



–European Policy Brief–

Policy recommendations for adopting a dynamic model of public sector innovation indicators

**LIPSE: Learning from Innovation in
Public Sector Environments
(Work Package 6)**

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15 December 2015

This policy brief presents the findings of the sixth work package (WP6) of the “*Learning from Innovation in Public Sector Environments*” (LIPSE) project. LIPSE is a research program under the European Commission’s 7th Framework Programme as a Small or Medium-Scale Focused Research Project (2013-2016). LIPSE focusses on studying social innovations in the public sector. Full reports can be downloaded via www.lipse.org.

1 The need for public sector innovation indicators

Policy evaluation and, in particular, the measurement of policy impacts and representing the results via indicators has become one of the main interests of public policy research. As Osborne and Gaebler argued in 1992,¹ ‘what gets measured, gets done’. Simply put, our research shows that what gets measured is not necessarily what needs to be measured, and that evaluating innovations should be conceived in a much more complex framework than is currently done.

In this policy brief we analyse the foundations of public sector innovation measurement and develop a new analytical framework to evaluate public sector innovations. One of the main findings reported in this paper is that rather than using individual indicators to understand and measure public sector innovation, it is advisable to use complex evaluative frameworks instead. Such frameworks overcome many of the conceptual and measurement difficulties endemic to activities in the public arena. Evaluative frameworks allow for both internal and external evaluations to take place over longer time periods. Equally important, complex frameworks make it easier to analyse failed or partially failed public sector innovation attempts and to locate the reasons for their failure. The results can be used to offer key lessons to policy makers. The latter aspect, in turn, enables us to connect public sector innovation evaluations with existing performance management, auditing and risk governance practices. In other words, public sector innovation evaluation could become part of larger evaluation, feedback and policy learning tools and practices. Eventually, evaluative frameworks could ensure that feedback that emerges from evaluation processes reaches policymakers in an understandable and useful form.

This policy brief presents the results of LIPSE work-package 6. The main objectives of work-package 6 can be summarized as follows:

1. To identify social and public sector innovation types, indicators and indices;
2. To identify the major theoretical, methodological and practical strengths and weaknesses of existing indicators and indices;
3. To develop a theoretical and methodological framework for the development of social innovation indicators in the public sector as well as to formulate specific indicators;
4. To test the developed framework and set of indicators as well as guidelines for how to use them;
5. To disseminate research results and policy recommendations.

In addition, during the actual work for this work-package, we added a new task. Namely, it became clear that the emergence of innovation labs (i-labs) in the public sector plays a crucial role in how innovations are perceived, evaluated and measured in many countries. Thus, we added the following objective:

¹ Osborne, D. & Gaebler, T. (1992). *Reinventing Government*, Lexington, MA: Addison-Wesley.

6. To develop a database of existing i-labs and understand the morphology of these new organizations and in particular, their role in redefining innovation in the public sector and in social contexts.

Our research is based on three empirical studies: a review of the state of the art in public sector innovation, an investigation on the use of public sector innovation indicators in the city of Tallinn (Estonia), and a study of public sector innovation labs. For the first part, significant desk research was undertaken combined with 13 in-depth, semi-structured interviews with project members from various public sector innovation initiatives around the world. For the case studies in Tallinn, over 25 interviews with public and private sector stakeholders were carried out (in addition to document analysis). The research team also followed the activities of the city of Tallinn between December 2013 and June 2015 by participating in their development meetings (among them the e-service working group) and by following the management meetings of the ICT developments selected for review in the study. For the study of innovation labs, an in-depth survey was carried out in addition to 11 interviews with the heads of the innovation labs around the world.

The findings of the three part empirical analysis were presented at the LIPSE Mid-Term conference to collect input from researchers and practitioners in the field (February 2015). They were also presented in two seminars organised by the research team. The first seminar to test the findings of work package 6 (for scientific validity and policy relevance of the new analytical framework) was held for the social innovation network of Estonia (April 28, 2015). The second was part of the quarterly meeting of the e-service development group in the city of Tallinn (May 5, 2015), which was attended by an audience of policy practitioners and heads of municipality departments (more than 20 policy makers participated). While the first was more geared towards the academic audience, the second was more practical and included a presentation from the city of Tallinn on the system of public sector indicators the city itself was developing. The feedback from these seminars was used to develop the new analytical framework further (for example, the 3D model was born only after the aforementioned discussions). Additionally, the findings of the study were presented in the annual conferences of EGPA (2013-2015), IRSPM (2015) and ICPP (2015) in addition to other smaller conferences.

2 How did we create the new framework for public sector innovation indicators?

We conducted the research in four phases:

The first phase of the research project consisted of a review of the state of the art in public sector innovation measurement. We found that next to productivity and performance dynamics, public sector innovation is, on the most abstract level, related to public sector authority and legitimacy. New technological developments and data sources (incl. social media and big data) create novel opportunities to capture the latter; however, as of now, these possibilities are essentially not utilized in public sector settings. A wide range of information about the public sector innovation process is missed through measurement practices. Furthermore, public sector

innovation indicators do not capture the role of the public sector in driving technological change.

In the second phase of the research we studied prior innovation measurement efforts (MEPIN, EPSIS, APSII, NESTA, GII) and interviewed the experts involved with these initiatives. The study showed that political demand for public sector innovation indicators is essential for initiating, facilitating and funding measurement efforts. Prior attempts can be directly tied to justifying and legitimizing public sector activities. However, none of the measurement efforts under review tackled the influence of innovation on public sector legitimacy and trust. Surprisingly, productivity and performance measurement did not play a large role in prior measurement efforts either. Equally surprising was the finding that none of the attempts to create public sector innovation indicators used the performance measurement and quality management tools (e.g., self-evaluations, etc.) that are widely used in many public organizations. Thus, existing public sector innovation indicators fail to incorporate key lessons learned about performance measurement and quality management over the last decades. More complex relationships (e.g., capturing the effects of networks, or co-creation) within the public sector innovation process were not included either.

In the third phase of our research, we developed a new evaluative framework for the study of public sector innovation indicators. We propose an evaluative framework for public sector innovations based on three basic logical approaches: the logic of change, the logic of feedback, and the logic of technology. This creates a new, three-dimensional evaluation framework for public sector innovation evaluation. This approach was discussed with various stakeholders in a meeting that led to further development of the 3D evaluative framework.

In the fourth and final phase, the framework was updated based on two empirical studies: e-procurement case studies from the city of Tallinn and the global survey and analysis of new experimental spaces for innovation in the public sector. The cases of Tallinn illustrated that current evaluation frameworks are relatively narrow and often determined by limited public procurement frameworks. The study of innovation labs (i-labs) focused on new forms of public sector organizations that attempt to fundamentally challenge how innovations are conceptualized, designed and evaluated in the public sector. We show that while i-labs are set up to disrupt current design, evaluation and implementation practices, most of these labs are currently operating on the fringes of the public sector. The key challenge now is to figure out how to incorporate the lessons learned in i-labs into the core of public policy making. In total, over 40 semi-structured interviews, additional participatory research findings, document analysis and two seminars with practitioners were organized to write this report.

3 Key findings

Next to common public sector productivity and performance issues, public sector innovations are in the most abstract sense related to public authority. This is because innovations cause evolutionary changes in the constraints and enablers that are intrinsic to the public sector (e.g., rules, relationships, institutions). These evolutionary processes happen along the following

three dimensions: **modality**, **agency** and **morphology**. Modality refers to whether innovations are initiated either within or through the public sector. Agency refers to whether the public sector proactively initiates innovation or reacts to technological, environmental, etc. Morphology refers to whether changes are incremental or discontinuous. As such, in the ideal case, public sector innovation indicators would be based on a three dimensional system encapsulating the impact measurement, the system's feedback mechanism, and the role of technology.

Yet, these aspects rarely affect public sector innovation or its evaluation directly: public sector impact is difficult to measure, the feedback processes tend to be indirect and slow, and technological change tends to have uneven impact on different public sector activities. All this means that public sector innovation measurement is far too complex to be captured by single indicators. Using single innovation indicators provides only a limited opportunity to understand and measure the extent and depth of public sector change. For example, our empirical studies showed that **simple metrics are employed to justify investment in ICT projects in the public sector** (in the case of Tallinn), but rarely are these used to guide the process of public sector innovation. It is difficult to see only efficiency-oriented indicators as input into public value based debates. The Tallinn cases demonstrate that evaluative frameworks that go beyond simple indicators can reveal much wider change dynamics than can single indicators.

We also showed that there are two countervailing dynamics in how to measure public sector innovations: first, 5 large scale attempts (or projects) to create public sector indicators (expressed in concrete numbers and rankings); and second, the emergence of i-labs that base policy design and evaluation on user-centric design approaches and that prefer quick prototyping of new services or products, and quick, yet diverse, methods in experimentation, feedback and evaluation. In case of the large-scale indicators, it is surprising that **none of them incorporate widespread public sector performance and auditing activities; and there is no specific attempt to capture a wider set of values such as trust and legitimacy**. In the case of i-labs, we can argue that these organizations are attempting to transform how the public sector conceptualizes, designs and evaluates public sector innovations as such. However, most of these organizations currently operate on the fringes of the public sector and often have a weak impact on the core activities and processes of organizations. Nevertheless, their evaluative practices signal wider branding and legitimacy goals, which are used to gain autonomy to continue their core activities.

As demonstrated by previous LIPSE studies, public sector innovations are inherently complex issues to measure as they take place in **complex and multiple feedback settings**. Efficiency and productivity are key drivers for why and how public sector innovation is understood and measured by public sector organizations as well as by “outsiders”. Yet, the actual use of specific indicators is difficult due to data and technical difficulties. Therefore, in most cases the level of change—incremental or transformative—is not captured at all or is only indirectly captured. Legitimacy, trust and similar issues are even more difficult to measure. As a result, all these issues are captured and unpacked by public organizations informally, mostly through interaction, and internal and external communication. This is why these **issues feed back into public sector innovation processes indirectly rather than directly**. In other words, key

elements in the feedback loop are described by networks and multiple actors involved in public sector innovations. If in conflict, internal productivity and control of information prevail against external legitimacy concerns (e.g. ease of use, transparency, etc.). This is reinforced by the fact that linking legitimacy metrics to innovations is very difficult and is hardly ever done (e.g. there are no real-time measurements of citizens' reactions). Although the current ICT era could provide an answer to these problems, **direct feedback systems (such as big data and social media) are not used either.**

Perhaps the most startling conclusion is that new technological solutions change the perception of time in the public sector: technological advances and innovations lead to parallel temporalities in evaluating the public sector. First, one can observe the **shortening of time horizons in public sector innovation where the logic of change (e.g. efficiency gains) is strong** and easy to measure, where user skills match new technological solutions, and where the existing technological opportunities are easy to absorb. Secondly, one can also observe the **prolongation of time horizons in areas driven by trust and legitimacy concerns**, where user feedback is driven by surveys and similar roundabout tools and which virtually secures that the input is not taken into account in further developing the technological tools.

The institutional context of public sector innovation processes (in ICT mostly manifested through public procurement of technology) influences the innovation feedback processes heavily and thus, also the extent to which new technologies change public service provision. Public procurement strategy, in-house capacity to engage with private providers as well as contracting practices and procurement procedures all significantly influenced the decision-making process and ultimately the effectiveness of technology development. Most importantly, it is challenging for the public sector to institutionalise innovation-enabling interaction and a learning environment within the existing procurement institutions. Yet, the public sector **indicators used capture either innovations within public organizations or within business but through the public sector, but not both.** Public sector innovation indicators also capture public sector reactions to technological change and not public sector initiatives to drive technological change.

4 Nine policy recommendations for adopting public sector innovation indicators

Based on the research we can offer the following policy suggestions:

1. Policy makers and civil servants should refrain from using single figure indicators (such as organizational or country rankings) in designing and evaluating new solutions, technological and otherwise. Public sector innovations should be designed and evaluated in a wider comprehensive set of evaluative frameworks—e.g. the proposed 3D model—that allow for more complex issues to come to the fore and also allow for evaluative exercises to take place over a longer period of time.

2. Evaluative frameworks should pay attention to: first, efficiency gains and wider policy goals (such as trust in the public sector and legitimacy of public sector activities); second, where and how proposed innovations will have the most impact; and third, how the proposed changes relate to technological (mostly ICT) capabilities of existing civil servants and users.
3. It might be advisable to establish specific organizations (such as i-labs or publicly owned innovation companies) to experiment with new ideas, solutions and partners on a small scale. This way the involved stakeholders and the public sector can learn from mistakes and failed innovations, and also use diverse evaluation methodologies and frameworks. However, it is important to devise mechanisms that outline how key lessons from such organizations will reach core areas of the public sector.
4. Evaluation and measurement efforts need to reflect innovation capacities and, in particular, the dynamic nature of innovation: thus, measurement should reflect factors influencing innovation capacities (such as networks, co-creation practices, and risk governance regimes, and auditing and performance measurement practices).
5. It is, accordingly, important to connect public sector innovation measurement efforts with wider performance measurement attempts, with accountability procedures, and risk governance measures. Public sector innovation indicators will invariably feed into accountability systems and risk governance practices.
6. Rapidly evolving ICT will have a significant impact on the nature of data available to the public sector, especially at the city level (smart city solutions). Without developing data-driven and dynamic user interfaces, key public values (such as trust) will remain only vaguely captured in the design and evaluation of new services. However, these new interfaces require quite new and different capacities both from the individual bureaucrats and the institutions involved (in terms of giving larger access to users in design and evaluation). Otherwise, public sector organizations may end up using data metrics that leave out the most important characteristics of public innovation dynamics.
7. New organizational forms and experimentation (e.g. with co-creation, auditing, and procurement) are important elements to take into account in measurement practices. More interaction-enabling public procurement frameworks are essential for removing some of the main barriers to innovation and technological developments. This can be achieved, for example, by using commonly negotiated procedures (competitive dialogues) or communicating technology needs early. Importantly, it is not just what the law is, but also how the law gets interpreted in certain contexts. Therefore, investments in procurement capabilities—including into the legitimization of risk-taking—constitute an important avenue for changing public sector innovation feedback mechanisms.
8. A key recommendation from our research is that organizations should vocalize and formalize their innovation and procurement strategies in evaluative frameworks before

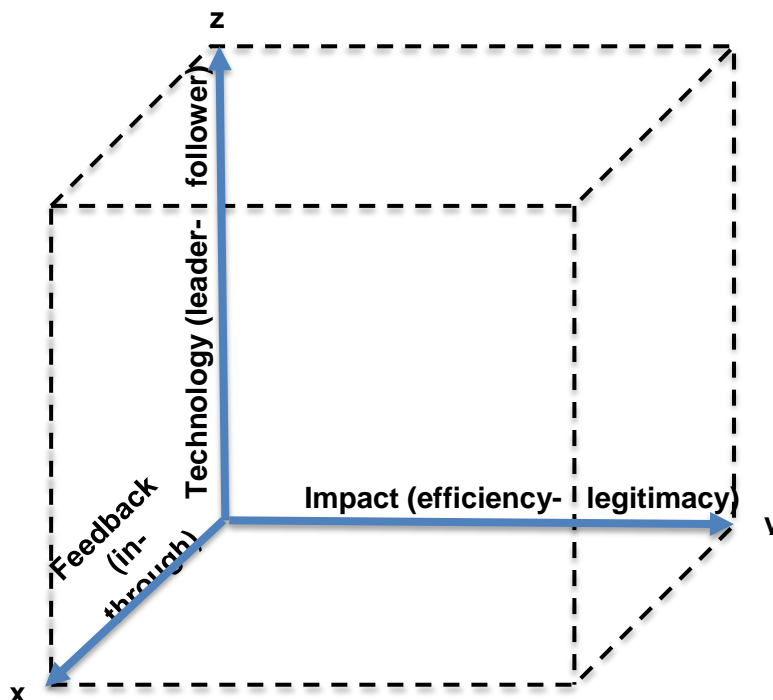
they set out to procure new technological solutions. The research results indicate that the evaluative framework offered in this report serves as a useful starting point for that.

9. And last, but not least, prior to putting together new public sector innovation evaluative frameworks, political support needs to be in place to develop, fund, and facilitate such efforts. This means that public sector innovation indicator frameworks should also be subject to a wider political debate, so that they do not fall victim to political criticism when they feed into broader accountability systems and encounter public scrutiny.

5 5-step guide on how to use the new 3D evaluative framework

It is important to understand from the outset what the 3D model is for, what the key elements of the model are and what its dimensions actually measure. The 3D model is a three-dimensional evaluation framework encompassing the logic of impact (efficiency-legitimacy), the logic of feedback (in-through), and the logic of technology/ICT (leader-follower). As such, in the ideal public sector innovation measurement and evaluation would be based on a three dimensional system encapsulating the feedback mechanism of the system (x), impact measurement (y) and the role of technology (z). The dimensions of the model are summarized in the following figure.

Figure 1. Public sector innovation space: 3D model of public sector innovation evaluation



Source: Authors.

We finish this policy brief with a practical 5-step guide on how to use the new 3D evaluative framework developed in the course of our research. We propose the following steps:

Step 1: Familiarise, test, modify

We suggest testing the framework using a previous successful case from within the organization, as it is possible to map the previous case from its initiation to its impact. If possible, comparing two distinct innovations within the public sector (e.g. a technology heavy project geared towards inner efficiency vs innovations with a large consumer base) using the analytical framework may be a good approach to familiarize public servants with the 3D model. It is likely that you will find some aspects of the model that perhaps do not play such an important role in your case or in your organization. We suggest that modifying the model is a key element in familiarizing yourself with the approach.

Step 2: Set goals and identify capacities

As the next step, we suggest mapping the goals of a proposed change (new technological solution, etc.): what is it and what do internal and external stakeholders understand the main goal of the proposed innovation? Is it productivity (e.g. for public organisations or citizens), legitimacy (e.g. higher citizen participation or more responsive service provision), or even technological development through the public sector (e.g. in frameworks of local entrepreneurship policies)? Facilitating interaction and communication among stakeholders in defining innovation goals takes time. For this mapping, the three dimensions of the evaluative framework offer initial roadmaps. As a next step, match the goals of the proposed innovation and the existing capacities of all partners involved. Again, we suggest a quick mapping exercise to locate the strengths and weaknesses of stakeholders. This will likely lead to additional capacity building exercises, re-configuration of stakeholder networks, or a new assessment of goals. In this stage, it is also very important to gain political support for the model, so, there will not be a political backlash after carrying out the exercise.

Step 3: Select methods, collect data, and compare results

The position of an innovation in the 3D model will also suggest some methodological solutions for measurement. Not all measurement approaches should be used in parallel, but rather, the most appropriate for single cases should be selected (e.g. in the case of public sector internal efficiency, it is probably not useful to study social media reactions). Once there is an understanding of what you want to achieve and whether there are capacities to achieve the goals, it is important to plan the data gathering exercise throughout the innovation process: who gathers what kind of data? How are they analysed? And also how will they be communicated? Who will communicate them and to whom? It makes sense to consult all stakeholders as well as external experts on the validity and reliability of selected methods in order to avoid misunderstandings and erosion of interest during later stages. Comparing the results should have both formal as well as interactive dimensions. If the former provides the stakeholders with 'hard' data, the latter enables them to mutually interpret the facts. This is important if the innovation measurement is expected to have a substantial impact on all stakeholders.

Step 4: Communicate results

Try to find the key figures in public sector organisations – innovation leaders – who can initiate changes. Try to avoid blaming and shaming, but provide organisation/team specific information

to the managerial level. Concentrate on the process: how the measurement process enabled or disabled organisational learning and what kind of impact it had on organisational change. If possible, also bring out positive results to encourage positive competition among public sector organisation managers. Make sure that the information the model provides is actually useful for the target audience and that it is communicated in an understandable way. Change the model if necessary and also give feedback to the target audience in that regard. Be aware that public sector organisations may use measurement results to their own gain (in budget negotiations, interactions with the public, etc.).

Step 5: Ensure continuity

Finally, we suggest you take steps to ensure that evaluation of your innovation is continuous within the 3D model: make sure that information from stakeholders is fed into the evaluation process and compared against the initial goals and capacities. If appropriate, formalise successfully adapted measurement methods in order to further facilitate public sector innovation. Furthermore, previous steps and feedback are also very important to keep measurement efforts financed in the future. Hence, the usefulness of these indicators is key; however, one should not fall into the trap of reporting only positive results, becoming a PR tool for the government. The perceived and actual objectivity of measurement efforts is key to remain reliable and useful inside and outside of the public sector.

6 Project identity

Project Name

Learning from Innovation in Public Sector Environments (LIPSE)

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Consortium

- Bocconi University (Italy)
- Catholic University Leuven (Belgium)
- Ecole Nationale d'Administration (France)
- Erasmus University Rotterdam (The Netherlands)
- ESADE (Spain)
- Hertie School of Governance (Germany)
- Matej Bel University (Slovakia)
- National School of Political Studies and Public Administration (Romania)
- Radboud University Nijmegen (The Netherlands)
- Tallinn University of Technology (Estonia)
- The University of Edinburgh (The United Kingdom)
- University Roskilde (Denmark)

Funding Scheme

LIPSE is funded as a Small or Medium-Scale Focused Research Project by the European Union's Seventh Framework Programme under grant agreement No. 320090, Socio-economic Sciences & Humanities.

Duration

February 2013 – June 2014 (42 months)

Budget

EU contribution: € 2.5 Million

Website

www.lipse.org

For more information about Work-Package 6

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