +39 2 23992783; fax: +39 2 23992720.

and research policy is increasingly emphasizing the importance of regions for innovation and growth. Porter's work on clusters clearly showed how geographical concentrations of competing and cooperating enterprises are linked by social and institutionalized networks that in turn facilitate learning, innovation and competitiveness (Porter, 1990, 1998). This work paved the way for the current growing interest in Regional Innovation Systems – RIS (Cooke et al., 2000; Asheim and Gertler, 2005). The RIS approach emphasizes the shift of innovation policies from the national to the regional level with particular attention to the interactive flows of knowledge between the different components and stakeholders of a regional system.

Following this shift, there is a clear need (and opportunity) for appropriate methods and tools, aiming at enhancing the formulation of a regional vision and a regional innovation strategy able to translate this vision into policy action, with respect to all the phases of the “policy cycle” (Georghiou, 2001; Roveda et al., 2004; Smits and Kuhlmann, 2004). In particular, a tool which is benefiting of growing popularity is ‘Regional Foresight’ (Koschatzky, 2005; Roveda and Vecchiato, 2008).

The main objective of this paper is to link the research streams of public procurement, foresight, and regional innovation policy. We ask: *How do policy makers that have responsibility for regional innovation strategy design and use foresight for informing public procurement for innovation?* The case of the A3T (Analysis of Application Areas and Technologies) project that has been carried out in the late 2000s and early 2010s by the regional government of Lombardy is very helpful to explore this research question. The A3T project was conceived by the regional government of Lombardy in order to combine public procurement with its research, development and technology innovation (RDTI) strategy, and was based on an exercise of (regional) foresight.

The paper is structured as follows. Section 2 briefly reviews the relevant literature on regional foresight and public procurement. Section 3 describes the main challenges (and opportunities) to tackle for carrying out public procurement at the regional level, and the potential role of foresight for overcoming these challenges (and exploiting opportunities). Section 4 illustrates methodology, process and outputs of the A3T project, by focusing on the outcomes of the foresight exercise and its impact on public procurement. Section 5 discusses the general insights and implications for foresight and public procurement for innovation we drew from the A3T project and finally Section 6 outlines future research avenues.

2. The role of public procurement, regions and foresight in innovation policies

This section provides a brief overview of the three research streams in literature on R&D and innovation policy that are relevant for the purpose of the paper, i.e. public procurement, the role of regions for RTDI in the EU, and foresight.

2.1. Demand-side innovation policies and public procurement: a new wave of interest

The interest in demand-side innovation policies as an approach for fostering competitiveness is quite popular: such policies attempt to complement the traditional supply-side measures. Supply-side measures refer to the provision of firms with resources, technological knowledge and/or capabilities to innovate: this can be achieved by means of grants, loans, tax incentives, consultancy support, and various forms of support for equity and debt guarantees. By contrast, demand – side innovation policies can be defined as a set of public measures which attempt to pull through innovations and the diffusion of innovations (Edler, 2008, 2010). According

to Hollanders and Arundel (2007), the rationale for demand-based policies lies on four pillars: the overcoming of system failures which become manifest in a set of concrete bottlenecks (e.g. information and adoption problems in innovation markets, high entry costs blocking future scale and network effects, lack of skills for absorbing new technologies); the serving of societal needs and the capture and translation of societal needs into articulated market demands; the achievement of productivity gains through the modernization of industrial assets; the incentive for regional and national companies to implement forefront innovation.

The tool box for demand-side innovation policy encompasses a wide range of approaches: public procurement, i.e. the acquisition of goods and services by government or public organizations; direct support to private demand (e.g. demand subsidies); improvement of demand competence and support of demand articulation (i.e. trying to better understand societal preferences and how they link to technological trajectories); standards and regulations (e.g. for the environmental quality of products and processes); support to clusters and platforms, by mobilizing actors and networks and bringing together demand and supply for innovation (Edler, 2008; Georghiou and Harper, 2008).

Public procurement in particular has received a wide interest in recent years (Edler and Georghiou, 2007; Georghiou and Harper, 2008; Wilkinson et al., 2005). Porter (1990) argued that such approach can act as a positive force for upgrading national competitive advantage, by: providing early demand for advanced new products and services; leading government to act as a demanding and sophisticated buyer; facilitating innovation and encouraging competition. These conditions are mutually reinforcing and each may have its greatest significance at different stages of an industry's evolution and depending on industry characteristics.

Uyarra and Flanagan (2009) emphasize the difference between ‘regular’ procurement and ‘public technology’ procurement. On the one hand, regular public procurement occurs when public sector organizations buy ready-made products for which no R&D is required and about which purchasing and supplier selection decisions can be made on the basis of readily available information about price, quantity, and performance, given the existence of standardized markets. On the other hand, public technology procurement occurs when “a public agency acts to purchase, or place an order for, a product – service, good, or system – that does not yet exist, but which could probably be developed within a reasonable period of time, based on additional or new development work – e.g. R&D – by the organization(s) undertaking to produce, supply, and sell the product” (Edquist et al., 2000a,b).

Major proponents of the use of public procurement increasingly refer to ‘public technology procurement’ as the most promising field of development for demand-side policies and generically use the term ‘innovative procurement’ or ‘procurement for innovation’ rather than simply ‘technology procurement’ in an attempt to reflect a broader view of innovation beyond R&D (Edler and Georghiou, 2007). The basic premise for this overriding role of public procurement for innovation is that the public buyer can specify requirements that cannot be met from off-the-shelf goods or services and hence that an innovation is required to meet the demand. There is a potential double benefit in that the purchaser receives an innovative solution, while the supplier benefits from customers' feedback and an assured first purchase. An extension of this concept is the ‘lead market’, where there are sufficient buyers of the innovation willing to pay a premium or take additional risks and other factors such as regulations and competition are favourable. Lead markets thus do not only refer to publicly defined conditions, but also to conditions that are determined by the private sector. To put it simply, a lead market provides a launch platform for innovations which then may evolve to become cheaper and more effective so that they can become of interest to a larger number of customers

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات