

Impact case study (REF3)

Institution: The University of Manchester		
Unit of Assessment: 17 (Business and Management)		
Title of case study: Stimulating Demand-side Innovation through Policies on the Public Procurement of Innovation (PPI)		
Period when the underpinning research was undertaken: 2007 - 2018		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Jakob Edler	Professor	2007 - 2020
Elvira Uyarra	Reader	2004 - present
Luke Georghiou	Professor	2004 - present
Jillian Yeow	Lecturer	2006 - present
Period when the claimed impact occurred: 2014 - 2020		
Is this case study continued from a case study submitted in 2014? N		
<p>1. Summary of the impact University of Manchester (UoM) research has influenced international policy and initiatives for the public procurement of innovation (PPI). Key findings have shaped the European Commission's Innovation Procurement Broker scheme, which was piloted in 2018 at a significant economic scale of EUR600,000 per project. This research also informed the Inter-American Development Bank's (IDB) changes to its funding criteria for public procurement and shaped its development of a new PPI funding mechanism, which has invested USD500,000 in pilot projects. In Chile, UoM research has informed the first PPI directive and the development of The Chilecompra Innovation Platform, which brings together government allocations for public purchasing (share of USD13,000,000,000) and innovation (USD1,003,000,000). A follow-on project, the Procure2Innovate programme, has increased PPI capacity in 10 European countries.</p>		
<p>2. Underpinning research Researchers from the Manchester Institute of Innovation Research (MIOIR) at the University of Manchester (UoM) have pioneered the investigation of PPI. Edler led a group of colleagues to analyse how public authorities (e.g. governments, public agencies) can procure goods and services that are not yet widely available in order to stimulate responsible innovation. This research produced five key findings/results:</p>		
<p>2.1. A demand-side perspective on PPI's potential for generating innovation Edler and Georghiou [1] developed a framework that provides a demand-side perspective on PPI. It draws attention to how orienting public demand towards innovative solutions and products can improve the delivery of public services and often generates improved innovation dynamics; specifically indirect benefits from economic and technological spill-overs.</p>		
<p>2.2. Understanding of the impact of procurement on markets and innovation Uyarra and Flanagan [2] proposed a framework and typology based on the nature of the goods and services procured through PPI, to examine their potential impacts upon markets and innovation. This research provides evidence that public purchasing should remain concerned with proximate public policy goals. Rather than trying to co-opt public procurement into the innovation policy toolbox, policy-makers should focus on promoting innovation-friendly practices across all types of procurement, at all levels of governance.</p>		
<p>2.3. Identified effective methods for evaluating PPI Edler, Georgiou and Uyarra [3] examined the implications of PPI evaluation practices at micro and meso levels. This research identifies key issues affecting the design of these practices, including: the difficulty of establishing a relevant baseline; the inability of public statistics constructed in</p>		

supply-side mode to capture actions; and the need to engage with actors who do not necessarily see themselves as part of the initiative being evaluated, over long timescales and across wide geographical scope. Georgiou worked with Edler, Uyarra and Yeow [4] to conceptualise the policy need and support for PPI and provided evidence on the reasons why existing methods used to support PPI are inadequate, including lack of coverage, lack of ownership by purchasers, failure to address the whole cycle of acquisition and to address risk aversion.

2.4. Identified the factors that enable or hinder PPI

Uyarra and colleagues [5] differentiated and conceptualised factors that support or hinder PPI and provided an empirical analysis of their relative importance and effects, based on a survey of 800 UK public sector suppliers. This study established a taxonomy of procurement policies and instruments that have emerged in OECD countries in response to perceived deficiencies and examined firms' perceptions of these instruments.

2.5. Defined the needs for intermediation to support PPI

Edler and Yeow [6] examined the different needs for intermediation in PPI and evaluated different ways of providing intermediation support. Their work defines specific intermediation needs and functions in different procurement situations and outlines the pre-conditions for effective intermediation. Their research recommends building up effective intermediation across procurement systems to support agencies in concrete procurement and, in doing so, increasing capacity for more intelligent public buying.

3. References to the research

- [1] **Edler, J. and Georgiou, L.**, (2007). Public procurement and innovation: Resurrecting the demand side. *Research Policy*, 36(7): 949-963. [DOI: 10.1016/j.respol.2007.03.003](https://doi.org/10.1016/j.respol.2007.03.003) [over 400 Web of Science and 1250 Google Scholar citations]
- [2] **Uyarra, E. and Flanagan, K.**, (2010). Understanding the innovation impacts of public procurement. *European Planning Studies*, 18(1), pp.123-143. [DOI: 10.1080/09654310903343567](https://doi.org/10.1080/09654310903343567) [over 127 Web of Science and 430 Google Scholar citations]
- [3] **Edler, J., Georgiou, L., Blind, K., Uyarra, E.** (2012) Evaluating the demand side: New challenges for evaluation. *Research Evaluation*, 21(1): 33-47. [DOI: 10.1093/reseval/rvr002](https://doi.org/10.1093/reseval/rvr002)
- [4] **Georgiou, L., Edler, J., Uyarra, E. and Yeow, J.**, (2014). Policy instruments for public procurement of innovation: Choice, design and assessment. *Technological Forecasting and Social Change*, 86: 1-12. [DOI: 10.1016/j.techfore.2013.09.018](https://doi.org/10.1016/j.techfore.2013.09.018)
- [5] **Uyarra, E., Edler, J., Garcia-Estevéz, J., Georgiou, L. and Yeow, J.**, (2014). Barriers to innovation through public procurement: A supplier perspective. *Technovation*, 34(10): 631-645. [DOI: 10.1016/j.technovation.2014.04.003](https://doi.org/10.1016/j.technovation.2014.04.003)
- [6] **Edler, J; Yeow, J.** (2016): Connecting demand and supply. The role of intermediation in public procurement of innovation, *Research Policy* 45 (2): 414–426. [DOI: 10.1016/j.respol.2015.10.010](https://doi.org/10.1016/j.respol.2015.10.010)

4. Details of the impact

The pioneering research on PPI by Edler and his MIOIR colleagues discussed in section two has had significant impact on four international beneficiaries:

4.1. Informing the design of the European Commission's (EC's) Innovation Procurement Broker scheme, thereby increasing PPI capacity across Europe

MIOIR research led by Edler influenced the EC's design of a new programme, the Innovation Procurement Broker scheme, as a sustainable method to facilitate effective PPI. The scheme supports a coordinated system of firms that facilitate commercial connections between the suppliers of innovative solutions (especially SMEs and start-ups) and public buyers, while connecting to investors and knowledge producers such as universities. Members of the EC's unit supporting the digital transformation of public procurement (Unit G4 of the Directorate General for Internal Market, Industry, Entrepreneurship and SMEs [DG GROW]) consulted Edler's work [1-3] at the outset, which stimulated them to develop a scheme for intermediation [A]. The leader of the Broker scheme, has expressed her view that "[Edler's] research heavily influenced the Innovation

Procurement Broker; for instance, the rationale and Terms of Reference have been largely shaped by the communications with Edler.” She attests that Edler’s evidence and advice changed thinking, from the view of innovation procurement guided by a “PPI brokerage with a supply logic”, to the realisation that PPI is about the buyer [A]. As a result of this learning process, there was increased appreciation of the importance of including the needs of public buyers in the design of public policies in order to optimise allocation of public money.

The influence of Edler’s research continues to be evident in the design of the brokerage scheme. A number of principles for the scheme were taken from Edler and Yeow [6], as confirmed by the leader of the Broker scheme [A]. These include (i) not picking winners, but enabling the process of public procurement to unfold in a more dispersed manner and (ii) the role of intermediators as crucial actors, who serve to link buyers with suppliers. The scheme was piloted in 2018 with EUR600,000 per project and has achieved significant scale, involving 20 public buyers and 40 suppliers. The scheme leader states that the scheme “holds important economic leverage in the European Single Market” as public procurement represents approximately 14% of European GDP, equating to EUR2,000,000,000,000 every year. When managed through mechanisms such as the brokerage scheme, the scheme “can lead to significant savings in public budgets and to more investment” [A].

For the EC, the Innovation Procurement Broker pilot served as an exemplar for similar policy experimentation and the development of PPI brokerage schemes in European countries including Italy, Norway, Austria, Germany and Ireland. For example, the Urban Agenda for Innovative and Circular Partnership (established in May 2017), which is an EU initiative comprising EU cities, regions, Member States, the European Commission and other stakeholders, recommended the development of an innovation procurement broker in Italy [A, action 2.2.1].

Following successful pilots of the brokerage scheme, the EC developed other initiatives based on Edler and his MIOIR colleagues’ research. This includes the Procure2Innovate programme, a Horizon2020 project (EU contribution EUR1,999,491,25) owned by the Directorate General with whom the MIOIR team are providing innovation procurement guidance [A]. This project provides improved institutional support for public procurers of information and communication technologies (ICT), expanding competence for PPI in 10 EU countries.

The body of research developed by Edler and colleagues has also influenced frameworks and policies that guide various aspects of PPI across the EC and EU member states; this research is used extensively in key reports on developing strategic frameworks for PPI [B], capacity building for PPI [C], and evaluating the impact of PPI [D]. For instance, Edler and Georghiou’s principle of interactive learning [1], which mandates dialogue between the procuring authority/unit and suppliers is now enshrined in EU Directive 2014/24/EU and its calls for long-term innovation partnerships [B].

4.2. Influencing policies and funding criteria and establishing a new PPI funding mechanism at the Inter-American Development Bank (IDB)

In Latin America, public procurement accounts for approximately 20% of GDP, so there is significant potential to use PPI to strengthen innovation and economic development in these countries. Actors in the region approached the MIOIR team for evidence and advice on developing PPI. In 2016, Uyarra, Edler and colleagues wrote a report for the IDB outlining existing practices for PPI in developed countries. Edler then gave an invited keynote address on demand side policies underpinning PPI to the annual IDB conference in Bogota, November 2017. Uyarra and Edler delivered further talks at IDB workshops and seminars on PPI. Uyarra and Edler were then chosen from 66 potential expert groups to directly advise IDB, thereby influencing directly the IDB’s thinking and policies on PPI.

The Principal Specialist in the Division of Competitiveness, Technology and Innovation at the IDB acknowledged that there were three levels of impact from the MIOIR research [E].

(i) Edler and MIOIR colleagues' research extended the IDB's understanding of PPI and the IDB presented the results of the work to high-level policy makers in specific 'target' countries in the region. The Principal Specialist states that *the team's work "was a breakthrough in how the Bank and the country representatives thought about the potential of public procurement and the mechanisms with which it can be mobilized for triggering innovative activity and economic development. This has indeed been a game-changer for the region"* [E]. Chile, Brazil and Colombia have now prepared policy frameworks to promote PPI. For instance, Colombia ran a pilot in collaboration with the Institute of Cancerology, the Ministry of Health and the National University to foster the production of biotechnology-based solutions in-house. The estimated demand for this particular solution is USD400,000,000 [E].

(ii) IDB changed its funding criteria for all the projects it co-funds, from a supply-oriented approach to one that sets procurement as the focus of utilization of funds. As the Principal Specialist attests, *"a critical impact of the [Manchester] work was on Bank policy itself. The Bank has changed its conditionality; all countries with projects co-funded by the Bank will have to follow new regulations as regards public procurement"* [E].

(iii) Latin American countries with projects funded by the IDB now have to abide by new guidelines introduced by the IDB to endorse and promote PPI. As The Principal Specialist states, the impact of this is significant considering that the IDB *"is an important funding body for infrastructure, education and health in the Latin-American region"* [E], where public procurement accounts for 20% of GDP.

The IDB has subsequently invested USD500,000 in a number of pilot projects that use the new PPI funding mechanism, including [E]:

- In Ecuador, the IDB is working with Aguas Quito, the local water supply state owned company, to identify novel solutions for water leaks (project named Proyecto Fuga Cero).
- In Uruguay, the IDB now works with a state owned pharma company – Laboratorio Dorrego – that produces pharmaceutical drugs for the Ministry of Health.
- In Peru, the IDB is working with the Environment Ministry to introduce sensor applications to monitor the degree of human made pollution in the TitiCaca Lake Basin.

4.3. Establishing national guidelines and changing public procurement in Chile

The IDB work has led to further impacts in Chile in particular. Uyarra and MIOIR colleagues' research was cited in the background paper that informed the first ever directive for Public Procurement of Innovation in Chile, launched in January 2018 [F]. The Chilean government then used the MIOIR research led by Edler for the IDB to develop a government working document for PPI and a national initiative on PPI, resulting in national guidelines for public procurement [G]. The **[Text removed for publication]** highlights that work by Edler and his MIOIR colleagues influenced thinking, practice and capacity. **[Text removed for publication]** states that *"the documents and other activities that we developed are largely based on their work... The research of Edler and colleagues was essential for providing evidence that persuaded agencies that were initially resistant to join in the PPI strategy"* [F].

This engagement resulted in three pilot projects to test the procurement approach proposed by Edler and his MIOIR colleagues in Chile. An online platform – the Chilecompra Innovation Platform – was then created to match 850 Chilean government agencies with national innovators. **[Text removed for publication]** explains that *"this pilot has played a significant role in changing how public procurement is seen now as driving demand for innovation. This is because, for the first time, a share of the approximately USD13,000,000 that the government allocates annually for public purchases and the USD1,003,000,000 that it destines to innovation worked together"* [F]. She states that as a result of the project and the research of the UoM team *"public procurement has become an enabler of competitiveness in the private sector"* in Chile.

4.4. Influencing how the Organization for Economic Co-Operation and Development (OECD) conceptualises and measures PPI

The MIOIR research led by Edler has influenced the OECD's understanding of the policy rationale for PPI, by providing evidence and methods to assess policies and by suggesting solutions to improve the implementation of PPI instruments.

Based on his PPI research, Edler contributed directly to the drafting of the OECD's 2016 report on PPI for low carbon innovation, as acknowledged in the report [H]. Research by him and his MIOIR colleagues is cited throughout the report, specifically informing recommendations concerning how PPI can foster low carbon innovation, and addressing barriers and solutions to sustainability. The report had significant international impact. It was used to set the terms for the 33rd Round Table on Sustainable Development in Paris in 2016 and supported discussions with high-level government experts [H].

In 2016, the OECD compiled an influential report on measuring the link between public procurement and innovation [I] to provide policy indicators and advice. The document relies heavily on work by Edler and his MIOIR colleagues [1,3,6] for key concepts and definitions [I, p.17,21] as well as PPI measurement approaches (I, p.61). The report builds on the MIOIR team's findings concerning the need to improve skills among procurement personnel to effectively support innovation [I, p.69-70]. Research by Edler and his colleagues is the most frequently cited non EC/OECD source in the report.

5. Sources to corroborate the impact

- [A] Testimonial letter from the leader of the Innovation Procurement Broker Scheme and copy of email interview summary and follow up letter regarding the Procure2Innovate project, 16 April 2020.
- [B] [European Commission. \(2018\) Developing strategic frameworks for innovation related public procurement. Brussels: European Commission.](#)
- [C] [European Commission. \(2017\) Capacity building for innovation related procurement: Evidence and lessons learned. Brussels: European Commission.](#)
- [D] [European Commission. \(2018\) Monitoring, evaluation and impact assessment of innovation related procurement. Brussels: European Commission.](#)
- [E] Testimonial letter from IDB, Principal Specialist in Competiveness, Technology and Innovation, 21 January 2020.
- [F] Testimonial letter from **[Text removed for publication]**, 1 November 2019.
- [G] Ministerio de Economía, Fomento y Turismo, Gobierno de Chile. (2018). Mesa interinstitucional compra pública de innovación: Documento de Trabajo. [Spanish]
- [H] Baron, R. for OECD. (2016). "The Role of Public Procurement in Low-carbon Innovation." Background paper for the 33rd Round Table on Sustainable Development 12-13 April 2016 OECD Headquarters, Paris.
- [I] Appelt, S. and Galindo-Rueda, F. (2016), "Measuring the Link between Public Procurement and Innovation", OECD Science, Technology and Industry Working Papers, No. 2016/03. Paris: OECD.