



AALBORG UNIVERSITY
DENMARK

Aalborg Universitet

Public procurement and innovation

Some initial assertions

Rolfstam, Max

Published in:
Supplement to the 2013 Annual Statistical Report

Publication date:
2014

Document Version
Early version, also known as pre-print

[Link to publication from Aalborg University](#)

Citation for published version (APA):
Rolfstam, M. (2014). Public procurement and innovation: Some initial assertions. In *Supplement to the 2013 Annual Statistical Report: Procurement and innovation* (pp. 23-26). UNOPS.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal -

Take down policy

If you believe that this document breaches copyright please contact us at vbn@aub.aau.dk providing details, and we will remove access to the work immediately and investigate your claim.



Supplement to the 2013 Annual Statistical Report on United Nations Procurement

Procurement and innovation

/ A collection of articles from academia, the public
and private sectors and the United Nations

/ Providing an overview of the current
debate on procurement and innovation



13



Supplement to the 2013 Annual Statistical Report on United Nations Procurement

UNOPS would like to acknowledge the contribution of the various authors to this supplement to the 2013 Annual Statistical Report on United Nations Procurement. The views expressed in this publication are those of the authors and do not necessarily reflect those of the United Nations. Furthermore, the views expressed in this publication are not necessarily shared by each of the authors.

Copyright © 2014



All rights reserved. The use of data from this publication must be accompanied by a reference to the title and a website location of this report. This publication may be reproduced for personal use but may not otherwise be reproduced or, stored in a retrieval system or transmitted, in any form or by any means, electronic, photocopying, recording or otherwise, without prior written permission of UNOPS.

This document is available online at www.ungm.org and www.unops.org.

Cover photo: Innovative procurement can include investment in new technology, the promotion of domestic manufacturing and support for small and medium-sized enterprises, helping to develop national capacity and attain sustainable development goals. **Photo: Luis Acosta/AFP for UNDP**

Photos, table of contents (from left to right): Albert Gonzalez Farran/UNAMID, Dominic Sansoni/World Bank, Steve Harris/World Bank

Creative Commons

Information on the use of Creative Commons images in this publication can be found here:
<http://creativecommons.org/licenses/by-nc-nd/2.0/deed.en>

This publication is printed by Phoenix Design Aid A/S, a CO₂ neutral company accredited in the fields of quality (ISO 9001), environment (ISO14001) and CSR (DS49001) www.phoenixdesignaid.com

Foreword



Secretary-General Ban Ki-moon addresses participants at the MDG Innovation Forum. The forum, led by the Secretary-General's MDG Advocacy Group, gathered leaders from the private and public sectors to discuss innovative ways to accelerate progress on the MDGs.

Photo: UN Photo/Rick Bajornas

The United Nations and its partners are working hard to achieve the Millennium Development Goals (MDGs) while shaping a vision for a sustainable development agenda beyond 2015. In the midst of these efforts, it is becoming increasingly evident that innovative solutions must be found in order to tackle humanity's greatest challenges.

Each year, an average of 15 percent of global gross domestic product is spent through public procurement systems, amounting to over \$10 trillion. These systems yield tremendous benefits in terms of delivering public goods and services, but they can also reap secondary benefits, such as increased standards of living and social equality, and more resilient economies.

Innovative procurement offers tremendous opportunities to use government buying power to shape the world around us for a better tomorrow. Through investment in new technology and research, the promotion of domestic manufacturing, increased transparency and accountability in public fund management, and support for small and medium-sized enterprises, procurement systems can help develop national capacity and attain sustainable development goals.

As this report shows, innovation and procurement are viable, tested and proven policy options to achieve sustainable growth in the developed world and, increasingly, in the developing world as well. I commend the work and research presented in this report, and I encourage Member States to adopt more innovative public procurement practices as we strive to build a better world for all.

A handwritten signature in black ink that reads "Ki-moon Ban". The signature is written in a cursive, flowing style.

Ban Ki-moon
Secretary-General of the United Nations
July 2014



Table of contents

- 1 / Foreword**
By Ban Ki-moon
- 4 / Lead article:**
**To unlock innovation,
procurement is key**
By Raj Kumar
- 8 / Innovation in local procurement in
least developed countries**
By Jill Engen
/ Julian Abrams
- 13 / The Procurement Innovation
Challenge**
By Norma Garza
- 17 / A European platform for the
procurement of innovation**
By Marlene Grauer
- 20 / Procurement policies and
training: Two powerful tools
to foster innovation in the
procurement practice**
By Rolando M. Tomasini



23 / Public procurement and innovation: some initial assertions

By Max Rolfstam

40 / Utilizing a community benefits tool in support of the local multiplier effect for sustainable procurement innovation

By Jane Lynch
/ Helen Walker
/ Christine Harland

27 / Using public procurement to support industrial innovation: International policy experience

By Veiko Lember
/ Rainer Kattel
/ Tarmo Kalvet

44 / Public procurement to drive innovation in China

By Yanchao Li

32 / Development-based public procurement policies: a selective survey of policy experience

By Murat Yülek
/ Murad Tiryakioğlu

49 / Innovation and public procurement in Brazil

By Victor Mourão
/ Rodrigo Cantu

36 / Public procurement of innovation: an option for South Africa?

By Phoebe Bolton

53 / Reducing corruption through e-procurement

By Arjun Neupane
/ Jeffrey Soar
/ Kishor Vaidya
/ Jianming Yong

Engaging procurement stakeholders in the development and humanitarian sectors is critical to unlocking innovation for development.

Photo: Albert Gonzalez Farran, UNAMID

Lead article

To unlock innovation, procurement is key

By Raj Kumar / President & Editor-in-Chief, Devex



Raj Kumar is the founding President and Editor-in-Chief of Devex, a social enterprise that connects and informs 500,000 aid workers and development professionals on Devex.com. Mr Kumar has been profiled in the Financial Times, Foreign Policy, Forbes and The Washington Post, where Devex was called the “Bloomberg of foreign aid.” He has been a part of nine presidential campaigns on four continents as political director of the political strategy firm Penn Schoen Berland and got his start as a member of the national advance team for former United States President Bill Clinton. Kumar speaks English and Spanish, has worked, studied, and traveled in over 50 countries, and is a member of the Council on Foreign Relations and the Clinton Global Initiative.



There are few topics in global development that generate the excitement and optimism of innovation. After decades of effort and trillions of dollars in development aid, enormous challenges remain. So innovation—the idea that a new idea can go around, cut through, or hop over traditional barriers to development—is enchanting. We all want a short-cut to improving lives, and, when we can see so much innovation around us in our daily lives, we rightly begin to demand it for global development too.

Further fueling this demand, there are many successful illustrations of innovation in global development, from whiz-bang gadgetry like

cell-phones that can conduct blood tests to less buzz-worthy process innovations that cut down on paperwork and make, for example, tax collection more effective.

Today nearly every development agency and international NGO has an innovation department or initiative seeking out the next exciting solution. But even with all this activity and attention, most efforts around innovation involve pilots. Small scale funding, challenge grants, and innovative partnerships are all for the good, but how to scale good ideas up? Going from thousands and millions to billions requires one very difficult thing: engaging procurement.



Innovation in procurement can include finding ways to support local suppliers, such as this embroiderer in Cyprus.

Photo: UNDP/Kerim Belet

It is in the area of procurement that real scale resides; the nuts-and-bolts of procurement—both that of aid agencies and of national and local governments—is where the enormous opportunity for innovation remains constrained. And the challenge comes down to the basics of procurement: Is innovation required from bidders? Is it encouraged and rewarded? Is it measured and is success shared?

And this is where things get difficult. Procurement in the development context is tough. It is often conducted in fragile situations where there is limited capacity among both government and private sector actors and where the focus tends to be on avoiding the negative financial leakage or unsuccessful projects, rather than on doing something more like fostering innovation. So to request governments and implementing agencies to add an additional step to their procurement process is asking a lot.

But it can be done, particularly if the development community works together to change the mindset around innovation from novel ideas to better results achieved faster and cheaper. That's the kind of language that procurement officials understand and it is, after all, the real goal of innovation in global development. With limited budgets, can you educate more children, reduce malaria infections, increase yields for more farmers, and the like? If you can, and particularly if you can do it with a step change rather than incrementally, your bid should be considered innovative. It shouldn't matter if you educate those children with a tablet computer or a chalkboard—what we ought to incentivize now, as always when it comes to procurement, is results.

Doing so may require some tangible steps. One is using the procurement process to



focus on broad goals rather than prescribing a specific approach to a project. This is particularly important when it comes to technology procurement where the market often moves faster than procurement officials can keep up. By not buying a specific product but rather a solution, we can create an opportunity for new ideas to be put forward successfully that aid agencies and governments may not have been aware of at all just months earlier.

And we need to be clearer about what we mean by innovation. As a buzzword, it can encourage procurement that includes exciting new technology or gadgets at the expense of proved approaches. That should not be our goal. Instead, most innovation in the development sector should be focused on process improvements that make development interventions cheaper and more efficient, such as building more modern and effective government systems. During a recent Devex initiative focused on innovation in global health, a key takeaway was that development agencies would do more good by focusing on strengthening health systems rather than trying to introduce new health technologies to the market.

That leads to another tangible step: using procurement to foster a market for the commercial introduction of new products and technologies. An approach that lets demand—particularly local demand—take precedence is much more likely to succeed in the long-run than designing innovative solutions in Washington, DC, Paris, or Tokyo and then seeking to export them to developing countries. So, innovative procurement should entail setting high standards for cost-effectiveness and allowing the local market to respond with their own solutions, some of which may be decidedly low-tech.

Finally, for procurement to foster innovation we must consider how best to incentivize innovation. Often innovative solutions may require investment and risk, hence the many challenge grants and pilot programmes that aid agencies have launched to help support innovators and entrepreneurs with early-stage ideas. Social finance can help with the other side of the coin—not just reducing risk but incentivizing innovators to be a part of the procurement process in the development sector at scale. If a project can achieve its results faster and cheaper than ever before, allowing the implementers to share financially in that success is one important way to foster a market that incentivizes innovation. There are many challenges in doing so, but that shouldn't cause us to walk away from these opportunities.

At Devex, our reporters, editors, and analysts focus a lot on innovation. Much of our reporting on innovation in global development does take the form of the latest technology—after all, we are all excited by new tools to address poverty, as we should be. But we also understand that the old adage of 'follow the money' applies here as elsewhere: of the approximately \$200 billion spent annually by agencies, NGOs, and corporations on global development, most is funneled through procurement systems. Pilot projects, grants, and contests are important and have their place, but it's time for the billions of dollars that flow through procurement systems to be used to help bring innovative approaches to ending global poverty to scale. —

Innovation in local procurement in least developed countries

By Jill Engen / Julian Abrams



Why does good procurement practice matter?

Good procurement practices are directly linked to efficiency, effectiveness, transparency and accountability, which are all good governance indicators. Good governance in procurement brings immediate benefits in terms of money savings or improved quality of the goods, works or services procured. Unfortunately, procurement at all levels is often prone to errors and to deliberate abuse by officials, contractors, and suppliers for personal gain. In addition, problems in procurement can lead to delays in implementation and poor results, and can ultimately undermine the trust of the local community in government processes. In turn, establishing and demonstrating the benefits of good procurement practices improves administrative capacities and the understanding of the essential building blocks of good governance.

The United Nations Capital Development Fund (UNCDF) Local Development Finance Practice (LDFP) supports programmes in least developed countries aimed at reducing poverty through sustainable, inclusive and equitable local development. LDFP does this through innovation and testing of various aspects within public and private financial systems that mobilize, allocate and invest additional resources and promote transparency and accountability in their use. To this end, the promotion of good procurement practices is essential, in order to address corruption by increasing stakeholders' capacities and awareness, and in embedding best practices in daily operations.

In 2013, UNCDF published a best practice guide for local government procurement in least developed countries. The guide is not specific to UNCDF, nor are its recommendations mandatory for UNCDF-supported or financed programmes. Rather, the guide is intended to pass on the experience gained from UNCDF involvement in local procurement in least developed countries and to assist officials and advisers engaged in designing procurement procedures for local administrations to identify the most appropriate procedures according to the local circumstances. This article highlights a number of best practices and innovative activities used in our programmes.

Establishing appropriate local procurement regulations

Local officials and local development programme staff commonly regard procurement as problematic. Its rules are seen as complex and obscure, and even where staff, officials, contractors and suppliers are familiar with the steps of the procurement process, they may not understand the purpose of some important steps. Procurement rules exist for a reason—most generally, to ensure best value in return for expenditure of public money. When programme staff, officials, and contractors understand how a rule increases value for money, they are less likely to see the rule as complicated or burdensome.

Experience shows that complaints from government officials, contractors and communities in relation to public



Innovation in procurement promotes sustainable, inclusive and equitable local development in least developed countries (LDCs), such as Bhutan. UNCDF supports procurement and innovation in LDCs. **Photo: UNCDF/Riccardo D'Emidio**

procurement processes often is the result of misunderstanding the purpose of procurement rules or a failure to correctly follow procedures that can be easily mitigated. However, the real problems arise from the use of procurement rules that are inappropriate to the situation.

Local development programmes supported by UNCDF may apply national regulations if suited, but more often than not our programmes provide technical support to develop and test local procurement regulations, based on international best practices and an adaptation of national procurement frameworks to local contexts and needs. The starting point for these types of interventions is that the rigor and complexity of a procurement process should be in proportion to the size and complexity of the investment. It also assumes that with targeted capacity development support and an appropriate regulatory framework for local level procurement, the results will include improved value for money and better local governance outcomes.

Procuring the right item

Although appropriate regulatory frameworks for local procurement are in place, these

do not automatically translate into good procurement results in terms of deliverables. Good procurement practice starts with a clear definition of the desired product.

One of the largest challenges identified at the local level is the lack of sufficient technical expertise to develop the much needed specifications, design and costing of infrastructure projects, in addition to preparing clearly formulated bids. This often becomes a bottleneck in the overall process of infrastructure development and one of the key causes of poor results.

With this background, UNCDF LDFP has developed innovative capacity development initiatives and provided technical support to local administration staff in procurement preparations and processes, including technical design and costing. This has included the design of generic templates for specifications and costing in accordance with overall government standards, market surveys of material costs, capacity development modules for local engineers and training modules in overall local level procurement preparations and processes.

UNCDF works to ensure rural suppliers benefit from economic growth.

Photo: UNCDF



Our programmes have not only supported more effective and efficient procurement processes, but have also contributed to overall improved efficiency in local government spending of local and central government funds and/or direct aid contributions from our development partners.

Community contracting and community participation in local procurement

Community contracting is a term used to refer to different modes of community involvement in scheme implementation. It may be used in the sense that the community group acts as a contractor, or engages local contractors to implement works, even in such situations where no defined 'contract' is involved.

Community contracting, in the context supported by UNCDF, is defined as a mode of local government procurement within a local procurement process. Therefore, the scheme is implemented under an official government contract between the local government as buyer and an organization or committee (the community contractor) representing the beneficiary. The community contractor is not selected through competitive procurement, as there should only be one organization or committee that can represent the beneficiary community, and is directly involved in implementing (not just monitoring) the scheme. Under this contract modality, the community

contractor receives funds from the buyer and implements the scheme via a mixture of voluntary labour contributions, paid labour, sub-contracting to local tradesmen and petty contractors, and purchase of materials.

Community contracting arrangements increase community ownership and capacity. However, quality of implementation of community contracting can vary, and competitive bidding should often be the preferred modality. If the beneficiary community is clearly identified, technical skills can be found locally, it is a small scale intervention that is not technically complex and the ruling procurement regulations allow for such type of contracting, community contracting may be the right choice. In these cases, UNCDF has supported the development of an official community contracting modality as part of the official procurement regime.

Learning from our programmes, support to local administrations to improve their capacities in terms of technical support and oversight of community-led implementation of infrastructure contracts is imperative for a successful result. This is needed in order to make up for the lack of financial, administrative or technical capacity on the part of the community contractor, and to ensure that the project gets implemented as per the specifications. Depending on the circumstances, effective support may be very challenging, however, long-term investments in

developing the capacity of local administrations to manage community contracting modalities have been shown to be more sustainable than direct support to the community groups themselves during the implementation of individual contracts.

Developing private sector capacities

One of the major difficulties faced by local governments in implementing development projects is a lack of capacity within the local small- and medium-scale contracting sector. In other words, a lack of technical capacity, skilled staff and appropriate equipment can be a problem. Local contractors often lack formal education and have a limited understanding of procurement, contract administration procedures and health, safety and environmental regulations that may be required in order to undertake public sector work. The resulting problems for the local government include:

- a high proportion of bids are found to be ineligible because of errors in bid preparation (see box)
- bidders submit unrealistically low bid prices or otherwise take on obligations that they will be unable to fulfill
- competition is restricted to a few higher capacity firms, resulting in high prices
- local contractors are shut out in favour of large, city-based firms
- the quality of completed work is low because of errors or misunderstandings by the contractor

Hence, even if small local firms have the technical capacity to implement the required types of investments, they often lack the administrative capacity and are unfamiliar with the lengthy formal bidding procedures. These firms may be deterred from bidding due to the complexity of the system, may be unable to meet stringent registration and qualification requirements, or may find the cost of submitting a bid too high.

For a local procurement process and overall outsourcing of government services to be successful, the supply from the private sector needs to match the offer. If a procurement

process, no matter how well prepared and procedurally correct, fails to attract technically and financially sound bid submissions from local firms, the overall procurement process will not be successful.

Thus, not only does the capacity of local administrations to manage local procurement processes need to be improved, but technical support should also be provided to contractors to improve their responsiveness to government bids and contracts. Through capacity development of the local private sector, the local government aims to achieve better value-for-money and lower risk in procurement, as well as create wider benefits for the local economy.

Our experience has shown that support of both local administration and private sector suppliers in parallel, with the view to develop the overall capacity of both sides, results in more satisfactory procurement processes and outcomes. In addition, a good relationship between the local administrations and contractors can lead to innovative local solutions to problems that may occur along the way. If the relationship is good and the local firm feels fully involved in the process, it may also take on greater responsibility during contract implementation. The pressure from the community is higher on local contractors to do a good job, or at least do the job they were hired for, compared to nationally procured contractors for infrastructure development, since these will seldom feel the same sense of social responsibility.

A standard model for good local procurement practice?

International standards for good procurement practices underlie the governing procurement regulations of many countries, although there are many variations. However, this standard model of procurement has very little to say about appropriate roles and responsibilities for implementing an adequate procurement process. This is an important aspect in all public procurement, but is especially important in procurement for local development, where the respective roles of technical officials, elected local politicians, national officials and the beneficiary community may all have to be considered.

This paper has highlighted a few areas of innovative activities that UNCDF has focused on in our programmes to address the issues related to locally procured and implemented infrastructure schemes: technical support to improve the regulatory framework for local procurement; capacity development support to the local administration in areas of technical design and costing; bid preparations and management of local procurement processes; support to local administrations in implementing community contracting modalities; and capacity development support

to local contractors and suppliers to improve their responsiveness to public bids.

Our 2013 best practice guide describes these areas and many others in more detail, proposing a set of principles as a foundation for developing procurement guidelines for local administrations in least developed countries. Procurement based on these principles should achieve the value-for-money objective while also enhancing local governance, local economic development and the capacity of local communities. —

The United Nations Capital Development Fund (UNCDF) is the only UN agency with a primary focus on least developed countries and has a unique position within the UN system to provide investment capital and technical support to both the public and private sector. UNCDF's core areas of expertise are: inclusive finance and local development finance. The organization seeks to develop inclusive financial systems and ensure that a range of financial products is available and affordable to all segments of society, on a sustainable basis. UNCDF also aims to ensure that people in all regions and locations benefit from economic growth.



Jill Engen joined the United Nations system in 2000 and is currently a regional technical advisor with the UNCDF Asia-Pacific office. She has held various positions ranging from local development officer in UN Peacekeeping, government advisor on decentralization and local government and regional technical advisor on local development finance. She is an inter-disciplinary specialist with more than 15 years of field and policy experience in the Asia-Pacific region.



Julian Abrams is an independent consultant to UNCDF and other agencies. Mr Abrams has worked on local planning, procurement and infrastructure development in countries throughout the Asia-Pacific region and in Africa. He has been based in Cambodia since 1992, initially working on rural infrastructure development. From 1997 to 2006 he helped develop the implementation framework for the Commune Fund system of grants to local administrations in the country.

Find out more at: <http://bit.ly/engenabrams>

The Procurement Innovation Challenge

By Norma Garza



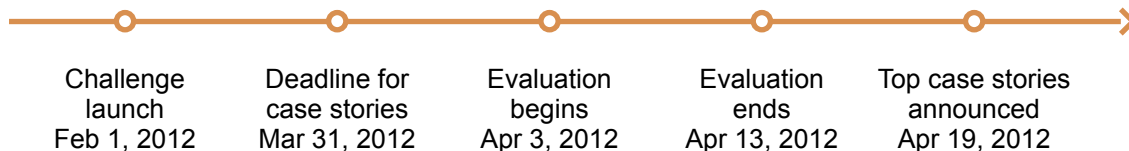
A farmer speaks on his mobile telephone while at work in Bihar, India. Poor availability of and access to information contributes to inefficient procurement and supply chain systems. The Procurement Innovation Challenge looked at ways in which ICT can improve performance of procurement systems. **Photo: M. DeFreese/CIMMYT**

— The World Bank Institute Open Government Practice (WBIOP) provides cutting-edge knowledge and capacity development opportunities to practitioners in the public and private sectors and civil society in developing countries. This work focuses on some of the most challenging areas of governance reform, including procurement—areas where success could have transformational impacts on the lives of the poor.

Public procurement is an essential government function that can provide a means for socio-economic development and some measure of social equity, particularly in fragile situations. In developing countries, service delivery is important in alleviating poverty, enhancing

the government's credibility, and acting as the primary means by which goods and services are provided to constituents. High-performing and transparent procurement systems are fundamental to guaranteeing cost-effective delivery of goods and services, particularly for the poor, and for helping ensure equitable and sustainable development.

A common challenge for many organizations is promoting the documentation and sharing of experiences for further learning. Efforts offering powerful insights into the drivers of reform are frequently not documented because practitioners lack the tools, incentives, channels or support to share their work. At the same time, the experiences that are documented remain fragmented, and the



opportunity for peer-to-peer connections around that knowledge is limited. To address this and similar challenges, the WBIORG procurement programme seeks to adopt novel approaches to identify experiences, knowledge and good practices. With this in mind, the Procurement Innovation Challenge, also known as the Challenge, was designed.

An innovative crowdsourcing mechanism

The Challenge was designed as a mechanism to identify and present evidence of innovative approaches, processes, initiatives, policies or tools that have led to effective procurement reforms or better performing procurement systems. At the same time, this innovative crowdsourcing mechanism successfully helped build and strengthen a nascent community of practice on procurement and open contracting.

The Challenge was a collaborative process from design to implementation, involving partners such as the United Nations Procurement Capacity Development Centre, the University of Nottingham, the German development agency GIZ and Integrity Action. Investing in the design phase of this knowledge competition was critical for its success.

Practitioners from around the world and across various sectors shared their experiences of innovation in procurement reform processes undertaken in diverse settings, including fragile and conflict-affected countries and small states. This helped build a knowledge platform for innovative approaches. Between 1 February and 31 March 2012, institutions, organizations, companies and individuals from the public and private sectors and civil society around the world were invited to submit a short case story. Stories were submitted using an online form that had a set of questions, each to be answered with a word limit. Within

the broader theme of innovative approaches to procurement reform, case stories were submitted under at least one of the four priority thematic areas:

- Contract monitoring to enhance accountability and effectiveness of public contracts
- Use of ICT to improve performance of procurement systems
- Procurement reform in fragile and conflict-affected countries and small states
- Managing procurement systems for enhanced performance

After the two-month submission period, more than 60 case stories representing experiences from 72 countries were shared. All eligible case stories were reviewed by a group of evaluators who helped identify the Challenge's top 15 stories. From these stories, the top five participated in the Open Contracting Conference in Johannesburg in October 2012, where they presented their experiences to the broader open contracting community. The case stories allowed participants to share practical experiences and exchange knowledge on best practices, lessons learned and efforts to overcome challenges to procurement reform. The Challenge process helped bring many creative and effective experiences in procurement innovation from around the world to light on a global scale.

The final stage of the Challenge process involved the development of its publication. The Challenge showcased the top 15 stories, informing readers in practical way and serving as a tool to bring visibility and recognition to the authors' work, while promoting further knowledge-sharing and learning around findings. The development of the publication itself was also collaborative, as case story authors were supported to further develop their



The Procurement Innovation Challenge addressed how procurement systems can be managed for enhanced performance.

Photo: Jean-Pierre Martineau

initial submissions, while maintaining a format that was engaging and accessible to a broad audience. The publication is available in print and online and has been distributed broadly. It is used as a tool for learning and continued discussion on how increased openness and transparency can contribute to effectiveness in procurement.

The Challenge process sparked further collaboration and contributed towards strengthening a community of practitioners working around these issues. It specifically helped build the Open Contracting Community of Practice (<http://bit.ly/OpenContractingCommunity>).

Lessons from the Challenge approach

The Challenge helped enhance the understanding of its partners, procurement professionals and reformers to develop or improve public procurement systems. Serving

as an opportunity to initiate a deeper dialogue and process of shared learning, it also became a catalyst for peer-to-peer networking around this issue and helped identify future activities and opportunities for collaboration. It proved to be a useful tool for promoting further knowledge-sharing and learning. Overall, competitions and challenges are effective crowdsourcing mechanisms and do contribute to building a community, as was the case with the open contracting community.

For knowledge competitions such as the Challenge, submissions of no more than 1,000 words provide the optimal amount of information required for delving into a topic. The key is to invest time in thinking of the right questions to guide the case story's development. Incentives to participate are important to the success of such competitions. Even when prizes are limited, providing opportunities for greater visibility and recognition of the authors and their

experiences, both during and after knowledge competitions, is essential to encouraging participation.

Ongoing engagement throughout the different stages of the Challenge was very important. This required the use of traditional and more modern communication methods such as social media. It was important to consider that language could be a barrier for participation during the design of the competition, the outreach strategy and the measurement of its success.

Partnerships and rich collaborative processes were just as important for the Challenge process. These elements proved to be crucial for greater buy in, championing of the initiative, helping with outreach and generating enthusiasm to participate. They enabled partners and networks to not only shape the issues the Challenge would explore, but also to help with the review process, the identification of top stories, and the engagement of practitioners to participate and share their stories. This collaborative effort made it easier to disseminate the findings, not only around the experiences, but also about the Challenge process itself. The success

of the original Challenge approach led to a second competition in 2013, which focused on procurement for complex situations. A new publication is currently on its way and will also feature the 2013 Challenge's top stories.

Transparency: the foundation-stone of strong procurement

Transparency underpins all the stories and lessons from the Challenge. If systems are transparent, corruption or inefficiency cannot hide within them, meaning innovation in procurement should always be made with increased transparency. Other findings from the case stories included the importance of: embracing ICT; securing stakeholder buy in from the start; good procurement as a ripple effect; and innovation. As the winning entry from Nigeria shows, if you can challenge a culture of secrecy around procurement, train people in open contract monitoring and make their findings widely accessible, you can introduce transparency to situations where it has never previously existed. If greater transparency is achieved, social justice and value for money will follow, both for organizations and the people and communities they serve. —



Norma Garza leads knowledge and learning for the Open Contracting and Governance for Extractive Industries programmes at the World Bank's Governance Global Practice, formerly the World Bank Institute Open Government Practice. Since 2011, she has provided knowledge management and strategic support, including managing two communities of practice: GOXI and Open Contracting. Norma specializes in designing innovative mechanisms that facilitate knowledge exchange, such as online competitions, apprenticeship programmes to build civil

society's capacity to use social media, and online tools to collaborate, communicate and advocate more effectively. Before joining the World Bank, she served as Member Services Coordinator at Impact Alliance, managing the network for five years. She has worked for non-profits such as Pact and as advisor to Mexican Congressman Dióodoro Carrasco. Norma is a certified knowledge manager and majored in international relations from Universidad Iberoamericana in her home city of Mexico City.

Find out more at: <http://bit.ly/normagarza>

A European platform for the procurement of innovation

By **Marlene Grauer**

(on behalf of the Procurement of Innovation Platform Consortium)



Innovation is a key driver for business competitiveness and job creation in Europe, and the procurement of innovative products is growing in importance. **Photo: Scania Group**

Why create a European platform for the procurement of innovation?

Public procurement has the power to foster innovation and use it to better address the needs and challenges of public services. Public procurement of goods and services accounts for 19 percent of Europe's GDP, which is more than €2.3 trillion per year—this is major potential to be harnessed.

Innovation is a key driver for business competitiveness and job creation in Europe, and the procurement of innovative goods and services is growing in importance. However, ambiguity exists among public sector procurers on how to incorporate innovation in procurement practice and how to successfully

connect it to sustainability goals. Many procurers are disconcerted by the unknown elements surrounding the process, such as managing risk, dealing with intellectual property and measuring success.

A tool was needed to reduce this knowledge gap by providing information and exchange on the subject. To address these challenges, Local Governments for Sustainability, the European branch of ICLEI, developed the Procurement of Innovation Platform funded by the European Commission, in partnership with the Dutch Public Procurement Expertise Centre (PIANOo), the Regional Environmental Center for Central and Eastern Europe (REC) and the Flemish agency for Innovation by Science and Technology (IWT).

What is the Procurement of Innovation Platform?

The Procurement of Innovation Platform is a new online hub that helps public authorities, procurers, policy makers, researchers and other stakeholders harness the power of public procurement of innovation (PPI) and pre-commercial procurement (PCP). Custom-made to meet users' needs, the platform is comprised of three elements: a website, Procurement Forum, and Resource Centre.

The website (<https://www.innovation-procurement.org/>) is the first port of call for all things PPI- and PCP-related. It contains the latest news on PPI and PCP developments and events, as well as background information on the European legal framework, policy support, and more.

The Procurement Forum is a specially designed networking tool with currently over 1,600 members. It is a space for procurers and related stakeholders from around Europe to discuss, share and connect, allowing them to post comments and upload documents, images or videos. Users can also create private groups, which are ideal for developing and coordinating projects involving numerous partners.

When it comes to knowledge, the Resource Centre provides a centralized database for PPI guidance, gathering useful documents in one place. The Resource Centre makes over 600 resources available, including national and European policy and strategy documents, tools, good practice case studies, details of projects and initiatives, as well as reports and valuable links on innovation and procurement. Members of the Procurement Forum can also upload their documents and promote their work.

Which products does the Procurement of Innovation Platform offer?

Guidance

In an effort to boost knowledge on the topic, the Procurement of Innovation Platform project has developed 'Guidance for Public Authorities on Public Procurement Innovation', providing practical advice for procurers.

Authored by Abby Semple, a leading expert in procurement law, the guide is ideal for both beginners and those looking to improve their innovation procurement activities. It offers detailed information, such as explanations of procedures, definitions and answers to common questions, a selection of real-life examples and useful resources for further reading. It is written for policy makers, consultants, private companies and others who have a stake in successful innovation procurement. The guide also examines the challenges and barriers that hamper innovation procurement in Europe, as well as the new European Union procurement directives, with a particular emphasis on how the legislation will be used to better facilitate innovation procurement. Procedures and policies are outlined in a digestible manner.

Furthermore, the guide contains a series of case studies, such as the City of Ghent's procurement of probiotic cleaning products, which possess a level of 'good' bacteria for human health, or Rawicz County Hospital in western Poland's purchasing of innovative bio-based fibre uniforms for staff.

In addition, the Procurement of Innovation Platform Consortium aims to produce two additional guidelines on intellectual property rights and risk management.

All documents are generated with input from international procurement experts. The publications provide specific guidance for public authorities and facilitate the preparation and implementation of public procurement of innovative goods and services. The PPI guide and draft versions of the other publications can already be found online.

Innovation procurement in action: case studies

On the Procurement of Innovation Platform website, the section 'PPI and PCP in action' provides a wide variety of up-to-date case studies showcasing pioneering European cities putting innovation procurement into practice. One case study highlights Sweden's first PCP, which involved an innovation competition aimed at encouraging the development of new solutions for more efficient use of transport

infrastructure. Another highlights the joint procurement of four boats capable of fighting fire outbreaks along the Rhine river by German administrations in Baden-Württemberg, Rhineland-Pfalz and Hesse.

Exchange, training and the PPI award

Going beyond online resources, a number of activities within the Procurement of Innovation Platform aim to help members move from acquiring the theory behind innovation procurement to practice, thus contributing to raising awareness of the topic amongst public authorities.

The Experience Exchange Programme has the goal of spreading knowledge and know-how on innovation procurement between advanced public procurers and public authorities trying to expand their horizon on this issue.

It allows procurers from different public authorities to travel to a number of host organizations leading the way in procurement of innovation and learn from their experiences. Host organizations that are currently available are:

- Réseau des acheteurs hospitaliers d'Ile de France, Paris, France
- City of Torino, Italy
- City of Birmingham, United Kingdom
- Sucha Beskidzka Hospital, Poland

The Procurement of Innovation Platform team also organizes a number of one-day training seminars on the topic. The training takes place across Europe, free of charge, and provides participants with both a theoretical framework and more practical knowledge for implementing innovation procurement. The training package is specifically tailored to meet

different needs, and is suitable for practitioners both in the beginner and advanced levels. The latest innovation procurement support tools are introduced and discussed, and specific aspects of innovation and procurement, such as criteria setting or pre-procurement aspects, are explored. Specially developed materials are also provided and experts are on hand to give advice.

The biennial Public Procurement of Innovation Award recognizes successful public procurement practices that have been used to purchase innovative, more effective and efficient products or services. Winners receive widespread promotion. The award is open to applicants from national, regional and local public authorities within Europe.

Join the platform and the movement

The Procurement of Innovation Platform is a stepping stone for public authorities to engage in innovation procurement. Its hub function allows public authorities to create the necessary network with other experienced and interested authorities, share best practices, learn from one another and gather the expertise to put innovation procurement into practice. With more than 1,500 members and over 600 resources, the platform is a crucial factor in advancing innovation procurement at the European level.

The Procurement of Innovation Platform project is supported by the European Commission through the CIP-EIP programme. CIP-EIP is the part of the European Commission's Competitiveness and Innovation Framework Programme (CIP) dedicated to the Entrepreneurship and Innovation Programme (EIP). —



Marlene Grauer is a Sustainable Economy and Procurement Officer at ICLEI—Local Governments for Sustainability. She currently supports several European projects on sustainable public procurement, public procurement of innovation and pre-commercial procurement as well as the development of the monthly European Commission Green Public Procurement News Alert. She also carries out training activities on sustainable public procurement for local authorities. Before joining ICLEI, Marlene worked with local authorities in Latin America as a consultant for the German Agency for International Development (GIZ).

This article is based on material found at: <https://www.innovation-procurement.org/>

Procurement policies and training

Two powerful tools to foster innovation in the procurement practice

By Rolando M. Tomasini

Procurement innovation has largely focused on fostering market competitiveness and sustainability, for the most part reserved to a select few organizations whose buying power is sufficient to cause sector-wide changes. However, procurement innovation exists in many other areas starting at the policy level, going through to internal processes and capabilities, and ending at the supplier interface. Innovating at the different levels can help to advance sustainability from within, while strengthening the organization's in-house capabilities—a principle we have chosen to adopt at the United Nations Office of Project Services (UNOPS) with our revised Procurement Manual and training strategy.

The performance of the procurement function is and will continue to be an important topic for both public and private organizations. While there are no magic formulas to decipher efficiency, risk management, or return on investment, a few points remain consistent both in practice and in the academic literature: individual capabilities and organizational design are critical factors in assessing and enhancing procurement team performance. However, performance is not about results-based compliance to rules and procedures, but rather the output from using those processes as tools for making the best decisions in each context. This explains our investment in developing the individual capabilities of our procurement community and empowering these individuals to innovate.

Capabilities can be defined as the skills and know-how that reside within the organization's

members and routines. These are brought into organizations through individuals' respective educational backgrounds and professional experiences. These capabilities live in the processes and routines of organizations, and grow and expand informally through the interaction of individuals in daily life, and formally through training and education.

Organizational design refers not only to the allocation of resources and capabilities, but also to the types of processes and policies that regulate the procurement process. As such, capabilities and policies are tightly embedded in the question of how we set up structures so that our procurement officers can contribute innovatively to the organization's performance.

At UNOPS we have recently launched a revised version of the Procurement Manual, a document borne from an extensive collaborative process with our field personnel and the exchange of best practice with other international agencies for the harmonization of the content. The result of this consultative exercise is a manual that serves as a repository of procurement policies at UNOPS, formalizing the organization's agreed procurement procedures. In itself, it is the foundation of the capabilities of the procurement community within the organization.

Policy goes beyond a set of rules and principles, and is rather the description of a standardized set of processes and routines that have embedded in them the organization's know-how, expertise and skill set. In light



As a central procurement resource in the UN system, UNOPS provides training that helps partners advance innovation in procurement. In Honduras, UNOPS provided in-depth procurement training as part of support to water, sanitation and hygiene projects in small cities and schools, funded by the Swiss Agency for Development and Cooperation.

Photos: UNOPS/Paul Gurdian



of this, the Procurement Manual is to be used as a companion to assist procurement officials in fulfilling UNOPS mandate. For this purpose, the new policy has been designed with a degree of flexibility that empowers procurement officials to rely on their experience and knowledge of the market, and to apply discretion during different steps of the procurement process.

On the policy level, complemented by practical enablers, sustainability comprises the DNA of the new manual. While not yet mandatory in every step of the procurement process, sustainable procurement is promoted as UNOPS first choice wherever feasible. This

is complemented with a set of sustainable procurement training modules to empower procurement officials to integrate sustainability as they see fit in their own environments and market conditions.

On a more operational level, the minimum bidding time has been reduced and a more detailed division of duties has been put in place to enable more decisions to be taken in the field, without compromising transparency and fairness in the process. We have revised and increased the threshold of the shopping procedure for greater efficiency and autonomy. For long-term agreements, the price adjustment threshold and contract

requirements have been revised to make it easier for procurement officials to use discretion while meeting the policies.

To complement the revised policies of the Procurement Manual, our training aims to strengthen the capabilities within the procurement function and to enhance and harmonize the understanding of the manual's contents among the members of our procurement community. Reaching out to all of our widespread procurement officials is a challenge, as UNOPS is an organization that operates internationally, often rendering its services to its partners in remote locations.

This geographic spread brings with it a large diversity of procurement profiles and responsibilities. Keep in mind that we procure globally for very specific needs in political contexts that are frequently changing and rapidly evolving. This work is done on behalf of partners or for ourselves. Often the procurement exercises we conduct may only ever occur once in the history of UNOPS. Therefore the capabilities of our procurement officials must reflect the astute implementation of our policies and adherence to our procurement principles (i.e. fairness and integrity, best value for money, effective competition, and best interest for UNOPS and its partners) in fast changing environments, catering to a large and ever growing spectrum of needs.

The benefits and impact of training on procurement teams is well documented as a contributing factor to world-class procurement practices and the establishment of an adaptive and learning organization. This results often in innovation, not just in terms of products and services, but largely in internal processes that optimize the way in which we research the market, select suppliers, negotiate, finance purchases, develop supplier relations, deal with issues, and improve our planning and contracting cycles. Therefore, promoting the capabilities required for operating in the organizational context of UNOPS provides a great opportunity to innovate and instill international best practice procurement standards into the way procurement is practiced at UNOPS.

Ultimately, the combination of having a robust policy in place and developing capability through training enables procurement officials to be the drivers of all the steps in the procurement process. As such, they are the stewards of quality in the organization: quality of the goods, services and works procured; quality in terms of the results obtained; but also the quality of the needs assessments and the sourcing and bidding processes. This ensures that we, as an organization, get the best from the market so we can satisfy the needs of our partners and fulfil our mandate. —



Rolando Tomasini is currently a Training Specialist at UNOPS Sustainable Procurement Practice Group. Prior to joining UNOPS, he held different procurement positions in the private sector, including as a supplier relationship manager and consultant for the design and implementation of global corporate procurement academies for several leading multinationals. He is the author of several award-winning case studies, articles, chapters and books on humanitarian logistics and corporate social responsibility, based on numerous secondments and consulting projects with different United Nations agencies during his PhD studies. Over the past decade, he has lectured at INSEAD, Copenhagen Business School, Hanken, and various corporate universities around the world, attaining the Skinner Award for Teaching Innovation from the Production and Operations Management Society.

Find out more at: <http://bit.ly/unopsprocurement>

Public procurement and innovation: some initial assertions

By Max Rolfstam



Leading experts agree that policies considering the simultaneous application of research and development subsidies and public procurement can go a long way in stimulating innovation. **Photo: Scania Group**

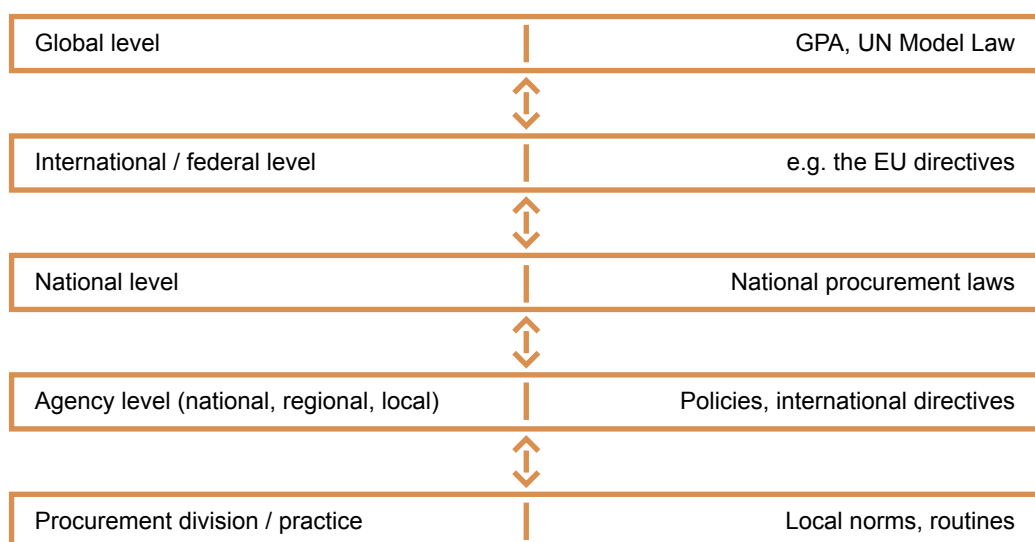
Public procurement is the main sourcing instrument used by public agencies to secure the delivery of public services. Public procurement can also be perceived as a secondary policy instrument rendering different kinds of innovation. One generic notion capturing such effects is public procurement of innovation understood as purchasing activities carried out by public agencies that lead to innovation.

This definition includes not only the technical process of tendering but also preparation activities taking place in the pre-procurement process as well as activities leading to the uptake and diffusion of the procured item. It also acknowledges that innovation can occur unintended, and can lead to different innovation effects: initiation, escalation,

consolidation and destruction. It may also take place with the aim of satisfying an intrinsic need, in cooperation with others, rendering catalytic effects on behalf of other actors, and sometimes in more distributed forms where the role of the procurer is mainly to expose a public opportunity for innovative suppliers.

The idea that public procurement can be used as a means to stimulate innovation is currently discussed in many parts of the world. Evidence also suggests that public procurement can play a significant role in stimulating innovation. In the past, public agencies in the United States promoted the initial development of the computer, civilian aircraft and semiconductor industries. Drawing on innovation surveys and patent data from Canada, the importance of the public sector as a first user of

Figure 1. Different institutional levels useful for understanding public procurement of innovation



innovation has been established. More recent quantitative studies drawing on German data have compared different innovation effects, suggesting public procurement and university spillovers can be more important than other measures such as regulation and public funding of innovation projects. Similar results have been found by drawing on data collected from European Union (EU) member states as well as Norway and Switzerland. Leading experts have found that the biggest impact is achieved with policies considering the simultaneous application of research and development subsidies and public procurement. There is also a range of case studies reporting on how public procurement has helped to stimulate innovation.

The idea of using public procurement as a way of implementing secondary policies is not new. The underlying driver for the current interest in public procurement of innovation stems from the perceived bias towards supply-side instruments, seen for instance in the European context. Supply-side measures such as research and development subsidies or tax exemptions have historically been the central

policy tools applied by governments, while demand-side innovation policy instruments, such as public procurement have been relatively neglected. The EU has concluded that the main area of neglect in recent years in research and development and innovation policy spheres has been demand-side policies. It has been argued that within the EU, policy makers should take into account both blades of the scissors of demand and supply.

The need for increased attention on the demand side has also been emphasized by the Organisation for Economic Co-operation and Development (OECD). A recent study of the development of public procurement of innovation policy by Lember, Kattel and Kalvet, which analyzed 11 countries around the world, further corroborates this general picture. The researchers state: “The prevailing supply-sidedness in innovation policy-making (instruments such as R&D grants or tax reductions) has simply left the demand-side unnoticed in many countries for a long time.”¹

From a global perspective, one must however keep in mind that there is a variation among

¹ Lember V., Kattel, R. and Kalvet, T. (2014). How Governments Support Innovation Through Public Procurement: Comparing Evidence from 11 Countries. In Lember V., Kattel, R. and Kalvet, T. (Eds). Public procurement for innovation policy: International perspectives. Springer Heidelberg, New York, Dordrecht, London, p. 298

² Mourão, V. and Cantu, R. (2014). Public Procurement and Innovation in Brazil: A Changing Course of Public Procurement Policy? In Lember V., Kattel, R. and Kalvet, T. (Eds). Public procurement for innovation policy: International perspectives. Springer Heidelberg, New York, Dordrecht, London.

³ Li, Y. (2013). Public procurement as a demand-side innovation policy in China. PhD thesis. University of Manchester, UK. Article available at: <http://bit.ly/yanchao>

Table 1. Success factors for public procurement of innovation and the extent to which they are within the range of public procurement training

Success factor	Requirements
Expertise on public procurement procedures and public procurement law	Understanding how to apply procurement procedures, award criteria and other activities regulated by law.
Technical competence for specifications	Possess sufficient competence to know what to procure.
Coordination for cooperative procurement	Coordinate demand in projects with several customers.
General project management skills	The ability to coordinate information, stick to agreed plans and meet deadlines.
Allocation of resources	Non-routine allocation of resources necessary for time-consuming searches and setting up/managing projects.
Political support	Support from political leadership.
Commitment from other institutional actors	Support not only from contractors but also other stakeholders affected by the project outcome.
Appreciation and understanding of the procurement rules	Supplier understanding of the peculiarities associated with dealing with a public customer.
Technology champions	The availability of a person or a group of persons who champion the introduction and diffusion of the procured item.

the specific circumstances in which public procurement of innovation might occur. Developments and challenges encountered in Brazil² are not the same as in Denmark or China³. To fully understand a specific circumstance requires a multilevel institutional analysis, taking into account laws, policies, traditions, norms and routines ranging from global to local in the specific context. The global level includes institutional elements such as the Agreement on Government Procurement (GPA) of the World Trade Organization (WTO) and the United Nations Commission on International Trade Law (UNCITRAL) model law.

On the international/federal level, we find economic regions, such as the EU, that may affect underlying levels through policies and/or regulation. On the state/country level, country-specific laws and policies evolve where public procurement may or may not be regulated and/or is targeted by innovation policy. Within a country, particular agencies may develop policies, practices and routines which to varying degrees affect the likelihood of public procurement of innovation. At the local level, within procurement departments

and/or among practitioners, executing public procurement also reveals the norms, attitudes and conditions which affect the extent to which public procurement of innovation occurs (see Table 1).

An interest in public procurement of innovation policy implementation may render debates that concern different levels and perspectives. The fundamental idea that the public sector can act as an important market player may be perceived as contrasting to perspectives based on neo-liberal ideas, which makes the current policy interest somewhat of a paradigm shift as compared to policy thinking in the past.

To adapt to these new policies may require institutional change in local contexts, which for a long time have evolved according to efficiency rationalities. It may also induce a discussion regarding the tension between discrimination and competition, and the extent to which public procurement of innovation policies should promote innovation among domestic and/or local firms or promote the sourcing of the most universally innovative solutions. Another concern is the extent to which exogenous demand-side policies can

or should affect public procurement decisions made locally. Such perspectives tend to downplay some of the claims made and suggest policy should settle with promoting innovation-friendly procurement practices rather than build up too bold expectations of public procurement as a means expected to render radical innovation. It also brings about a discussion that relates to procurement law and global agreements.

Although competition appears to enable public procurement of innovation in developed markets, initial protection of domestic markets may be important for developing countries; a need that conflicts with the efficiency and competition rationales embedded in most global trade agreements. Also, for some countries, problems related to corruption and a general lack of competencies and resources may make a discussion regarding the extent to which public procurement could be used to stimulate innovation a somewhat peripheral discussion.

Success factors driving public procurement of innovation

A closer scrutiny of cases of public procurement of innovation suggests however that many determinants rendering success prevail on lower institutional levels (Table 1). Public procurers need to possess skills related to procurement procedures and laws, particularly the ability to produce technical specifications, and general management skills. It usually requires a significant level of tacit knowledge and experience to apply the procurement rules to the specific context. Technical competence for specifications refers to the ability to know and formulate what is to be procured, preferably in such a way that solutions the procurer was not initially aware of are allowed to be submitted. Cooperative public procurement

of innovation in turn raises a need for skills in coordinating and negotiating demands stemming from different forms of collaboration. Specification production and management skills are, while requiring a great amount of tacit knowledge, controllable, in the sense that they can either be developed by individuals or allocated to a project through appropriate recruitment.

Some success factors are external to the actual procurement context. One example is consistent and predictable regulation by the authorities monitoring public procurement behaviour, which reduces uncertainty for public procurers. Sometimes, success in public procurement of innovation depends on additional actors rather than those formally included in the contract. To achieve such commitment is partly controllable, if the procurer manages the project well. In the end, however, the decision to commit to public procurement of innovation prevails with the external stakeholder.

Other success factors are political support and the allocation of resources, which underline that other categories of staff within the public sector should be considered as targets for skill upgrading in public procurement of innovation. Two final and sometimes neglected success factors are the appreciation of the procurement rules in general and the role of technology champions. The former stresses that not only does the procurer need to appreciate the peculiarities of public procurement, but suppliers need to as well, by possessing the knowledge and skills required to do business with a public client and understanding relevant rules and procedures. The latter stresses that uptake and actual use of a procured innovation may require, for example, user training and promotional initiatives carried out by technology champions. —



Max Rolfstam is an innovation researcher with a broad interest in how institutions and institutional change affect possibilities for innovation. For more than a decade he has worked together with public agencies at the European, regional and national levels on issues related to how public procurement can drive innovation. Dr Rolfstam has teaching experience from universities in Sweden, Denmark, Germany and China in topics such as public procurement of innovation, innovation policy and innovation management.

This article is based on: Rolfstam, M 2013, *Public Procurement and Innovation: The Role of Institutions*, Edward Elgar, Cheltenham, United Kingdom.

Using public procurement to support industrial innovation

International policy experience

By Veiko Lember / Rainer Kattel / Tarmo Kalvet



The supply chain of multinational energy corporation Petrobras has been a focus of public procurement of innovation policy in Brazil.
Photo: Petrobras

Introduction

— The recent decade has witnessed a growing interest in using public procurement to spur innovation and development. An increasing number of governments are claiming that public procurement—usually worth 10 to 30 percent of a country's gross domestic product—should be used more extensively and explicitly to promote innovation, technology, and economic development. Indeed, diverse countries from Asia to North America and from Europe to South America have started to develop new and explicit policies that place public procurement into service for innovation and development.

Compared with earlier programmes, what seems to differ now is that recent policy rhetoric has broader innovation impacts as a primary goal of public procurement, often seen as a horizontal policy measure.

Public procurement and innovation

There are two main ways that public procurement can be associated with innovation. First, it is understood as a tool for stimulating the development of new products (goods, services, systems); second, it can refer to public procurement that attempts to open up innovation possibilities without necessarily targeting new products. The former is often referred to as public procurement for innovation (or sometimes as

public technology procurement), which happens when a public organization places an order for a new product that fulfils certain functions in a limited time span. This can refer either to radical, new-to-the-world breakthrough technologies or, more frequently, incremental innovations where existing products are adapted to the local context.

The second approach ascribes public procurement a broader role in inducing innovation and stresses that innovation is not limited to only new products, but is also about new capabilities (organizational and technological). This can be defined as public procurement of innovation, which refers to purchasing-related activities performed by public agencies that result in innovation. This wider approach stresses the importance of giving the market the possibility to come up with innovative solutions by deliberately using innovation criteria in tender documents (e.g. functional specifications).

Policy modes in innovation-oriented public procurement

By distilling from international policy practices, past and present, as well as theoretical debates, innovation-oriented public procurement can be identified in four different policy modes: technology and industry development policy; research and development policy; generic policy; and 'no policy' policy (Table 1).

Historically, perhaps the most influential and most frequently exploited innovation-oriented public-procurement instrument has been government technology procurement. It is not only radical research and development-intensive innovations or new technology platforms (e.g. military, telecommunications, and pharmaceuticals) that are the focus. Adaptive innovations should also be considered, for example, by using standard-setting and technology-transfer as part of public-procurement initiatives. Public technology procurement can as often be technology-driven (i.e. based on social needs, such as low-carbon solutions for environmental protection or defence systems) as industry-driven (i.e. where national industry has a potential advantage to grow). Second, innovation-oriented public procurement often takes place in the form

of public procurement of research and development—public procurement is often used as a tool to fund industrial research and development. Thus, in this case public procurement directly serves the goals of science, technology and innovation policy, but is at the same time directly oriented towards production and not only knowledge creation. Here governments usually establish separate horizontal or field-specific programmes (e.g. in defence, security, health and energy) that focus on early phases of product and technology life cycles (pre-commercial solutions) and which assume high-level research and development work from providers in order to meet (sometimes loosely) specified public demand.

Third, governments can also opt for more generic policy solutions to promote and foster innovation. The innovation dimension is made a central and explicit part of government procurement strategies and decisions across the public sector. The generic policies aim at exploiting government consumption expenditure in general as a vehicle for inducing innovation. In these cases, emphasis is given not only to dedicated public-procurement programmes, but to the maximum use of specific, allegedly innovation-friendly procurement practices and methods such as performance specifications, competitive dialogue, variant bids and idea competition.

Fourth, many governments have never pursued massive technology, research and development or generic procurement policies to spur innovation. Much of today's government spending on goods, works and services is still done according to routine by employing regular public procurement practices (e.g. simple price auctions targeting off-the-shelf solutions) without secondary intentions—such as innovation—in mind. This perspective assumes that it is price-driven competition that should drive innovation.

Public procurement of innovation policy: a comparative overview

The empirical evidence indicates that governments indeed use a variety of policy measures, often in conjunction with other instruments (Table 1).

Table 1. Selected examples of innovation-relevant public procurement policy approaches and instruments

Country	Public procurement of innovation policy as technology and industry development policy	Public procurement of innovation policy as research and development policy	Generic public procurement of innovation policy	'No policy' policy
Australia	Various defence technology projects (since the 1970s); high-tech industry partnerships for development (1987); Priority Industry Capability Innovation Program in defence (2009)	Defence: Capability Technology Demonstrator Program (1997); Rapid Prototyping, Development and Evaluation Program (2004); Victorian government's Smart SMEs Market Validation Program (2009)	Promotion of innovation principles (in procurement guidelines; establishing communication platforms with industries; targeted training) (2008)	
Brazil	Petrobras supply chain; Profarma Inovação (pharmaceuticals, 2008); various technology programmes in defence	Funding Authority for Studies and Projects (FINEP)	Exclusive and supportive regulative provisions (2010)	
Estonia		Minor programme in defence		
Greece				Prevalent policy mode
Sweden	Market-transformation programmes in energy; technology procurement strategy in Swedish Transport Administration; Vattenfall and the Swedish Association of Local Authorities and Regions procurement programme of electric cars	Vinnova's pre-commercial public procurement programme	Vinnova's promotion programme; Swedish Agency for Economic and Regional Growth	Prevalent policy mode
UK	Forward Commitment Procurement; Innovative Technology Adoption Procurement Programme	Small Business Research Initiative	Innovation procurement plans (discontinued since 2011); public-private procurement compacts	
USA	Myriad of programmes at the federal level (e.g. Building Technologies Program and Federal Energy Management Program under the Department of Energy, In-Q-Tel under CIA, etc.)	Myriad of programmes at the federal level (e.g. the Small Business Innovation Research programme; research and development competitions, etc.)		

Using policy instruments to develop and diffuse new technologies through public procurement has had direct bearing on industry development. A part of this policy aims directly at developing specific new products based on demand identified and articulated by the public sector. Often referred to as 'public technology procurement', these policy initiatives are introduced to meet governments' direct needs (e.g. the new technology products programme in the Republic of Korea), endorse some socially desired technologies (e.g. market-transformation programmes in energy in Sweden and the United States) or promote some strategic industry sectors for competitiveness reasons (e.g. pharmaceutical industry development in Brazil and the Priority Industry Capability Innovation Program for the defence industry in Australia).

Specific research and development-oriented public procurement policies are gaining ground in many countries. Largely influenced by the United States' experiences with the Small Business Innovation Research program, Australia, the Republic of Korea, Sweden and the United Kingdom are among the countries that have adopted their own versions of research and development or pre-commercial procurement schemes. Denmark and Estonia have introduced public research and development procurement on a somewhat smaller scale. Further, the EU is developing its own pre-commercial procurement initiative that would match the perceived success of the Small Business Innovation Research program.

A generic public procurement of innovation policy approach—aimed at making the innovation dimension a central and explicit part of procurement decisions across the public sector—presents the latest attempt to use public procurement to tackle systematic problems in national innovation systems. Examples include directly incorporating innovation-friendly regulative provisions into legislation (Brazil, China and the United States), disseminating knowledge and promoting innovation as an important side goal of public procurement (Australia, Denmark, the Republic of Korea, Sweden and the United Kingdom), establishing communication platforms with industries for pre-selection stages (Australia and the United Kingdom),

dedicated funding schemes (Sweden) and targeted training (Australia and Sweden).

In most countries public procurement is mostly still a matter of auctioning for existing products and services based on the lowest price criterion. Accordingly, we can argue that the 'no policy' policy in public procurement of innovation is essentially a starting point for all other possible public procurement of innovation modes in all countries. What differs from country to country is how governments have diverged from the 'no policy' policy towards other policy modes, why they have done so, and how these other modes have changed over time.

Although countries have followed rather different paths in public procurement of innovation policy making, we detect a certain general policy trajectory over the past three decades. While during the industrial policy era up until the 1980s public procurement was mostly used to induce new technologies and entire industries via direct public technology procurement programmes as well as research and development procurement, the emerging policy consensus puts an emphasis on more holistic ideas and sees public procurement as a more generic tool in promoting innovation.

However, country experiences within this general converging trend tend to still be relatively diverse. It is our understanding that the socio-economic context and especially the changes in it play an important role in shaping actual public procurement of innovation policy practices. This refers to differences in state-society relationships, socio-economic challenges and the overall status of national innovation systems. Here, the legitimization of public procurement of innovation policy ideas in the local socio-economic context becomes crucial.

The legitimization of a public procurement of innovation policy may be facilitated if it is anchored to widely accepted national or regional challenges (e.g. security, energy, health, ageing). These features seem to provide governments with a much needed 'anchor' for establishing and developing public procurement of innovation capabilities and a shelter from a changing and unsupportive

socio-economic environment. The latter can mean, for instance, a radical change in the ideological milieu or regulative framework. However, these anchors (if present) are usually nurtured in specific, often idiosyncratic, institutional contexts, which in turn influence where public sector procurement of innovation capabilities reside and are maintained and, thus, how public procurement of innovation policies evolve. These domestically idiosyncratic 'anchors' make it possible for policy stakeholders to overcome the inherent problems of public procurement of innovation

(e.g. high technology, financial and political risks) as well as general public procurement (e.g. multiple goals, conflicting institutional settings, coordination in decentralized systems).

Thus, future policy making should focus on finding a right balance between existing policy capacities, internal and external policy space, stages of development within focus industries and the different public procurement of innovation policy modes. —



Veiko Lember is Senior Research Fellow in Public Management and Policy, and Head of Ragnar Nurkse School of Innovation and Governance, Tallinn University of Technology, Estonia. His main research interests are in public administration and innovation policy, and his recent works have covered issues such as public procurement of innovation, demand-side innovation policy, public-private partnerships, contracting out, co-production, and coordination in the public sector.



Rainer Kattel is Professor and Chair of Innovation Policy and Technology Governance at Ragnar Nurkse School of Innovation and Governance, Tallinn University of Technology. He is also co-director of its Technology Governance programme, www.technologygovernance.eu. His main research area is industrial and innovation policies in emerging economies, especially Central and Eastern Europe and Latin America.



Tarmo Kalvet is Senior Research Fellow in the field of technology governance at the Ragnar Nurkse School of Innovation and Governance, Tallinn University of Technology, Estonia. Mr Kalvet founded and was for many years the head of the Innovation Policy Research Programme at the Praxis Centre for Policy Studies, Estonia's leading policy think tank, as well as one of its board members. He has published over 70 research and policy papers, mainly on enterprise, economics, research and innovation, and ICT policies, including public procurement.

This article is based on: chapters 1, 2 and 14 in Lember, V, Kattel, R & Kalvet, T (eds.) 2014, *Public Procurement, Innovation and Policy: International Perspectives*, Springer.

Development-based public procurement policies: a selective survey of policy experience

By **Murat Yülek / Murad Tiryakioğlu**

Introduction

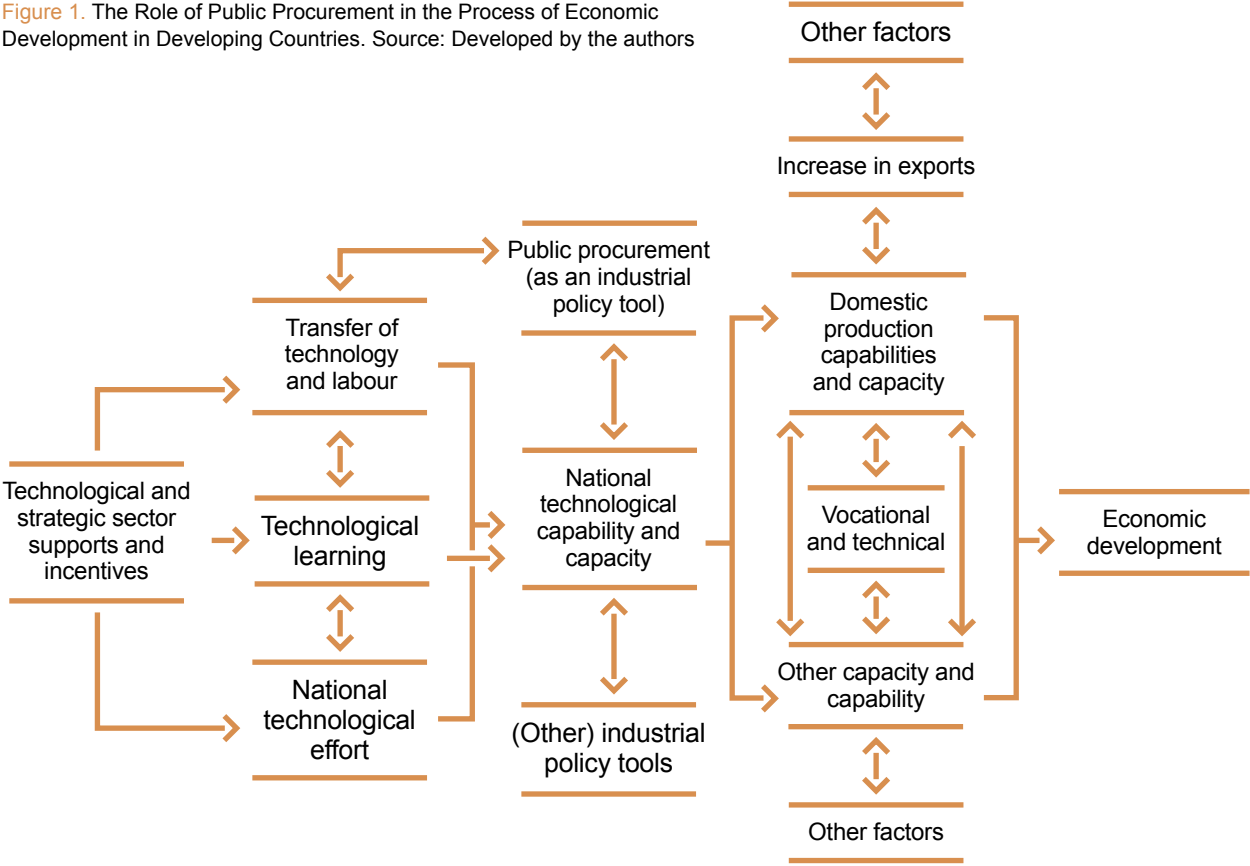
In developing economies, industrial and local technological capacities are among the primary factors driving the overall economic development process. In developed economies, where factor accumulation has matured, innovation-led total factor productivity growth is the primary driver of growth.

In developing economies local technological capacity can be enhanced by technology and skill transfer through, among others, well designed public procurement policies that can act as a type of industrial policy. Public procurement may be more effective in fostering technological and industrial development than various financial support programmes simply

because public procurement increases firms' access to markets. Likewise, in developed economies, public procurement policies aimed at supporting innovation processes may be more effective than financial support programmes, simply because introducing an incentive to sell can trigger a stronger innovatory process by firms. In either case, public procurement is a good complement to enhancing the efficiency and effectiveness of financial support for innovation as well as industrial and technological development.

In this article, we discuss development-based public procurement. The second section presents the conceptual relationship between economic development and public procurement in the context of developing

Figure 1. The Role of Public Procurement in the Process of Economic Development in Developing Countries. Source: Developed by the authors





Development-based public procurement policy tools, such as local content rules, can help build local industrial capacity.
Photo: Visual News Associates/World Bank

economies. In the third section, the market access aspects of public procurement are briefly reviewed, while the fourth section presents types of basic public procurement tools. The last section summarizes selected countries' experiences in development-based public procurement.

Linking public procurement to development: development-based public procurement policies

Public procurement is an important industrial policy tool that can be used to foster the competitiveness of industrial companies and their technological capacities, accelerate regional development, assist small- and medium-sized enterprises (SMEs), complement the public and private resources allocated to research and development (R&D) activities and support innovation. All of these are secondary benefits gained by governments in addition to the basic benefits of receiving goods or services under the basic principles of public procurement (fairness, equity, transparency, competitiveness and cost-effectiveness). The types of secondary benefits as well as the extent to which they can be derived

from better public procurement policies may differ between developed and developing economies. In developed economies that possess sophisticated industrial structures and technological capabilities, growth accounting studies show that economic growth is driven by the growth of total factor productivity rather than factor accumulation. In these countries, public procurement could be primarily used to support innovation for maximal benefit.

In developing countries on the other hand, economic growth is driven primarily by factor accumulation, and industrial and technological capacity is constrained by various obstacles. In these countries development-based public procurement policies could help strengthen basic industrial and technological capabilities, thereby enhancing the competitiveness of existing industries. A primary motivation for this argument is that public procurement presents unique market access potential to local businesses, as is briefly discussed in the next section. Figure 1 presents a taxonomy relating public procurement policies to economic development. Furthermore, one should note that in the context of developing countries, industrial and technological developments can

constitute a major set of innovation activities from the local perspective. Thus, it could be argued that innovation lies at the heart of development-based public procurement policies in developing economies in a similar manner that procurement for innovation does in developed economies.

The benefits and costs of public procurement policies to achieve secondary benefits should be weighed carefully in the design and implementation stages by using impact assessment studies. The design should be dynamic in nature and open to revisions based on the results of assessments.

Public procurement as a market access tool for firms

Public authorities in all countries design and administer various forms of financial support to incentivize firms to reach development targets such as growth and employment. This support includes R&D and innovation subsidies, tax incentives for locating production facilities in underdeveloped regions, support to SMEs, export subsidies and support for foreign direct investment.

Well-designed public procurement policies can be used to complement financial support. Lack of market access is among the primary obstacles to the survival and growth of SMEs. It also impedes the growth of non-SME industrial companies. It would not be wrong to classify development-based public procurement policies as 'direct' support to businesses and financial support as 'indirect.' It is not uncommon, for example, that a firm in a developing country uses financial support for R&D to design a product but is never able to commercialize it. Providing market opportunities to firms would thus complement and increase the efficiency of public funds allocated to support businesses.

Development-based public procurement policy tools

Countertrade/offset: Used primarily in the defense industry, countertrade/offset-based public procurement methods are characterized by a contract between a nation-state and a foreign supplier, where the supplier is asked to generate primary capabilities (that is, the

capabilities gained by the direct local partner) in addition to selling their base goods and services. There are also secondary capabilities (capabilities of local firms supplying to the direct local partner) that could be developed via proper policies. Procurement-induced countertrade can foster technology transfer, conservation of foreign exchange, market penetration and foreign investment.

Local content rules: These require international exporters to the host country to identify local manufacturing partners and leave part of the manufacturing to them. The ensuing industrial participation process can help build local industrial capacity.

Set asides and price preferences for SMEs: Set asides comprise minimum public procurement budgets allocated to SMEs, while price preferences represent a positive price margin when supply comes from SMEs.

Forward public procurement commitments: The tool consists of the public authority making a credible commitment to future procurement. The credibility of the commitment is critical as this will be the primary driver of preparation and pre-investment by private companies. Forward public procurement commitments can be an especially convenient tool for a government in triggering innovation and R&D without spending a single penny.

Location rules: When governments set up budgetary allocations (set asides) for procurement from certain regions, location rules can be an effective tool for regional development objectives in both developing and developed economies. Location rules are not yet practiced in the real world but they carry a significant potential as a development-based public procurement tool.

Development-based public procurement policies: selected country experiences

Procurement for innovation: The Science and Technology Committee of the British House of Lords issued the conclusion in 2010 that public procurement has strengthened renovation and innovation. The committee is also investigating

the diffusion of innovation within industry. *Defence aviation procurement:* One of the most important country-based examples of development-related public procurement would be that of the Saab Group in Sweden (originally Svenska Aeroplan AB). In deciding how to develop the new generation fighter plane 'Gripen' in the early 1980s, the Swedish government had three options: (1) adapt the design of a foreign plane; (2) develop an earlier generation Saab fighter ('Viggen'); or (3) produce a new design from scratch. The government selected the third option, which involved higher costs. However, this option led to the generation of significant direct and indirect local economic benefits in terms of innovation and technological development.

Facilitating market access for SMEs: In 2007, the Metropolitan Municipality of Istanbul, Turkey decided to support local tulip producers and provide them with contract farming opportunities. This led to a flourishing sector that soon began to export its products, indicating the sector's international competitiveness. As many of the newly established tulip farms were located in relatively low-income regions, the policy has supported regional development as well. Moreover, in 2014 Turkey's public procurement law was changed to allow firms

that have developed goods and services in the country, through government or internationally-funded research, to receive work completion documents from the Ministry of Industry, Science and Technology. These documents make it possible for these goods and services, which are developed for the first time, to be eligible for public procurement.

Building 'secondary' local capacity through offsets: In 2012, The Under-Secretariat of the Defense Industry in Turkey made it mandatory for the primary national supplier in an offset agreement to give a certain percentage of production to local SMEs.

Set asides for SMEs: The United States of America (USA) is one of the countries that systematically implements SME set asides.

Local content rules: Under the new industrial policy in South Africa, certain levels of local content have been made compulsory for procurement that exceeds \$10 million.

Forward public procurement commitments: This approach was under discussion in the USA in the 1980s and is currently being discussed in England. —



Murat Yülek is a Professor of Economics at Istanbul Commerce University as well as a partner at PGlobal Global Advisory and Training Services, an Ankara-based international advisory company. Prior to these roles, he was an adjunct professor at Georgetown University and served as Dean of the Faculty of Business Administration at University of Turkish Aeronautical Association (THK). He has project, corporate finance and economic development experience in various countries across the globe, with tenures at institutions including the International Monetary Fund, the Islamic Development Bank and the Turkish Prime Ministry. He has authored a number of books and articles on economics, development and finance, with recent research focusing on industrial policy and economic planning. Mr Yülek holds an MBA from Yale University, a PhD and MA from Bilkent University, an MSM from Boston University and a BSc from Bogazici University.



Murad Tiryakioğlu has been an academic in the Department of Economics at Afyon Kocatepe University, Turkey since 2001. At this university he received his PhD, MBA and MA. His research focuses on late industrialization policies and experiences, late development economics, and economics of technology and innovation. Moreover, he has authored a number of papers, articles and book chapters related to these topics. Mr Tiryakioğlu also works as a search and rescue volunteer in non-governmental organizations, where he contributes to disaster planning.

This article is based on: Yülek, M & Taylor, TK (eds.) 2012, *Designing Public Procurement Policy in Developing Countries: How to Foster Technology Transfer and Industrialization in the Global Economy*, Springer. Yülek, M (ed.) 2014, *Economic Planning and Industrial Policy in the Globalizing Economy*, Springer.

Public procurement of innovation: an option for South Africa?

By Phoebe Bolton

Introduction

Developing countries generally face pressing service delivery and socio-economic challenges, particularly so on the African continent. Being a leading economy on the African continent, South Africa nevertheless faces enormous challenges. In this paper, it is argued that the purchasing function of the South African government can potentially serve as a vehicle to address the mentioned challenges. More specifically, the purchasing function of the government can be used as a tool to drive innovation and hence address the current service delivery and socio-economic challenges.

Public procurement of innovation: meaning and rationale

In recent years, growing attention has been given internationally to the role that public procurement can play in driving innovation. In essence, public procurement of innovation or innovative procurement refers to the purchase of a good that is not yet in existence and whose design and production will require further, if not completely new, technological development. The procurement of innovative products and services is generally considered vital for improving the quality and efficiency of public services and to address important socio-economic challenges. However, the link between public procurement and innovation has not yet been explored on the African continent, specifically in South Africa.

South Africa's public procurement regime: an overview

In South Africa, the purchasing function of the government is constitutionalized and emphasis is placed on the procurement of goods and services in a fair, equitable, transparent, competitive and cost-effective manner. Provision is, however, also made for the use of procurement as an empowerment

tool to address past discriminatory policies and practices. Under the apartheid state, a number of groups in South Africa were denied access to government contracts, and the aim today is to address past injustices. National legislation has further been enacted to provide a framework for this use of procurement under the Preferential Procurement Policy Framework of 2000 and its accompanying regulations that were promulgated in 2011.

In terms of the Procurement Regulations, procuring entities must lay down minimum quality (functionality) criteria that suppliers must meet in order to qualify for further evaluation. Only those suppliers who pass the minimum quality criteria then qualify for further evaluation. The evaluation of the remaining suppliers must then take into account not only the prices offered, but also their black economic empowerment status. Public procurement is, in other words, used as a black economic empowerment tool and contracts are awarded to suppliers who score the most points on the basis of price as well as preference criteria.

In addition to the Constitution and the Procurement Act, public procurement is extensively regulated in South Africa. A vast array of legislation governs the procurement procedures of the government. At the national and provincial government levels, the 1999 Public Finance Management Act and its Supply Chain Regulations contain provisions regulating procurement, and at the local government level, the Municipal Finance Management Act of 2003 and Supply Chain Regulations regulate procurement. The provisions in these pieces of legislation are largely similar, but they also contain significant differences.

In essence, the legislation lays down four types of procurement methods:



South Africa can use its procurement power to address its pressing service delivery and socio-economic challenges, while driving innovation. **Photo: Trevor Samson/World Bank**

- Petty cash purchases for contracts up to 2,000 rand (\$185)
- Verbal quotations for contracts over 2,000 rand and up to 10,000 rand (\$185 - \$925)
- Verbal or written quotations for contracts over 10,000 rand and up to 500,000 rand (or 200,000 rand at the local government level) (\$925 - \$18,500)
- Public call for tenders/competitive bidding for contracts over 500,000 rand (\$46,300) or 200,000 rand (\$18,500) at the local government level

At the local government level, provision is also made for a two-stage bidding process for large complex projects; projects where it may be undesirable to prepare complete, detailed technical specifications; or long term projects with a duration period exceeding three years. First, technical proposals on conceptual design or performance specifications should be invited, subject to technical as well as commercial clarifications and adjustments. Thereafter, final technical proposals and priced

bids should be invited. It is noteworthy that no similar procurement method is provided at the national and provincial government levels.

Provision is further made for exceptions to the prescribed use of open tendering. Procuring entities may do away with open tender procedures if calling for tenders is impractical, if they are faced with emergencies or the goods or services in question are only available from a sole provider. The National Treasury also facilitates the arrangement of contracts, referred to as 'transversal term contracts', for the procurement of goods and services required by more than one government department, provided that the arrangement of such contracts is cost-effective and in the national interest.

As a general rule, contracts must be advertised in at least the Government Tender Bulletin. Procuring entities must disclose upfront the criteria that will be applied in the selection and evaluation process and tenders may not be evaluated based on undisclosed criteria. Electronic procurement is not widely used. Procuring entities often communicate tender

opportunities by electronic means, but the submission of tenders is still by and large in hard copy form.

Public procurement of innovation: an option for South Africa?

A review of the procurement regulatory regime makes clear that no provision is made for the use of public procurement as a tool to drive innovation. Thus, even though growing attention is being paid to the role that public procurement can play in driving innovation internationally, the link between public procurement and innovation has not yet received any attention in South Africa's legislative framework. The question that needs to be asked therefore is whether South Africa can benefit from using public procurement as a tool to drive innovation.

It is this author's view that South Africa can use its procurement power to address its pressing service delivery and socio-economic challenges. South Africa is already using its procurement power to address past imbalances by incorporating preference criteria in the award stage of the procurement process. Great strides can potentially be made by using procurement as a tool to drive innovation. The current procurement regulatory regime presents a number of obstacles to the use of procurement for driving innovation, but it will be shown that there is scope within the existing legislative framework to accommodate innovative procurement practices. Current barriers include, among others:

- the lack of a suitable procurement method to facilitate innovative procurement practices;
- a lack of skills among procurement personnel to procure innovative goods and services;
- the very limited role that quality currently plays in the evaluation of tenders; and
- the absence of joint action or collaboration among procuring entities

As noted above, the South African legislation mainly provides for four procurement methods and at the local government level, also a two-stage competitive bidding process. All of these

methods are, however, 'inflexible' methods of procurement. The two-stage competitive bidding process at the local government level lacks sufficient detail to make it suitable for the procurement of innovation and none of the methods make express provision for dialogue between the procuring entity and the supplier.

In order for innovative procurement to be successful, dialogue is essential. It is therefore considered that South Africa would need to introduce a more flexible procurement method to enable procuring entities to purchase innovative goods and services. In this sense, the 'request for proposals with dialogue' procedure introduced by the 2011 United Nations Commission on International Trade Law (UNCITRAL) Model Law on Public Procurement is likely to be well suited. In short, this procedure is meant for the procurement of complex goods and services and will allow a procuring entity to seek innovative solutions to technical issues.

Procurement personnel in South Africa are further used to procuring off-the-shelf items and would therefore lack the necessary skills and expertise to procure innovatively. This could, however, be addressed by means of adequate capacity development. The South African National Treasury already facilitates the training of procurement officials and it is recommended that 'innovative procurement' also be put on the agenda.

Procurement personnel would have to receive training on how to identify the various needs of a procuring entity and how to identify pressing societal problems to enable them to procure innovative goods. Procurement personnel will then have to ensure that the tender process itself induces innovation. The drafting of overly specific specifications will, for example, clearly stifle the procurement of innovative products.

Quality in the South African procurement context is generally referred to as 'functionality', and in terms of the procurement legislation, it must serve as a pre-qualification criteria. Suppliers are required to meet certain minimum functionality requirements in order to qualify for further evaluation on the basis of price and preference. This approach to quality clearly does not enable suppliers to offer innovative products or services because



South Africa can use its procurement power to address its pressing service delivery and socio-economic challenges, while driving innovation.

Photo: Trevor Samson/World Bank

they are required to meet a list of preselected criteria. In order for innovative procurement to be successful in the South African context, quality or functionality would have to play a different role when procuring entities require innovative goods or services. The same provisions governing 'regular procurement' will, in other words, not be suitable when procuring for innovation.

Lastly, some public entities in South Africa are involved with strategic developmental delivery and very often deal with international suppliers when they procure goods and services. Reference is here made to South Africa's state-owned enterprises like Transnet, Eskom, Telkom, etc. These entities are sometimes excluded from the scope of the procurement legislation, with the result that they often use procurement procedures and methods that differ from the 'regular' procuring entities. It is considered that there is a need for research to be conducted into the procurement practices of these entities with a view to determining whether they procure innovative products and services and the manner in which they do so. It is more likely than not that these entities have procurement procedures in place that

are specifically suited to the procurement of innovative goods and services, and other government entities would be able to benefit from their skills and expertise. In other words, there is a need for collaboration amongst procuring entities in South Africa for innovative procurement to become a reality.

Conclusion

As previously noted, governments can play a decisive role in using their purchasing power to drive innovation. This use of procurement is also potentially open to developing countries on the African continent. In the South African context, there are currently a number of obstacles that would hinder the procurement of innovative goods and services. These obstacles can, however, be overcome by means of a more flexible procurement method that provides for: dialogue between procuring entities and suppliers; the training of procurement personnel to enable the identification of needs and pressing societal problems and their conversion to functional requirements; the different treatment of quality or functionality to innovative procurement as opposed to regulator procurement; and collaboration between procuring entities.



Phoebe Bolton is Professor of Public Procurement Law at Stellenbosch University, South Africa where she offers courses on government contracts and public procurement law. She is the author of a number of publications in the area of government contracts and public procurement, including *The Law of Government Procurement in South Africa* (LexisNexis Butterworths, South Africa, 2007). She is Deputy Director of the African Public Procurement Regulation Research Unit (www.sun.ac.za/procurementlaw) and Co-editor of the *African Public Procurement Law Journal* (<http://aplj.journals.ac.za>).

This article is based on a forthcoming publication by Phoebe Bolton.

Utilizing a community benefits tool in support of sustainable procurement innovation

By Jane Lynch / Helen Walker / Christine Harland

Introduction

The current expectation that public sector organizations procure all products and services in a sustainable manner places emphasis not only on the environmental implications, but increasingly on the economic and social impacts of all contract decisions. Furthermore, there is growing acknowledgement by authors that public sector procurement can support a local multiplier effect. This means that greater economic wealth and social benefits can be created when public sector money is spent locally. It has been found that sustainable procurement in the United Kingdom (UK) puts a particular emphasis on buying locally, and from small suppliers. Yet it can also be argued that the UK and most of the world's economies are increasingly unsustainable, unfair and unstable.

The purpose of this paper is to highlight an example of sustainable public procurement innovation in Wales, UK, which might interest researchers and practitioners worldwide. This case exemplifies how using the appropriate measurement tool for public procurement decisions may help to tackle all three dimensions of sustainability: economic, environmental and social aspects. A community benefits measurement tool has been developed for the public sector in Wales for contracts worth more than £2 million across a range of sectors to ensure full sustainable benefits are realized.

European Union (EU) public sector procurement

In Europe, public sector procurement spending

accounts for more than 25 percent of gross domestic product, affecting employment levels, competition and economic growth. A pilot called the EU Public Sector Innovation Scoreboard in 2013 mapped ways that each of the 27 member states realize innovation through public procurement. Importantly, the global economic crisis, combined with budget cuts, has accelerated the need for innovative procurement practices. While barriers such as a lack of management support and risk-averse cultures are identified, there is no doubt that public sector innovation through procurement is a critical driver for economic growth.

Procurement in Wales

In the UK, the public sector spends around £220 billion each year on goods and services, with local councils spending on average £187 million each year. By creating a local governance framework, the UK government can narrow its multi-layered system to fit specific conditions. The Federation of Small Business reports an average of 49 percent total procurement spending with small and medium enterprises (SMEs) in the UK. However, in one of the four UK member states, Wales, 99 percent of goods and services are procured from UK suppliers and 52 percent of annual procurement spending is with Welsh suppliers, mostly SMEs.

The Government of Wales Act sets out a sustainable development proposal that prompted the introduction of innovative sustainable procurement methods, and in 2010 a community benefits measurement tool was developed. This followed trials of less successful tools such as an assessment framework to assess



An emphasis on sourcing from local business and suppliers, such as this yarn manufacturer, is a key component of public procurement innovation in Wales. **Photo: Cheryl Colan**

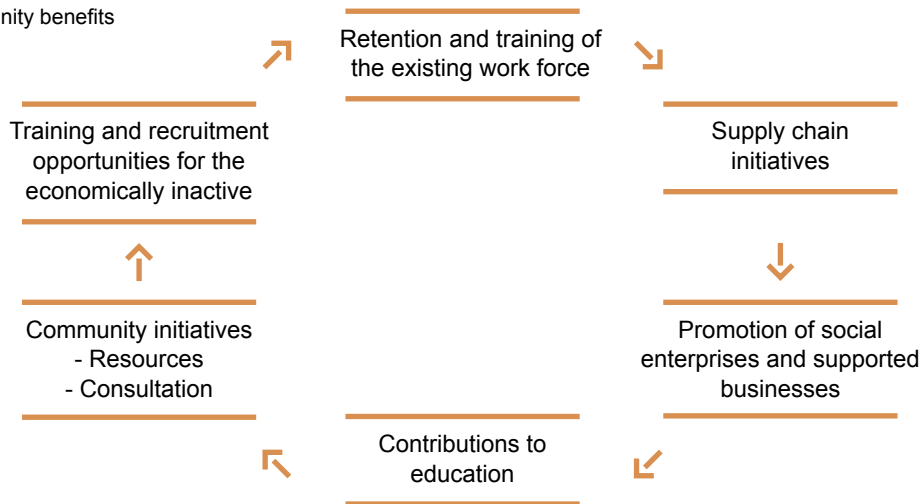
organizational sustainable maturity, a supply void methodology and the sustainability risk assessment, which helped to assess the sustainable implications of specific procurement decisions. The community benefits tool provides consistent and verifiable evidence to ministers and other important stakeholders. It also negates the use of expensive consultants.

The primary role of Value Wales, a division of the Welsh government, is ensuring more efficient and effective delivery of an annual £4.3 billion procurement expenditure on goods and services in Wales. When securing contracts, heavy emphasis is placed on the benefits to the local economy, environment and social status. Value Wales aims to deliver added benefits for local residents of Wales through public procurement spending. This is achieved by encouraging procurers to consider the wider sustainable benefits they hope to achieve for each contract. Sustainable sourcing decisions must be based on more than environmental issues, with an emphasis on the economic and social community benefits, sourcing locally where possible, yet ensuring all decisions are fair and competitive. Value Wales' community benefits report highlights important opportunities for this innovative approach to procurement. These are featured in Figure 1.

Value Wales has also developed a community benefits measurement tool in collaboration with American economist, Justin Sacks, manager of National Economics Foundation (Nef) UK. Nef is the UK's leading think tank promoting social, economic and environmental justice with a focus on economic transition. Sacks claims the value of government spending can be doubled by buying locally. The local multiplier 3 (LM3) community benefits measurement tool has been piloted not just in Wales but across the UK and has proven especially beneficial in areas targeted for economic and social regeneration. Importantly, the measurement tool is unique in Europe.

Following recommendations from the Welsh Minister of Finance, Jane Hutt, the construction sector was selected for piloting LM3 in Wales. The construction sector was selected due to many similar measures already in place, so the additional knowledge required and administrative process has not become too onerous for senior procurement officials. So far, £336 million worth of contracts have been awarded to local suppliers and the full economic, social and environmental benefits have been realized using the community benefits tool. Three approaches to using the tool include core, non-core or both: these are defined in Table 1. The Welsh government identifies that most contracts for this sector fall into the core or non-core categories.

Figure 1. Community benefits



The interactive tool is usually completed by the contracting authority or the main contractor. These are the most likely parties to have access to such information. The tool is completed annually for longer term contracts or at the end of the contract for short-term contracts. The main purpose of the tool is to ensure added value through community benefits is an integral part of public procurement decisions. Examples of measures considered are highlighted in Table 2. The purpose of collecting this type of data means that total contract values can therefore be quantified: For every £1 spent, the project contributes £X towards the local community.

While the pressure to increase spending with local suppliers in Wales is ongoing, part of the challenge facing public procurement when trying to implement a measurement tool such as LM3 is the emphasis on maximizing value for every pound spent through economic and social benefits—a balance of both may not always be easy to achieve. For example, one of the main problems facing public procurers is that there may be insufficient suppliers within

a specific sector, such as construction, which means suppliers are contracted from outside of Wales. This is termed as an industry void. These voids indicate there may be shortages of specific people with relevant skills to meet public procurement sector demands. Overcoming these skill gaps or industry voids is an important challenge for less wealthy European countries such as Wales.

Summary

The case study findings confirm the view that public procurement can make a significant difference to the social, economic and environmental well-being in countries. This study has presented three examples of procurement innovation evident in Wales: a clear and targeted central government strategy, emphasis on sourcing from local SMEs, and inclusion of the LM3 community benefits measurement tool. These examples may provide insight to other public procurement organizations worldwide in the conscious effort to ensure the three dimensions of sustainability are an integral part of contract decisions.

Table 1. Distinguishing between core and non-core terms and the implications within contracts utilizing the community benefits measurement tool

CLASSIFICATION	MEANING
CORE	Community benefits, which form a core part of the contract requirement, are considered part of the selection and award criteria and included in the contractual conditions. This might take the form of apprenticeships, training, etc.
NON-CORE	Community benefits that were not assessed at selection and contract award stages but were part of the contractual conditions agreed with the contractor/supplier. This might include community, educational or environmental initiatives, etc.

Table 2. Sustainability measures used for the community benefits tool

SUSTAINABILITY FOCUS	MEASURES	PURPOSE
ECONOMIC	Contract value	Comparable benchmark for the remaining measures in the table
ECONOMIC/SOCIAL	Amount spent on Welsh suppliers	Social benefits, corporate philanthropy
SOCIAL	Amount spent on SMEs	Linked to the current rate of 52 percent procurement spending
ECONOMIC/SOCIAL	Amount spent on Welsh-based staff/employment	Training, e.g. National Vocational Qualifications, apprenticeships, skills growth
ECONOMIC/SOCIAL	Total number of people hired for the contract	Employment-affecting issues such as people on housing benefit, number of pay-as-you-earn individuals, tax income
ENVIRONMENTAL	Onsite consumption of renewable energy	Department for Environment Food and Rural Affairs guidelines
ENVIRONMENTAL	Tonnes of waste diverted from landfill	In accordance with Her Majesty's Revenue and Customs landfill tax rates and Gate Fees Report, 2012
ENVIRONMENTAL	Percentage of materials containing recyclable materials	(Waste and Resources Action Programme's Net Waste tool)
ENVIRONMENTAL	Reduction in water consumption	Standards set out for water and sewerage charges by main supplier savings using water butts, water efficient components, etc.



Jane Lynch is currently a doctoral student and has worked as a Lecturer at Cardiff Business School since 2006 with the Logistics and Operations Management section. Her specialist teaching and research areas include most aspects of procurement including supplier management, supply chain management, collaborative working, contract management and strategic orientation. Ms Lynch has published in the International Journal of Production Economics and regularly presents papers at international purchasing, supply chain and logistics conferences.



Helen Walker is a Professor of Operations and Supply Management and Director of Postgraduate Research Studies at Cardiff Business School. Her main research interests are sustainable procurement, sustainable supply chain management, collaborative procurement and supply strategy. She is President of the International Purchasing and Supply Education and Research Association. She has also been a member of the Chartered Institute of Purchasing and Supply (CIPS) Sustainable/Responsible Procurement Group, and the intergovernmental Sustainable Procurement Task Force.

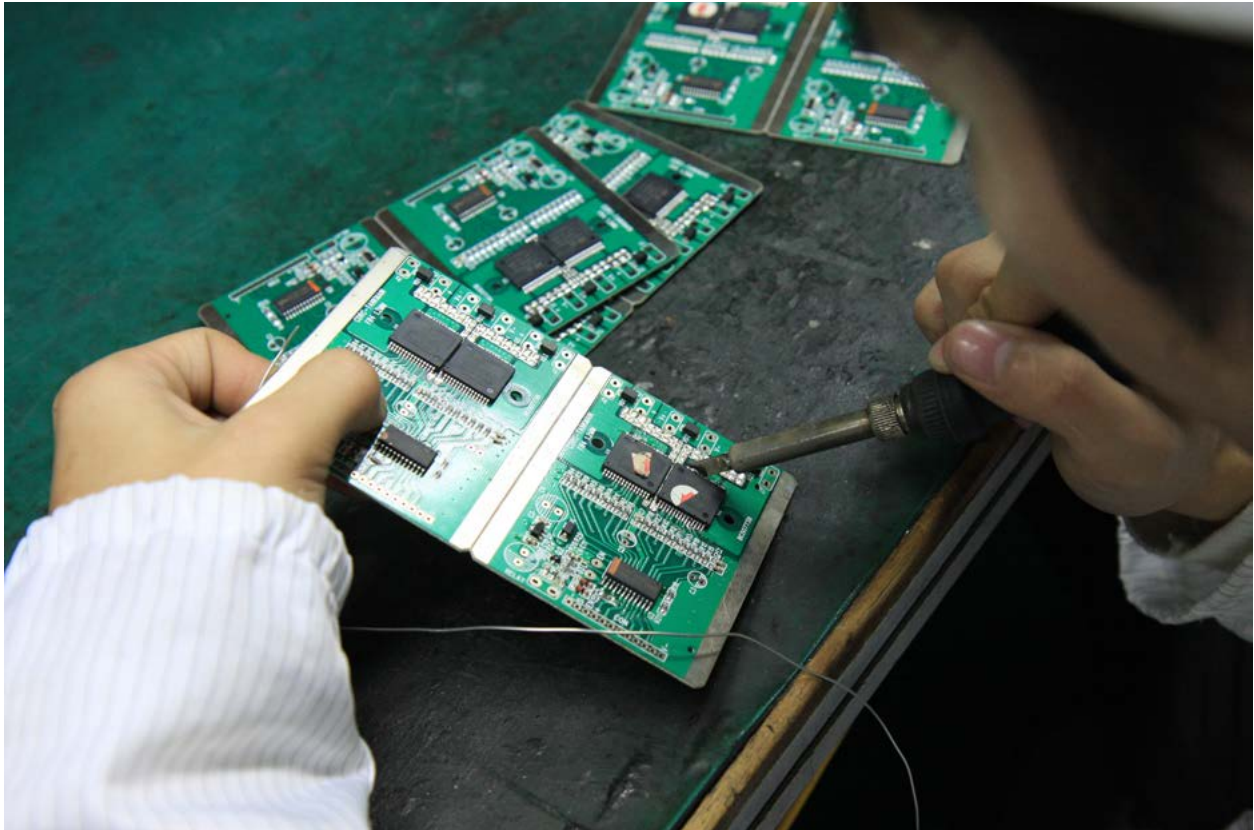


Christine Harland is currently Professor of Supply Strategy at Cardiff Business School. Her research impacts policy and practice in procurement in complex confederal public sector supply networks, notably healthcare. Through performing international comparative studies of public procurement, furthering the role of procurement in commissioning, and developing evidence-based procurement, Ms Harland has helped change the perception of public sector procurement and its role internationally. As a CIPS Fellow, she has helped shape the profession internationally, particularly in Australia and South Africa.

This article is based on: Walker, H & Harland, C 2008, 'E-procurement in the United Nations: issues, influences and impacts', *International Journal of Operations and Production Management*, vol. 28, no. 9, pp.831-857. Brammer, S & Walker, HL 2011, 'Sustainable procurement in the public sector: an international comparative study', *International Journal of Operations and Production Management*, vol. 31, no. 4, pp.452-476.

Public procurement to drive innovation in China

By Yanchao Li



Public procurement could be an extremely powerful innovation policy instrument in China given the very large size of the domestic market and the dynamics of technological advancement. **Photo: gp314**

Public procurement could be an extremely powerful innovation policy instrument in China given the very large size of the domestic market and the dynamics of technological advancement. Echoing the recent wave of interest in public procurement of innovation (PPI) in member countries of the Organisation for Economic Co-operation and Development (OECD), China explicitly announced the use of procurement as a policy instrument to drive indigenous innovation through a an outline policy document entitled 'The National Medium- and Long-Term Program for Science and Technology Development (2006-2020)'. The motivation behind this, in addition to addressing large,

global challenges such as environmental problems and energy shortages, lies in the country's strong intention to catch up through a reformed national innovation system. Since 2006 a range of policies have been announced to implement PPI, yet little has been done to understand the implementation and subsequent impact of these policies. This study makes an initial attempt to examine the Chinese PPI policy process.

This study firstly reviewed the characteristics of China's public procurement and innovation systems. Both systems have gone through a series of reforms during the past few decades. The innovation system features an increasing

emphasis on the core role played by firms, marketization and the 'indigenouslyness' of innovation, which is expected to contribute to China's socio-economic transition and sustainability.

Reforms of the public procurement system are geared towards primary goals such as accountability and efficiency, while taking into account broader policy goals such as sustainability, inclusive development and innovation. These trends are in general convergent with common practices in the broader, global context. Nevertheless, as a transition economy, China's innovation and procurement systems are still underdeveloped, particularly in terms of institutional arrangements. The diversification of innovation policies requires coordination between more types of stakeholders than ever before, which appears to be very difficult owing to the fragmented innovation governance setup, underpinned by a linear understanding of innovation.

The overall picture of China's public procurement system appears even more fragmented. Although procurement carried out by fiscally-funded organizations (taking up to 2 percent of the country's gross domestic product) are now highly centralized and regulated, the majority of procurement undertaken by China's very large public sector (notably that by state/region-owned enterprises) are opaquely monitored.

Governance of public procurement in China is therefore highly decentralized and fragmented across regions and sectors, making the Chinese procurement system incompatible with norms adopted by signatories to the World Trade Organization Agreement on Government Procurement (GPA). This incompatibility poses a severe challenge for China as an acceding country. The focus of controversy associated with China's negotiations to join the GPA has been on how China should open up its public procurement market to foreign enterprises and estimating how large the market is. As for PPI, a major implication drawn from the above analysis is that the institutional capacity offered by China's innovation and procurement systems would limit the degree to which public procurement could perform as an innovation policy instrument.

Channels for public procurement of innovation


Through policy documentation and fieldwork, this study has identified three PPI policy channels situated in the Chinese context. These policy channels have achieved different degrees of appropriateness and effectiveness, owing to their respective characteristics and institutional contexts.

Policy channel one

The first policy channel, the most explicit PPI approach, was designed to be a centralized mechanism to enhance supplier-procurer and interdepartmental coordination through the use of catalogues of accredited innovative products. By rationale this is a form of general procurement, which adopts innovation as an essential criterion embedded in everyday procurement activities. Procurement bodies supervised by the Ministry of Finance and the National Development and Reform Commission were expected to procure innovative products from the above-mentioned catalogues.

Nevertheless, the criteria adopted by the Chinese government to accredit indigenous innovation products appeared to be rather protectionist causing tremendous controversy from major trade partners, notably the United States. This policy channel had to be terminated in response to international concerns. While implementation at the national level came to a standstill, proactive regions exercised their autonomy and demonstrated diverse trajectories. Certain proactive regions such as Beijing, Guangdong and Wuhan carried out routinized PPI activities through coordination mechanisms, brokerage events, and institutional experimentation.

Despite the winding and interrupted implementation process, some outcomes moderately coherent with the initial policy goal were achieved. The first type of outcome has been a number of PPI examples, which, although to an extent realized the objectives of promoting the creation and diffusion of innovation, were more ad hoc than systematic in nature. The second type of outcome, the impact of which perhaps seems rather weak, has been the improved stakeholder awareness



and, to a moderate extent, the behavioural change of certain groups of practitioners, including suppliers and local governments. Nevertheless, the changes in behaviour might be rather vulnerable to negative impacts as the policy termination has sent strong signals to stakeholders to cut off the link between innovation and procurement. In general, policy channel one, as a centralized approach requiring cross-sector and cross-level coordination, seemed to be too 'one-size-fits-all' to be accommodated by China's fragmented institutional settings.

Policy channel two

The second policy channel has been a relatively implicit PPI approach targeted at the equipment sector. Its goal is to stimulate the development and adoption of domestically-produced equipment that is much needed for achieving the country's development goals. In particular, the commercialization of a first set of major technological equipment was emphasized. Consequently, the rationale of this channel is to facilitate the commercialization through incentivizing stakeholders, in particular public enterprise users, to interact with suppliers, and to act as early adopters of indigenous innovation equipment.

The main instruments employed by this channel include guidance catalogues, which signal the national demand to potential suppliers as well as experimental or demonstrative projects that serve as vehicles for mobilizing resources and commercializing newly developed prototypes. Proactive regions with strong equipment manufacturing capabilities have developed their approaches to supporting locally developed equipment with diversified policy instruments. For example, Shanghai adopts the above-mentioned measures as well as supply-side measures such as research and

development support, while Beijing utilizes a combination of both channel one and two through the Zhongguancun National Innovation Demonstration Zone, in order to implement innovation policies in an integrated way.

Regarding outcomes, policy channel two to an extent accelerated the commercialization process of certain equipment technologies. Early adopters of important prototypes have been endorsed by the China Industrial Forum, supervised by the Ministry of Industry and Information Technology. Barriers and problems encountered by these early adopters during the course of using new equipment provided references for policymakers to evaluate and improve the policies. In contrast to policy channel one, this channel can be better accommodated by China's institutional settings as it is sector and region specific, which does not require a high degree of vertical and horizontal coordination. Meanwhile, its pre-commercial nature has made this policy channel more compatible with international regulations since the GPA does not apply to pre-commercial procurement.

Policy channel three

This channel can be considered as a type of systemic innovation policy integrating supply-side and demand-side measures. Its goal is to promote the uptake of emerging technologies which, if fully dependent on private demand, would face very high entry and diffusion barriers. Public procurement is expected to provide a first market but more importantly, catalyze private demand to create a broader market.

This study examined two technological programmes in China—one focused on new energy vehicles (NEV) and another on light-emitting diode (LED) lighting. The basic



Experts agree that policies for boosting public procurement of innovation in China should include strengthening the capacity of suppliers. Photo: Curt Carnemark/World Bank

rationale of both programmes is to nurture lead markets in selected cities by stimulating public as well as private demand, and improving framework conditions. The two programmes have adopted somewhat different policy instruments and implementation structures. For the NEV programme, national-level instruments have included procurer subsidies (complemented with additional subsidies provided by provincial and city governments), regulations regarding market entry and infrastructure construction, and catalogues of approved NEV models to guide procurers. A unified, cross-ministry coordinating mechanism has been established and the overall implementation structure has been defined from the beginning.

The implementation structure of the LED programme, however, has been rather ambiguous and inconsistent, primarily owing to the lack of a unified coordinating mechanism until recently. The main instrument adopted by the Ministry of Science and Technology

has been ex-post subsidies for participants based on their achievements. The absence of a clearly-defined implementation structure or industrial regulations has led to diverse implementation processes across different regions.

Outcomes generated by the two programmes have included, firstly, a large amount of procurement carried out by local governments that to an extent facilitated the development and diffusion of local products. Nevertheless, some procurement might have been considered as regular as opposed to PPI, with solely off-the-shelf products purchased. Other outcomes have included moderate development of standards and infrastructure in the two sectors, although the picture still looks fragmented and actual achievements within this outcome remain unclear. In addition, public awareness of the two technologies has been greatly enhanced. Catalytic effects on private users, however, remain limited, especially for the NEV programme.

At the micro level, a number of case studies have been carried out looking into PPI examples generated by the various policy channels. It was observed that three factors serve as major forces driving China's PPI dynamics: demand, innovation or sectoral policies and proactive stakeholders (especially suppliers and local governments). In the context of the weak formal institutions regulating China's public procurement activities, informal approaches such as an interventionist governance style and unwritten procurement norms have to an extent mitigated the weakness and contributed to the emergence of PPI examples.

Nevertheless, the role of informal institutions has proven to be twofold—they can essentially 'compete' with formal approaches and policies, thereby hindering policy implementation. PPI challenges encountered in the Chinese context are also common to those faced by European Union countries, such as risk aversion, stakeholder engagement deficiency and coordination difficulties. Meanwhile there have been specific challenges such as regional protectionism and underdeveloped institutions. Policy recommendations for China to continue

utilizing PPI include the following points. Firstly, further reforming and strengthening the formal institutions underpinning the innovation and public procurement systems so that the institutional capacity for policy making and implementation is expanded. Secondly, capabilities of various types of actors involved in PPI processes need to be strengthened, which includes but is not limited to the capabilities of procurers, suppliers, and policy making and implementing authorities.

Thirdly, the potential roles played by intermediaries and brokerage mechanisms should be better appreciated and utilized. Intermediaries observed from the case studies were mostly temporary or voluntary rather than formally introduced, which can be considered as a policy gap to be addressed. Last but not least, PPI policies should attempt to sophisticatedly align innovation and procurement systems, not through the use of a single, universal instrument, but through exploiting differentiated, complementary ones. These recommendations, especially the latter two, are highly applicable to other contexts beyond China.



Yanchao Li is a research associate at the Manchester Institute of Innovation Research (MIOIR). Her research interests include demand-side innovation policies (in particular public procurement of innovation), evaluation of innovation policies, innovation policies for emerging technologies, and innovation policies for catching up. Ms Li has been involved in various research projects at MIOIR, covering procurement and innovation. She obtained her PhD in 2013 from the University of Manchester. Prior to this, she obtained her Master's and Bachelor's degrees in electrical engineering at Tsinghua University and Shanghai Jiao Tong University respectively.

This article is based on: Yanchao, L 2013, 'Public Procurement as a Demand-side Innovation Policy in China—an exploratory and evaluative study', PhD thesis, University of Manchester. Available at: <http://www.bit.ly/yanchao>

Innovation and public procurement in Brazil

By Victor Mourão / Rodrigo Cantu



Public procurement in Brazil has significant potential to stimulate innovative firms, such as leading electrical engineering company WEG. Photo: Fabiano Souza

The underpinnings of public procurement in Brazil

Over the past decade Brazil's national procurement legislation has gone through rather dramatic changes in order for public procurement for innovation to take place. The general strategy has been to establish the framework for the government to use its buying power to stimulate economic development in key strategic sectors, especially regarding local industry development and research and development.

The core public procurement legislation was reformulated in 2005 with Act 11196, also known as Lei do Bem, and in 2010 with Act 12349, both enacted by former president Luiz Inácio Lula da Silva's administration. The third reformulation came with Act 12462 in 2011, which was enacted by Lula's successor, Dilma

Rousseff, creating the Differentiated Regime for Public Contracts (RDC).

Lei do Bem first established that when there is a tie-break for bidding on a government contract, a deciding factor would depend on whether the firms invest in research and technology development in Brazil.

Act 12349 went a little further, stating that the selection of the proposal would not only be "most advantageous to the public administration", but also to "the promotion of sustained national development", expanding the possibilities of selection criteria. This act also expanded the legal basis for the use of Act 10973 of 2004, known as the Innovation Act. In addition to establishing incentives for innovation, scientific and technological research, Act 10973 defines the possibility that the government can hire firms, which will

engage in research and development involving technological risk, for the purpose of solving a specific technical problem or acquiring an innovative product or process. Although in force for some time, we have not yet identified the use of this act in actual public procurement.

Act 12462 establishing the RDC was enacted to increase efficiency in contracting works related to the 2014 FIFA World Cup and the 2016 Olympic Games. In addition to efficiency, the act mentions the promotion of innovation as one of its central concerns. The scope of the RDC has been expanded since its inception, currently covering projects in the Growth Acceleration Program and public works in the health, educational and prison systems. Changes in coverage are currently being considered in Congress to expand it to all public works contracts. Given its growing range, the RDC can now be considered a new pillar in public procurement, to which aspirations for change in the basic legislation of public procurement converge.

Against this backdrop, the general feature of public procurement concerning technology is the relatively limited number of high technology purchases. Surveys covering the 2000s discovered that government procurement was still of limited use to stimulate innovative firms, since most acquisitions consisted of low-technology products and standardized goods. Consequently, almost half of the companies supplying the government were from low-technology sectors.

The efforts to associate the purchasing power of the state and the promotion of innovation should be understood in the context of Brazil's ongoing efforts to increase transparency, efficiency and equality in public procurement. In this context, discussions among authorities and experts on unlocking the potential of public procurement for innovation should contemplate both legislative and administrative reforms.

Historical experience and present developments in public procurement and innovation

Forums for the Articulation of Industry (1975–1990)

Brazil has a history of public procurement

policies supporting the internalization of technological and productive capacities. From 1975 to 1990, the Forums for the Articulation of Industry (NAI) sought to use the purchasing power of state enterprises for the promotion of technological capacity development in the capital goods sector as well as in engineering consulting firms. According to its guidelines, public enterprises and their subsidiaries should organize regular forums that promote the preferential purchase of domestically manufactured goods. The NAI served primarily as a space for articulation between public and private companies, and between research centres and government, linking different actors around the development of domestic firms and their technological capabilities.

An illustration of the successful function of the NAI in its earlier years can be found in the power equipment industry. There were major transformations in this industry during the 1970s through to the mid-1980s. The production of domestic firms, as well as the technology transfer from foreign sources, was effectively fostered by the government, despite the existence of an oligopoly exercised by foreign capital. In this manner, the government was able to internalize production capacity in the country.

The forums eventually failed and were disbanded at the beginning of the 1990s. The Funding Authority for Studies and Projects took over this responsibility from that time on. In the 1980s, the NAI system focused on the development and standardization of parts and components, promoting information exchange with its small suppliers and establishing a supplier list that rationalized the procurement process. But coordination soon turned out to be a serious problem (the private sector, for example, was out of the NAI's decision-making council), and the unfavourable macroeconomic conditions hindered any attempt to restore the forum's strength. In 1990, Fernando Collor assumed the presidency and began a series of economic reforms that liberalized the national market and dissolved several instances of the Brazilian bureaucracy, including the NAI system.

The Funding Authority for Studies and Projects (FINEP) is the main federal institution related



Public procurement in Brazil has significant potential to stimulate innovative firms, such as leading electrical engineering company WEG. **Photo: Fabiano Souza**

to innovation and is supervised by the Ministry of Science, Technology and Innovation. Its mandate is to promote and fund scientific and technological research in enterprises, universities, research centres and within the government itself. Founded in 1967, it has run the National Fund for Scientific and Technological Development since 1971.

FINEP has participated in several successful technology projects in Brazil, such as the development of the Embraer Tucano aircraft, a number of agricultural projects carried out by EMBRAPA—a state-owned company devoted to pure and applied research on agriculture, and employee training for Brazilian multinational energy corporation Petrobras. In 1999, the Sectoral Funds for Science and Technology was established, and FINEP assumed its management. These funds are currently a fundamental pillar of the science, technology and innovation policy in Brazil, providing funding and support for universities, companies and research centres.

FINEP provides several forms of financial support, both refundable and non-refundable. The economic subsidy instrument is of special relevance, because it consists of non-refundable resources that share the costs and risks inherent in technological development activities with firms. FINEP chooses strategic areas for technological development and

firms then submit projects for each specific area in a public tender. Applicant firms should hold a stake in the project, contributing with a proportion of total funds (ranging from 10 percent for micro enterprises to 200 percent for large companies).

Between 2006 and 2009, about \$1.3 billion was allocated to this programme. In 2011, the total amount available for the economic subsidy for innovation was approximately \$300 million. Moreover, the economic subsidy was included in 2013 in an initiative to increase coordination among government technology funding programmes. Following this process, a growing concern about the connection with public procurement started to emerge. Currently, defence and health projects are the main areas linking technology funding and subsequent procurement by government institutions.

Conclusions

The Brazilian government does not, so far, have a procurement policy that can systematically integrate its innovation policy. Apart from the regular processes of public procurement—where the strength of criteria such as the quality of acquisitions and their technological content is still fragmented—there are two types of initiatives. On the one hand, there are a few specific policies, linked to sectors including defence and procurement

by state enterprises such as Petrobras. On the other hand, there are funding policies directed at specific technological areas such as the economic subsidy from FINEP, which has begun to be integrated into the purchasing power of the government. Along these lines, we can conclude that the linkages between public procurement and innovation policies, while having a limited impact on innovation today, have nonetheless considerable future potential.

This potential, if realized, may put Brazil on a new trajectory with respect to its procurement practices. Evidence can be found in the recent legislation on the subject, especially in Act 12349/2010 that establishes a margin of overpricing for domestic products and services and in the RDC. Together with Article 20 of the Innovation Act, this legislation lays the legal basis for a more comprehensive role of government purchases in promoting innovative capacities. The coordination between funding for specific technological areas and government purchasing power is a critical point that was only recently revived. As a process still in progress, it invites scholars and policy makers to monitor its next developments.

This transformation depends, however, on several factors. First, the pursuit of synergy between different policies already in existence

is instrumental in promoting innovation. Programmes managed by FINEP, and other funding institutions, should be taken into account as a potential focal point around which public procurement for innovation policies can be articulated within state bureaucracies. Second, the staff responsible for public procurement policymaking, as well as the staff responsible for the fulfilment of procurement activities, must acquire further necessary skills, developing a comprehensive view of society's strategic needs.

Third, spaces for collaboration between the staff responsible for government procurement activities and other relevant actors, such as FINEP, users of products and services acquired and companies that produce them, must be created. In this sense, there is a correlation to be sought between public and private technological capabilities: innovation policies should be developed conceiving the national innovation system as systemic interrelationships between public and private sectors.

With these concluding remarks, we can conceive of a public procurement system that: promotes synergies with innovation policies carried forward by the Brazilian government; consolidates political and economic progress made in recent decades; and paves the way for Brazil to continue advancing in its efforts to offer its people a high level of welfare. —



Victor Mourão is a professor at Federal University of Ouro Preto and a PhD candidate in Sociology in the Institute for Social and Political Studies at the Rio de Janeiro State University. He obtained his Bachelor of Arts in Social Sciences from the Federal University of Minas Gerais and his Master of Science in Sociology from the Rio de Janeiro University Research Institute. His main research areas include development studies, science and technology policies and social theory. He is researcher at the National Institute of Science and Technology—Public Policies, Strategies and Development and at the Center for Studies in Social Theory and Latin America.



Rodrigo Cantu is a PhD candidate in Sociology at the Institute for Social and Political Studies at the Rio de Janeiro State University. He received his Bachelor of Arts in Economics from the Federal University of Paraná and his Master of Science in Sociology from the Rio de Janeiro University Research Institute. His main research areas include public finance, social policy and social theory. He is a researcher at the Center for Labor Studies.

This article is based on: Mourão, V & Cantu, R, 'Public Procurement and Innovation in Brazil: A Changing Course of Public Procurement Policy?' in V Lember, R Kattel & T Kalvet (eds.) 2014, *Public Procurement, Innovation and Policy: International Perspectives*, Springer, Heidelberg, Germany.

Reducing corruption through e-procurement

By Arjun Neupane / Jeffrey Soar / Kishor Vaidya / Jianming Yong



An e-procurement system promotes innovation by increasing transparency in a comprehensive and cost-effective manner.
Photo: UNOPS

Introduction

— Innovative adaptations to current procurement systems can help attain sustainable development goals, resulting in more and better quality public goods and services to reach those in need. Specifically, innovation can increase transparency and reduce government corruption in procurement. With the ever-increasing quality and availability of information and communication technologies (ICT), it is becoming apparent that e-procurement is a comprehensive, cost-effective solution to meet these ends, especially in developing countries.

Corruption in public procurement

Corruption occurs when public officials use public power for private gain, for example by assigning public contracts or tenders to favoured contractors or bidders, or accepting a bribe in exchange for granting a tender. In some instances, government officials create shortages of goods and services in the market in order to create opportunities for bribery.

Corruption in public procurement processes has been on the increase in the developing world, leading to misallocations of taxpayer money and decreased efficiency of procurement systems. Corruption is associated with factors such as a lack of accountability and transparency, unjustified or hidden procurement planning, a lack of assessment, instances of political pressure, the monopolizing of power by government officials, information asymmetry between governments and potential bidders, a lack of monitoring capacity, inconsistent cost estimates, low professional standards and many more.

To understand how to apply innovative approaches to combat fraud using ICT and e-procurement, we must first understand how current procurement systems can be distorted for personal gain at various stages of the procurement cycle.

Procurement planning

This is the process of reviewing the existing procurement needs and identifying future

needs. An array of issues such as unjustified or hidden procurement planning, lack of needs assessments, political pressure, lack of government monitoring capacity and inconsistent cost estimates have the potential to foster corruption. There are more opportunities for corruption in the planning phase in developing countries, compared to developed countries. There are numerous instances of ministers, government policy makers, or senior other senior officials commissioning an otherwise unwanted project, disclosing confidential information or including additional requirements for their personal gain.

Product design and documentation

This is related to the technical specifications of the product or project. Corruption in this stage can be linked to government officials designing projects or technical specifications in favour of particular suppliers or designing unnecessarily complicated tenders.

Tendering and contract awarding

These stages are the most vulnerable to corruption. Paper-based systems are still in use in many developing countries, and this offers greater opportunities for questionable behaviour. In addition, potential contractors can use their coercive power to obtain contracts. In some situations, other contractors simply may not be able to submit their tender documents because of perceived threatening behaviour from other influential contractors. Government officials or political leaders can also be involved indirectly and abuse their power for their private gain.

Accounting and auditing

During this stage, audits may not be regularly and systematically performed, making it difficult to detect noncompliance. Government audit reporting mechanisms may be unclear, biased, or undermine cooperation with other relevant agencies and institutions that would ensure a transparent and effective flow of information.

E-procurement, if used appropriately, has the potential to overcome many of the aforementioned barriers to efficient procurement. The term 'public e-procurement'

is used for any internet-based inter-organizational information system, which automates and integrates procurement processes in order to improve efficiency and quality in procurement, and promote transparency and accountability in the wider public sector. It is a value-added application of e-commerce solutions, which facilitates the automation of procurement processes, thereby effectively linking buyers to suppliers.

The different types of e-procurement systems currently available in the market include e-Market, e-MRO, web-based Enterprise Resource Planning (ERP) tools, e-Sourcing, e-Reverse Auctioning, e-Tendering, e-Ordering, e-Exchange, e-Intelligent, e-Contract Management, and e-Submission. Each type of system has its own specific functionality and characteristics.

Addressing corruption factors through public e-procurement

Implementing public e-procurement can address a range of factors enabling corruption, allowing for greater transparency and accountability in the procurement process. These factors include the following:

Information asymmetry

This occurs mainly due to incomplete information, problems with monitoring mechanisms, the costs of configuring the project during the contracting process between governments and bidders, as well as when the bidders have more information than the government does or vice versa. Asymmetrical information increases the probability of opportunistic behaviour that leads to collusion and fraud. Public e-procurement systems can go a long way in addressing information asymmetries.

Transaction costs

There are different costs associated with public procurement including information costs, negotiation costs, monitoring costs and transaction costs. Transaction costs are incurred in making economic exchanges; they identify the specific characteristics that impact the effectiveness of contracting or procurement processes. These costs play a significant role in the various stages of public procurement



Public e-procurement has the power to improve efficiency and quality in procurement and supply chain systems. **Photo: Nick Saltmarsh**

such as project planning, project design and documentation, tender processes, contract awarding, and accounting and auditing. The potential benefits of public e-procurement includes reducing transaction costs and times, which are important factors for reducing corruption in public procurement.

Trust

This has been identified as an important element that determines behaviour, attitudes and beliefs of users in adopting any type of information technology. A lack of trust is one of the main reasons that users do not fully engage with electronic systems. Managing trust can reduce risk and uncertainty. E-procurement can act as a bridge to establishing a reliable, secure and trustworthy environment for procurement processes.

Human involvement

Public e-procurement is the best way to eliminate the need for human involvement in certain public procurement processes, thereby reducing the risk of corruption that could result.

Government officials play an important role in the procurement of goods and services and are therefore pivotal stakeholders who can invoke change in a range of ways, including through championing public e-procurement.

Case study: Public procurement in Nepal

Nepal is ranked as one of the most corrupt countries in South Asia according to Transparency International. The 2013

Corruption Perception Index ranked Nepal at 116 out of 177 countries, which is an improvement compared to recent years. The Commission for the Investigation of Abuse of Authority has investigated high ranking public officials in the country for corruption. Notable cases have included corruption during the purchase of armoured personnel carriers for the Nepalese peacekeeping mission in Darfur, Sudan and the procurement of low-quality transformers by the Nepal Electricity Authority.

The prevailing procurement system in Nepal is guided by the Public Procurement Act 2007, the only act that outlines the procedures, processes and decision-making in the government's procurement process. The act clearly spells out how the procurement process can be made more transparent, fair, competitive, and efficient, while ensuring quality of work and non-discrimination. Violation of this act is seen as a key cause of corruption in public procurement.

To overcome the serious problem of public procurement corruption in Nepal and other countries, innovative solutions such as e-procurement can be used to promote good governance, monitor government employees and activities, and enhance the relationship between government employees and citizens. In addition, it reduces human interference and the risk of coercive behaviour, while promoting a free and open market for tenders.

Efforts made by the Public Procurement Monitoring Office (PMO) and other government bodies in Nepal highlight the

positive role e-procurement can play in reducing corruption. PPMO is the only body responsible for procurement policy formulation, implementation and monitoring of the procurement system in the country. The office installed GEPSON (<http://gepson.gov.np>) as a single web portal for the procurement processes of all public entities in Nepal. The GEPSON web portal provides easy access to all tender information and contract awards and is designed to support bidders in submitting their bids online. The Department of Roads was the first organization to introduce public

e-procurement in its processes (<http://eproc.dor.gov.np/>). Other institutions have since followed suit.

Conclusion

These research findings aim to help government institutions and other stakeholders in developing countries better understand the anti-corruption capabilities of e-procurement, which can go a long way towards enhancing transparency and accountability in public procurement. —



Arjun Neupane completed a PhD from the University of Southern Queensland, Australia. His research interests are e-procurement, anti-corruption, and ICT for development. He has published papers in prestigious journals and books and has extensive teaching and research experience in e-procurement and economic development.



Jeffrey Soar is Personal Chair in Human Centred Technology at the School of Management and Enterprise, Faculty of Business, Education, Law and Arts, University of Southern Queensland, Australia. In 12 years in academia, Mr Soar has been awarded more than 20 grants and research commissions including national competitive grants. His research has helped guide national policy in Australia, New Zealand and other countries. Working with international agencies, he has helped develop information strategies for the Pacific islands and other developing nations.



Jianming Yong is Associate Professor in the School of Management and Enterprise, Faculty of Business, Education, Law and Arts, University of Southern Queensland, Australia. He has broad research interests in information systems development and their social and economic impact. He has published more than 80 research papers and has extensive teaching experience in ICT.



Kishor Vaidya is Adjunct Associate Professor at the University of Canberra, Australia. Mr Vaidya is also an Adjunct Senior Lecturer at the University of Southern Queensland, Australia. His research interests include inter-organizational information systems (IOIS), especially e-Procurement, public procurement, application of organizational theories in IOIS and business management, and programme evaluation.

This article is based on: Neupane, A, Soar, J, Vaidya, K and Yong, J 2012, 'Role of public e-procurement technology to reduce corruption in government procurement', *5th International Public Procurement Conference*, 17-19 August 2012, Seattle, United States. Neupane, A, Soar J, & Vaidya, K 2014, 'An Empirical Evaluation of the Potential of e-Procurement to Reduce Corruption', *Australasian Journal of Information Systems*, vol. 18, no. 2, pp. 21-44.

Published in August 2014 by



This document is available at www.ungm.org and www.unops.org