

Fatih Demir

# Innovation in the Public Sector

Smarter States, Services and Citizens

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# Preface

In the digital age, in an ever-changing world, the global population continues to increase, pollution reaches alarming proportions, natural resources are depleted, grave social difficulties arise, structural change presses, choices are made, and new working models emerge. Central and local governments are striving to reposition themselves to adapt to these changes. Governments are constantly looking for new solutions to tackle social, political, and economic problems. The methods used by public administration also need to be renewed. All over the world, public sector organizations are increasingly recruiting and retaining employees who are different from the previous generation, partly as a result of which more opportunities for innovation are emerging.

One of the concepts frequently referred to in such a challenging environment is “Smart State” or “Smart Government.” It is a term commonly used for policies and practices aimed at making countries and cities more efficient, technologically more advanced, more environmentally friendly, more socially inclusive, and more democratic. These concepts include technical, economic, and social innovations. The aim of a smart state is to improve public services by making them accessible anytime, anywhere. It also aims to explore ways to reduce the administrative burden on citizens and businesses and to make access to services more transparent. The ultimate goal of the smart state is to improve the quality of life for citizens and businesses. The services provided by the public sector affect the entire economy, especially key sectors, and determine the quality of life of citizens in general. The concept of innovation is increasing the efficiency of the public sector, decreasing the cost of the services provided in this context and reducing/simplifying administrative procedures, providing new and better quality public services, and improving transparency, thus increasing the satisfaction level and the quality of life of the users of public services. In fact, the dilemma is that the services that citizens expect from the public sector gradually increase despite the contraction of the public budgets. Therefore, today, the public sector needs to be more creative in order to meet these demands with fewer resources.

New approaches should also aim to take advantage of technologies to create new social contracts and economic models in a more human-centered way. Today, with

more complex issues of human life, “being smart” can be understood as managing social challenges through technological innovation. Phenomena such as the internet of things, artificial intelligence, machine learning, neural networks, and big data play an important role in learning about today’s physical world. Data collected from the physical world can be analyzed in a cyberspace simulation, and then the results can be reflected in the physical world for better solutions, making people’s lives safer, easier, fairer, and more sustainable. The smart state also means that decisions are made on the basis of data analysis. Using data, predefined goals can be achieved efficiently and effectively. The use of data offers unprecedented benefits to the public sector.

These are primarily the duty of the state and public administration. As digital technologies play an increasing role in the development of societies and in the global economy, it is essential to express a holistic vision for sustainable urban development in hyper-connected smart cities. Trying to present the latest smart state and smart city projects around the world, this book aims to provide decision makers and local citizens with an overview of the different smart city models applied and different visions of society that exist around the globe.

The book deals with the debates around the concept of smart government and innovation in the public sector. What is understood when it comes to innovation in the field of public administration? What are the innovations and smart practices implemented by various countries regarding public service and public administration? What are the factors that make innovation possible in the public sector? How can an innovation culture be created there? How can governments be encouraged to develop and implement new approaches in the way they manage their resources, produce public policies, and provide public services to their citizens? The book aims to answer these questions based on some exemplary practices. Examining the innovation policies and practices developed, especially those aimed at reducing bureaucracy and using information-communication technologies in public service delivery, can contribute to the understanding of innovation among decision makers and students/researchers in the field of government.

This book is a tribute to the public institutions around the world striving to offer better, smarter, and more innovative services to the public in more demanding and challenging times. Here, you will witness how an innovative perspective is employed in public services at both the central government and local or regional government level to change and transform people’s lives. The reader will come across applications in many different countries and cities of the world. The book aims to take readers on a journey between several countries including the UK, Denmark, France, the USA, the Netherlands, and Japan, among others. Smart and innovative public service delivery models in practice in various cities such as Stockholm, Los Angeles, Boston, Helsinki, Cannes, Harrisburg, Amsterdam, Singapore, Dallas, Nantes, Hanover, Malmö, Cologne, Barcelona, Tel Aviv-Jaffa, Oslo, Liverpool, Milan, and Tokyo are examined and brought to the attention of the reader.

This book basically targets citizens, the main beneficiaries of innovative public services. By providing examples from around the world, the book attempts to help them develop a comparative perspective. It also tries to show readers that digital

services and information-communication technologies do not only offer entertainment and socialization, but they can also help improve democracy and public services by making both governments and citizens smarter. The second target audience is policy makers, who can make use of the practices in other countries or cities by evaluating their applicability in their own polities. Lastly, the book targets researchers in the fields of government and public administration studies by providing some theoretical and practical discussions on which further detailed and specific research can be developed.

The aim of this book is to urge readers to look at concepts such as state, public administration, public services, and local governments from a novel perspective. Today citizens are facing with unprecedented challenges in terms of democracy and civic rights, but they are also surrounded by unparalleled opportunities that improve eligibility and accessibility: like never before, they can make their voice heard, ensure the provision of higher quality public services, and benefit from customized, high-tech solutions that will make their lives easier.

At the heart of the transformation of public administration are digitalization, e-government, and e-services. Digitalization is linked to structures of public administration, the development and management of its activities and services. The development of public services requires better coordination and organization: one of the tools for development is the possibilities of information technologies to improve the quality of services, reduce costs, and increase self-service. It is often thought that technology represents tools used in organizations that improve operational efficiency: in contrast, technology can be treated as an unstable and unpredictable phenomenon. For example, artificial intelligence may lead to standardization and reduced autonomy also affecting the work of high competence in the future. E-government can lead to a reduction in face-to-face customer service, which makes it difficult for the authority to perceive customers' situational factors. Innovation should be studied taking into account the contextual factors of public administration: innovation in the public sector differs from private sector practices due to, for example, its law- and policy-based nature and organizational structures. This book has been written with this guideline in mind.

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# Chapter 1

## Introduction: Innovation and Government



We live in a constantly changing world. Decision-making processes in government are influenced by a plethora of factors—population growth, climate change, migration movements, constraints of public finances, demands for better public services and more social payments, and the transformation of technology, to name just a few. Having understood that there are no easy solutions to problems, central, regional, and local governments in many countries have taken up structural reforms. Today, the improvements in technology are taking place much faster than in the past. People are demanding more digitalized, personal, and user-friendly public services. Keeping up with this pace of public administration poses a serious challenge: governments today have to be much smarter, innovation-oriented, and open to new ideas.

Efforts for innovation in the public sector have intensified since the mid-twentieth century. In the years following the Second World War, most public services began to be provided by powerful central institutions. The “welfare states” that emerged and developed and the “classical/Weberian” bureaucracy that formed their public administration mechanism began to be criticized for their overly prescriptive, hierarchical, and centralized structure and inability to respond to the needs of societies. After the 1980s, extensive efforts to change the structure of public administration were witnessed through policies defined as “neoliberal,” “neoconservative,” or “new right,” which were particularly influential in the USA and the UK. This paradigm, defined as “New Public Management,” attempted to limit the role of the state and therefore the bureaucracy. Comprehensive privatization and liberalization policies brought about radical changes in the structure of the bureaucracy. Concepts such as market, quasi-market, inter-agency competition, outsourcing, and the introduction of performance management systems characterize this period. Especially, services such as electricity, water, and public transportation were completely privatized, and some services started to be carried out in the form of public-private partnerships. In addition, the process dating back to the 1990s has also had other dimensions such as reducing administrative burdens, increasing transparency, and downsizing public workforce. During the same period, efforts were made to harmonize New Public

Management principles and practices with the principles of public service and public value. Inevitably, this period brought along many problems and discussions based on ideologies. These debates continue today.<sup>1</sup>

The modernization of government and public bureaucracies requires that institutions both be capable of grasping the diversity in society and that they operate efficiently and effectively in order to regulate and fulfill political demands in a reasonable way. This situation can be seen as a product of the effort of the bourgeoisie to create a public bureaucracy with efficiency and effectiveness that will provide infrastructure for industrial activities by upgrading bureaucracy from being a mechanism that merely provides law enforcement services (Heper, 1976: 4–6). The political system gradually becomes bureaucratized in order to meet the rising political demands as a result of this process with appropriate outputs (Oktay, 1997: 26–44). While the rising demands constitute one aspect of the balance, the structural change that the system goes through in order to increase the efficiency of the system against the environment that raises these demands constitutes the other aspect. This change is expressed with the term “bureaucratization,” and rationality and legality are the main features of this process. While the environment meets the demands of the political system, it creates new demands for the system. On the other hand, the political system also creates more institutions to meet the new demands of the environment, spreads its existence, and consequently penetrates the society more. Millions of citizens are constantly demanding more from the system, which means further integration of the government and public administration into the society. As a result, public institutions are expected to adapt their actions and governance forms to social complexity and technical emergencies in terms of supporting the development of the information society. In doing so, they need to produce new services by applying the principles of good governance and good use of resources, and “do more with fewer resources.” It is especially important to use the developments in the field of information technologies in a way to increase the efficiency of public institutions. In summary, the concept of innovation in the public sector refers to the significant improvement of the services provided by public institutions in terms of both its content and instruments. Many of these approaches lead to the creation of smarter, more user-oriented, more responsive, and better defined public services.

In essence, public services are innovative social creations. They have not always been present in history. In order to meet the social expectations of citizens and other users, their scope and functioning have constantly evolved. Over time, those related to the regulation of the economy or those that emerged as a result of the creation of the welfare state were added to the portfolio of fundamental public services such as national defense, policing, and justice. Thus, public services did not always exist in history, and they were not provided in the same way all around the world. While in

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<sup>1</sup>For more detailed information on the classical/Weberian public administration and New Public Management (NPM) debate, authors such as Barzelay, Hood, DeLeon, Bouckaert, and Frederickson can be consulted. Maesschalck’s (2004) bibliography may be useful for catching a glimpse of NPM literature. See Dunleavy et al. (2006): 467–494 for the analysis that the NPM is now “abolished.”

some places providing water to citizens was seen as a public service, in others it was not. Public services are first and foremost about pooling collective resources in a political process. Otherwise, the public services in question would either not be provided or, even if provided, would not be subject to democratic control. Hence, public services aim to create a collective value.

However, it is not easy to define the concept of innovation in the public sector. Considering the nature of the public sector, even the word “innovation,” which seems more specific to the private sector, can be seen as controversial. On the other hand, it is not only private sector companies that innovate. Public sector organizations also innovate by introducing new approaches to provide quality public services and better respond to the needs of society. The public sector includes all public companies and general government at the central, state, regional, and local levels. Its roles encompass administration, public order and safety, education, health and social care, and various other functions developed for citizens and businesses. In the public sector, innovation is sometimes understood as related to new policies and new public services, but developments related to concepts such as organizational improvement, performance management, planning, and human resource management are rarely defined as “innovation.” Instead, “modernization” and “reform” are more frequently used terms (INNO GRIPS, 2009: 5). Mulgan and Albury (2003: 3) define innovation as the creation and implementation of new processes, services, and delivery methods that provide significant improvements in the efficiency, productivity, or quality of outputs. Looking at the implementation, it can be argued that innovation occurs in products, processes, and policies. Therefore, in order to define the concept of innovation in the public sector, it may be useful to first touch on the concepts of product innovation, process innovation, organizational innovation, and communication innovation, which are various dimensions of innovation in the public sector. In the report prepared for the Measurement of Public Innovation in the Nordic Countries (MEPIN) project, Bloch explained the different dimensions of innovation as follows:

Product innovation is the promotion of a new or greatly improved good or service compared to existing goods or services in an organization. This includes significant improvements in the properties of the good or service, access or use by customers. Process innovation is the application of a new or greatly improved method for the production and presentation of goods and services compared to existing processes in the organization. Significant development of equipment and skills, support functions such as information technology, accounting and purchasing are examples of this. Organizational innovation is the implementation of a new method for organizing and managing things that differs greatly from existing methods in your organization. Innovations or significant improvements in management systems are examples. Communication innovation is the application of a new method to increase the goods and services produced by the organization or to affect the behavior of individuals. This method should be substantially different from existing communication methods in the organization. (2011: 14)

There are several dimensions of innovation in the public sector: some of them involve innovation in procedures and rules (related to processes), while others are related to technology (especially e-government applications). In addition to these, innovation in the public sector also has an organizational dimension that concerns

employees and management. Petkovšek and Cankar (2013: 1331) classified innovation activities as follows: (i) in-house research and development, planning, design, market research, feasibility studies, testing, and other innovation preparation studies; (ii) training of innovation personnel; (iii) external know-how, machinery, equipment, and software purchase; and (iv) consultancy and use of external R&D services. To give information-communication technologies as an example only, the Defense Advanced Research Projects Agency and the US National Science Foundation contributed to the development of the Internet. The Minitel institution was created by the French Ministry of Telecommunications.<sup>2</sup> The British Postal Service played an important role in the development of some services such as teleconferencing and teletext (Thenint, 2010: 11). The Global Positioning System (GPS) was developed by the US Department of Defense, so was ARPANET, which is the foundation of the modern Internet. NASA is the public organization that sent people to the moon. Examples like these show that innovation in the public sector is not spontaneous, but developed by the people and organizations that make innovation possible. In order to foster innovation in the public sector, central public institutions should play a supportive role at all stages of innovation, such as identifying problems, generating ideas, developing suggestions, implementing and evaluating projects, and disseminating them more comprehensively within the organization.<sup>3</sup>

A TrendChart report published in 2009 categorized public sector innovation areas into six groups:

- Those related to e-government (reduction of administrative burden, introduction of information-communication technologies, “electronicization” of public services to increase quality and speed, modernization of public administration, etc.)
- Simplification of administration (reducing legislation, restructuring public sector programs and processes).
- Public tenders (modernization of public procurement processes, “green” public tenders, e-procurement, etc.)
- Spreading the innovative culture.
- Improvement in public sector performance.
- Increasing cooperation between different actors and participation in public service processes (Cunningham & Karakasidou, 2009: 6–7).

Thenint (2010: 8) provides an even more detailed classification: (i) a new or improved service,<sup>4</sup> (ii) process innovation (change in the production of a service or

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<sup>2</sup>Minitel is a computer terminal that provided internet service in France from 1980s to 2012. Long before the USA, in 1991, the whole of France was online, shopping, playing and chatting, thanks to a small ubiquitous box connected to the phone.

<sup>3</sup><https://www.oecd.org/governance/observatory-public-sector-innovation/blog/page/howdopublic-sectororganisationsinnovate.htm>

<sup>4</sup>Home care services can be given as an example.

product), (iii) administrative innovation,<sup>5</sup> (iv) system innovation,<sup>6</sup> (v) conceptual innovation (change in the appearance of actors),<sup>7</sup> and (vi) a radical change in rationality.<sup>8</sup> On the other hand, he examines innovation activities by classifying them according to different criteria: gradual/radical, top-down/bottom-up, and originating from needs/efficiency purposes.

The scope of public services is largely determined by law. Public institutions that provide public services in many fields such as education, employment, postal, and energy distribution are established by law; they fulfill their duties and use their powers within the framework of law. Budget constraints are a worldwide phenomenon and require more effective use of imagination and more creative public services. In such a challenging environment, public institutions have to place innovation processes at the center of their operations in order to fulfill their mission and yield expected values. Identifying new problems and solutions, finding ideas and concepts for producing better services, and creating public organizations to realize them are the main challenges in the public sphere. Today, many developments such as the increasing expectations of citizens and users, technological revolutions, and budget constraints require a review of the foundations on which public services are built. With regard to the use of public services, for example, consumers today have become accustomed to the simplicity of using online services developed in the private sector and demand the same in public services; on the other hand, they are also very sensitive about attentive and humanitarian service delivery.

The quality of innovation practices also makes a huge difference. It is necessary to identify areas to innovate, target areas to create value, organize the feedback of ideas in a reasonable but flexible way, and create dedicated teams. Being able to do this requires a different understanding of leadership. The organization of public services in a way that can respond to such demands is primarily a matter of persuading the leaders to the process. Leaders have a very important role in transforming public services into organizations that have placed the concept of innovation at the center of their operations. “Classic” leadership is based on conveying a vision and leading a collective formation to achieve this vision. This type of leadership is still not outdated and continues to be particularly effective in areas where simple and familiar solutions are involved. However, today’s organizations, especially those that provide public services, operate in environments where problems are complex and the solutions to be developed cannot be known in advance. These trends allow a new type of leadership to emerge. Research on leading innovation leaders has

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<sup>5</sup>As an example of administrative innovation, the author gives the use of a new policy instrument as a result of a policy change.

<sup>6</sup>The concept of system innovation refers to a new system or a fundamental change in an existing system. For example, establishing a new institution (Ombudsman Institution) or institutionalizing new forms of cooperation and interaction (Public-Private Partnership Regional Directorates affiliated to the General Directorate of Highways) can be considered within this scope.

<sup>7</sup>Integrated water management is given as an example.

<sup>8</sup>The author notes that this latter type of innovation can occur in situations where a major transformation occurs in the worldview or “mental matrix” of an organization’s employees.



identified some common characteristics such as creating the environment in which innovation will emerge, creating communities that share codes of practice and motivation in innovation services, and being able to make “integrated” decisions about innovations to be implemented.<sup>9</sup>

The innovation process begins with answering some questions: how will innovation create value for users? What kinds of innovations are aimed to be made? How does the organization relate innovation strategy to its business strategy? How can innovative solutions and projects connect with each other? Which subjects can be tested and piloted? What role should trial and error play in this process? As a result, it is the duty of the public administration to seek opportunities to optimize and modernize its processes and to be aware of the changing needs of the citizens. In recent years, public services have started to play an active role in innovation. At this point, defining and implementing innovation strategies occupies an important place. Innovation, which is a concept generally associated with the use of creativity (Anderson et al., 2014; Roffe, 1999), requires a very compelling effort, primarily because it is not compatible with conventional practices and beliefs. Innovation must be part of a real strategy in order to achieve maximum results in terms of value creation.

Although innovation is the result of complex institutional and social dynamics in the public sector, there is still an understanding that “it is basically an individual human activity.” However, it is not easy to identify the individual sources of innovation occurring in public institutions today for several reasons. First, it is difficult to innovate in the public sector. The scope and nature of the challenges facing governments today require solutions that go beyond simple incremental improvements and involve radically changing the mechanisms of government’s functioning. These solutions call for the empowerment of public officials not only to deliver public services but also to achieve certain results.

Second, innovation requires context adaptation and flexibility in implementation. Public administrations that place emphasis on confidentiality and rely on vertical hierarchies are not well suited for trial-and-error and collaborative work. Proposed innovations in such environments often create resistance because of the belief that innovation will generate few winners and many losers.

Third, there is a belief that the regulations, human resources management rules, and budget rules governing the public sector constitute a serious obstacle to innovation. However, some organizations offer specific support for innovation. A number of government strategies are developed to adapt to the risk posed by innovations, and studies are carried out to use data and information effectively to support innovation. Therefore, it is debatable whether legislation and regulations are really a serious obstacle to innovation. Many innovation efforts in the public sector are indeed caught in cumbersome bureaucracy, but there is evidence that the main obstacle is not laws and regulations, but the way they are interpreted.<sup>10</sup> Government reflects the

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<sup>9</sup>For example see Bossink (2007), Deschamps (2005), and Howell and Avolio (1993).

<sup>10</sup>See Morris and Jones (1999) and Borins (2000).

core values of a society, and in many democratic countries, these include stability, efficiency, efficiency, accountability, and transparency—none of which contradicts innovation. Nevertheless, there are some conflicts between the nature of public sector organizations and the attitudes and values that underlie the phenomenon of innovation. Factors such as risk aversion, privacy, hierarchical structures, and lack of diversity in some public organizations give spirit to rules and regulations or reflect the characteristics of the wider bureaucratic culture. Both cases pose barriers to innovation.

In some countries, these obstacles are tried to be overcome by using methods such as paperwork reduction programs or rule exemptions for target groups. In some, interorganizational innovation implementation teams or behavior review approaches are used. If rules and procedures are the main obstacles, they can be rewritten, but if the problem stems from the organizational culture and behavior patterns underlying legislation, building capacity to solve these problems through innovation can be a more effective approach. One of the basic dimensions of capacity building is that public employees internalize the innovation culture. Three factors play an important role for this: ability, motivation, and opportunity. Since “employees” are at the center of the public sector, one of the goals of personnel management should be to support employees to innovate. In a study conducted by the OECD, it was determined that public officials should have the ability, motivation, and opportunities to develop new approaches in order to innovate.<sup>11</sup> Ability not only consists of technical skills but also includes creative and associative thinking and the behavioral and social skills needed to bring about change. Motivation can come from within the person, or it can also originate from the work environment, business design, organizational culture, and management style. Opportunity means giving people the autonomy, resources, and connections they need to innovate.

Four approaches to foster innovation stand out in case studies in OECD countries:

- Awards and recognition programs promoting ideas at all levels of government (e.g., Public Sector Management Excellence Awards conducted in Australia).
- Innovation-oriented networks (e.g., State Change Agency Network in Finland).
- Mobility programs to bring employees together across organizational boundaries (e.g., Interchange Canada or Twinning in Europe).
- Holistic approaches to managerial staff (e.g., New Ways to Work—Belgium), creating a framework that supports innovation.

One of the key points in these examples is the organizational culture in terms of how organizations handle risk, and at what level employees feel empowered to experiment and learn from their experiments.

Another crucial element in terms of innovation is the budget. Budget offices have the capacity to play an incentive role for innovation. Traditionally, budget offices are the last institutions to be expected to support innovation (Tolbert et al., 2008). However, in recent years, budgeting processes are not just about allocating resources;

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<sup>11</sup> See 2017 dated publication titled “Fostering Innovation in the Public Sector.”

we witness the use of budgeting to create the conditions for innovation to increase. Financial incentives, such as funds earmarked for innovation, play an important role in promoting innovation in the government.<sup>12</sup>

It is clear that in today's financially constrained environment, fiscal frameworks and targets must impose some constraints on overall spending. The financial difficulties experienced by all governments in recent years have been straining the budget processes, yielding mixed results in terms of innovation. While disruptions that focus on specific goals can play a positive role for change, general disruptions have the effect of reducing the capacity of some organizations to create innovative solutions. In such a challenging environment, budget departments need to strike a balance between providing ministries with the flexibility and capacity to engage in innovation and continue to focus on achieving the government's central strategic goals.

However, within constraints, more budget flexibility and output-oriented approaches can support innovation. For example, the use of performance management techniques and evidence to foster the adoption of innovative approaches leads to linking budget goals with policy goals. In the USA, the Federal Office of Management and Budget is conducting various pilots such as innovation bond funds, evidence-based funding programs, and performance partnership funds. The main purpose is to develop innovations in service delivery based on concrete evidence about the impact of policies.

Innovation units play an important role in creating space for things to be done differently than before. Dedicated innovation units can overcome barriers to public sector innovation by creating space for this. Innovation projects have an interdisciplinary character that concerns various fields, and innovation units can be considered as a structural response to this. These units can also help unravel the tension between running things as usual and introducing new approaches.

For example, in studies conducted with NESTA, it was determined that innovation teams serve five general functions<sup>13</sup>:

- Supporting and coordinating the implementation of innovative solutions (such as the US Office of Citizen Services and Innovative Technology (OCSTI)).
- Experimenting with different approaches to problems (such as the Innovation Laboratory in Northern Ireland).
- Submission of an initiative such as digitalization that involves multiple areas.
- Providing the necessary investment for the emergence and development of new ideas (such as Vinnova in Sweden).
- Capacity building and networking support (such as the Management Laboratory in Chile—Laboratorio de Gobierno).

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<sup>12</sup>As an example, the Future Investment Program in France aimed at supporting the digital transformation of public services.

<sup>13</sup>NESTA (National Endowment for Science, Technology and the Arts) will be discussed in the following sections.

While all of the above perform different functions, they tackle the same challenge: showing what effects their actions have. Few organizations go beyond simple qualitative measures to resort to advanced performance measures such as output indicators which pose a serious challenge for all governments. An organization forming an innovation team needs to consider what it wants this team to do and determine the team's functions and structure accordingly. The closer these teams are deployed to the center of government, the more authority they will have to implement change. On the other hand, a team deployed in the periphery tends to be more open to radical innovation.

Another important concept related to innovation is *risk*. There is a perception in academic circles that innovation is essentially related to “risk management.” But landmark innovation is more about managing uncertainty than risk. Risk management strategies can make innovation successful. However, what should be done when the probability of an event is unknown, that is, when we are faced with uncertainty rather than known and measurable risks? Steinberg (2011) emphasizes that risk and project management are closely related—when you learn better ways to manage risk, you will learn how to manage projects.

It is useful to approach the subject step-by-step in order to understand in which areas innovative projects can be carried out and how they can be managed effectively. An efficient strategy in this sense begins with answering the following questions to understand the context of innovation:

- What is trying to be achieved?
- Is this practice intended to replace an established practice or start a new one?
- On which authority's instruction is it based?
- Is this practice a solution in itself or an attempt to create the conditions for a solution?

There are a number of prerequisites for the successful management of risks. Among them, the proper provision of both money and human resources plays an important role. New processes such as “prototyping,” which involves the rapid iteration of solutions to test feasibility, and “co-creation,” which means involving all stakeholders in the development of solutions, are more effective at transforming uncertainties into known risks compared to traditional approaches and provide better control on the use of public resources. In addition, emphasis should be placed on methods such as socializing ideas and making them understandable, making “added value” solid in the early stages of innovation, and using evidence to turn uncertainty into manageable risk.

Another lifeblood of innovation is data management. By harnessing the power of data, information, and knowledge, innovation has the potential to transform all sectors, and the public sector is one of the most data-intensive elements of the economy. Improving public sector information management is essential for innovation. For this purpose, the production of information, making it accessible and discoverable, combining it with data from other sources, transforming it into information, using it for decision-making purposes, sharing it as freely as possible both inside and outside the public sector, and cooperation must be encouraged for creating a

rapidly evolving information system by designing feedback loops (Pirog, 2014; Gil-Garcia et al., 2014).

A lot of research has been conducted and pilot applications carried out on the basis of the need for the establishment of innovation culture and innovative practices in the public sector in order to solve major problems such as aging population, social inclusion, health, climate change, energy, and food security that many countries face at the beginning of the twenty-first century. During this process, it has been observed that the public services and public sector, which are generally considered to be quite conservative, can be highly innovative when necessary. However, innovation and the dissemination of innovations are faced with serious obstacles such as organizational problems and visibility problems. The correct design and management of the framework of procurement activities and contracts related to innovations are also included in these problems (INNO GRIPS, 2009: 3).<sup>14</sup> The main studies carried out in European countries to determine the perception and trends in innovation in the public sector and the results obtained are summarized below.

- National Endowment for Science, Technology and the Arts (NESTA) conducted a survey on public sector innovation in the UK in 2010, covering health institutions and local governments. The questionnaire, in which a total of 64 health institutions and 111 local administrations participated, aimed to investigate the methods used to obtain information from the external environment and the actors who obtained this information in the institution. According to the survey results, many ideas that are sourced from the external environment of the institutions are not very active in sharing good practices, which is one of the obstacles to the further dissemination of new ideas. At the end of the study, management knowledge, connections with internal and external stakeholders, access to support and skills, use of incentives and awards, and the use of information and communication technology infrastructure came to the fore as organizational elements that make innovation possible (Hughes et al., 2011: 10–41).
- Innobarometer within the scope of the survey-based approach, surveys have been carried out in public and private organizations regarding innovation since 2005 (excluding 2008 and 2011). These surveys are conducted in EU member states and EFTA member or EU candidate countries such as Norway, Switzerland,

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<sup>14</sup>INNO-GRIPS is a project carried out jointly between 2006 and 2010 by Louis Lengrand & Associés Sarl, a private research and consultancy firm in France, ANRT, a nongovernmental organization that conducts various activities to develop research and innovation infrastructure in France, and the Manchester Institute of Innovation Research, affiliated to the University of Manchester from England. Within the scope of this project, many research, analysis, consultation, and sharing activities were carried out on innovation. The project is financed by the European Commission's Directorate-General for Enterprise and Industry. Detailed information and more than 850 documents published within the scope of the project can be accessed from the website of the project at <http://grips-public.mediactive.fr/home/>

North Macedonia, Iceland, and Turkey.<sup>15</sup> Two of these are particularly important for our public sector innovation. The 2010 survey examined what innovation strategies the European public sector has developed in response to changing conditions and opportunities. According to the results of this study, the most important driving force of innovation in the public sector is legislation. The most important source of information that supports innovation is the ideas of employees and managers and the inputs of those who use public services. The biggest obstacle to innovation in the public sector is the lack of resources (Petkovšek & Cankar, 2013: 1331; INNO GRIPS, 2009: 10).

The study conducted in 2012 tried to measure how innovations implemented in the public sector are perceived by private sector employees. Results on innovation in the public sector showed that the majority of respondents thought the public sector were not helping their firms. Among the reasons for this, factors such as not creating the right conditions for innovation and not being able to provide training systems that will enable employees to innovate were the top reasons. The majority of respondents felt that much more effort was needed in order for public services to become more innovative. More than half of the respondents stated that they could easily access information and advice on innovation, but did not receive any support in terms of the quality of the advice given and the use of easy-to-use financial support.<sup>16</sup>

- European Public Sector Innovation Scoreboard (EPSIS)<sup>17</sup> is a research program that has been running since 2011 and is supported by the European Commission. It includes the reports of studies conducted in EU member countries and other countries participating in the Entrepreneurship and Innovation Program on issues such as measurement, evaluation, and barriers to innovation (especially as regards financing) related to innovation in the public sector. The 2013 report, one of the most cited documents, states that (i) innovation in the public sector will help solve social problems, but (ii) is not studied as much as innovation in the private sector, (iii) innovative public services will act as a driving force for the performance of enterprises, (iv) the available data are limited, and (v) more data

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<sup>15</sup>Innobarometer surveys are quite comprehensive. For example, within the scope of the study carried out under the title of “innovation in the public sector” in 2010, a total of 3699 public institutions in 27 EU member countries, Switzerland and Norway were examined. Within the scope of the study on “innovation in the public sector: its perception in enterprises and its impact on enterprises” implemented in 2012, 10,112 private sector organizations were examined in EU member states, North Macedonia, Norway, Croatia, Turkey, Iceland, and Switzerland. Within the scope of the study on “the role of public support in the commercialization of innovations” in 2014, a survey was conducted in 12,108 private sector organizations in Switzerland and the USA in addition to 28 EU member countries.

<sup>16</sup>*Flash Eurobarometer 343, Innovation in the Public Sector: Its Perception and Impact on Business* ([http://ec.europa.eu/public\\_opinion/flash/fl\\_343\\_en.pdf](http://ec.europa.eu/public_opinion/flash/fl_343_en.pdf), 2012, last accessed: 14.10.2014), p. 4–5.

<sup>17</sup>Short for European Public Sector Innovation Scoreboard.

are needed to compare innovation with the private sector in the public sector (Hollanders et al., 2013: 66–68).

- **Innovation Measurement Systems:** It is known that innovation is taking place in the public sector to some degree, but compared to innovation in the private sector, it is less visible and more difficult to perceive. Systematic measurement of innovation will also positively affect visibility. MEPIN and NESTA are the two most important initiatives to measure innovation in the public sector in Europe.

Within the scope of the **MEPIN** project, a survey study was conducted in Denmark, Finland, Sweden, Norway, and Iceland with the participation of a total of 2012 central, regional, and local government institutions. The aim of the project was to develop a measurement framework for collecting international comparative data on innovation in the public sector. It was stipulated that these data would contribute to the understanding of what innovation is in the public sector and how public sector organizations realize innovation. In the final report of the project, it was emphasized that the most important driving force for innovation in the public sector is the management, and the most important obstacle is financing problems (Bloch, 2011: 22).

Within the scope of the **NESTA** project, four teams were selected, namely, Ernst & Young, Deloitte, Innovation Unit, and CFA Damvad. As a result of the work of these project teams, four reports were prepared. These reports suggested using (i) tools to measure the level of innovation in public sector organizations and (ii) a diagnostic tool focusing on innovation capacity and performance. This diagnostic tool is also expected to evaluate and improve the innovation capabilities of institutions.<sup>18</sup>

## 1.1 Conclusion

The two world wars and the Great Depression of 1929 between them, which had a global impact, diversified the ways governments intervened in society and the economy as well as their responsibilities. In the period after the Second World War, especially in Europe, social welfare policies were resorted to, and huge investment was made in the Weberian bureaucracy as a large state mechanism was needed to deliver these policies. By the 1970s, the rates of public employment and public expenditures reached enormous levels. Despite the New Public Management paradigm that emerged as a solution to this problem in the early 1980s, the claim of downsizing the state, pulling it out of the economy, and making it “to steer, not to row” and its effects, public services, and public administrations in Europe still represent an important part of socioeconomic activities. For example, 40–55% of GDP

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<sup>18</sup>These reports are available at <http://nestainnovation.ning.com/forum/topics/measuring-innovation-within>