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HOW TO OVERCOME BARRIERS FOR INNOVATIONS IN ORGANIZATIONS FROM THE PUBLIC SECTOR

Local governments for the future

Master's Thesis
in Futures Studies

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The barriers for innovations in organizations from the public sector, particularly local administration (cities, municipalities) are of highest relevance today with strong implications for the future. Capacity for innovation is recognized as a crucial factor for the development and survival of modern organizations. Already now the public sector must compete for funding, interest and good image according to the same rules as the private companies and this trend seems to strengthen. Cities deal with large, complex problems, which require innovative thinking. The problem is the lack of capacity to generate new solutions and, as a result, there are not enough non-standard strategies and groundbreaking ideas that could help produce prospect and success.

Three research questions were set for the study: 1/ What are the main barriers for innovations in the local administration? 2/ What are the main drivers for innovations in the local administration? 3/ What kind of measures would help the local organizations to reduce these barriers?

The research material and data collected during interviews with administrators, policy makers and researchers were analyzed with Causal Layered Analysis (CLA) and through the lenses of the three-dimensional system (mechanic, dynamic, organic). As a result, four visions of the future of the organizations from the public sector, five systemic barriers and four drivers for innovations were extracted. The visions are: 1) Locked Tower – the system with predominant mechanistic dimension; 2) Turtle in the City, with the organic dimension present to a bigger extent than in a previous one; 3) The Ice is Cracking – with the balance between mechanistic and organic dimension, the dynamic dimension appears; 4) Open and Fearless – the system with predominant dynamic dimension – emerging but aspirational at the moment.

The study revealed that the hierarchical structure, fear of mistakes, old-school managers, who control and supervise but lack trust in their employees, as well as fragmented communication and too rigorous planning (i.e. lack of flexibility) are the key barriers that should be limited or removed if the cities want to be innovative, more prosperous and successful in the future. On the other hand, there several ways in which the public sector could improve its innovativeness and competitiveness. They are: investing in human resources, encouraging the experimenting culture, supporting brave leaders with vision and commitment and promoting the division of work that allows more time for brainstorming and implementing instead of planning and reporting.

In the conclusion, the study provided the diagnosis of the barriers for innovations in the organizations from the public sector, more precisely in the city administration, and a set of recommendations on how to improve the situation.

Key words	public sector management, innovations, system, leadership, organizational change
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1 INTRODUCTION

1.1 Background of the study

The topic of the study – how to overcome barriers for innovations in organizations from the public sector – seems to be more relevant today than ever before. The innovativeness of the public sector or lack of it will have strong implications for the future of public administration. Already now the organizations from the public sector must compete for funding, interest and good image according to the same rules as private companies and this trend will only strengthen. National and local administrations, as well as other governmental institutions, deal with increasing amount of problems, which require innovative thinking and innovative solutions. The “*wicked problems*”, which are difficult or impossible to solve and raise conflicting interests are at the core of the concerns of organizations from the public sector (Rittel & Webber 1973, 160-165). They definitely need non-standard strategies, groundbreaking ideas, and proper implementation of cross-sectoral cooperation.

The research focuses on the exploration of the systemic barriers for innovations in organizations from the public sector, how the innovations cannot or can emerge and how the culture and management model of the organizations needs to be improved in order to deal with the challenges that the organizations face and will face in the future. As the topic of innovativeness of national governments has received enough attention in the recent years (Doz & Kosonen 2014), this study deals with the organizations from public sector on the local level, i.e. city administration. The city administration, as a limited but complex system with a very specific impact on the local policies and life of its citizens, seems as an interesting topic to be examined and evaluated.

It is said that city administrations are more flexible and can adjust faster to the changing conditions than national governments but at the same time they face limited resources or their quality might not be sufficient to recognize the challenges and prepare appropriate actions (e.g. Linstroth & Bell 2007, 120; 2011, 38-39; Jaeger 2015). As the report of Council of Europe (2011) suggests, we live in the “age of heightened uncertainty”, which has a strong effect on the local governments. Most of them need to learn new ways of operations. This study is a contribution to the discussion how to do it best.

1.1.1 *Emergence of new challenges*

Researchers, politicians and administrators seem to agree that the world is changing on the unprecedented scale and with unprecedented speed. The new challenges, questions and opportunities emerge and demand innovative approaches and solutions. Undoubtedly, those changing conditions will impact strongly the future of the organizations.

The key differences in the global and local organizational environment that are currently observed and recognized as crucial for the development of organizations are: globalization and technology development (Doz & Kosonen 2014; James & Drown 2012; Ståhle et al. 2003, 11), growing competition and accelerated rhythm of change (de Alencar 2012, 87; Mannix & Neale 2005, 32). The environment itself became highly turbulent and uncertain (Zhou & George 2003, 548; Pöyhönen 2004). Doz & Kosonen (2014, 4) speak about the emergence of “*unprecedented problems on multiple levels*” and Ståhle & Grönroos (2000, 79) admit that “*yesterday’s efficiency is today’s inefficiency*”, pointing out the unsuitability of the current practices for dealing with new challenges.

As the world becomes more interdependent and each of its system turns out to be more complex, new ways of managing organizations must be implemented. This applies not only to the business, which will not survive without thinking about competitive advantage all the time, but also to the organizations from the public sector. In this new world, affected by recession, climate change and conflicts, “*productivity of the public sector must improve dramatically*”, as Doz & Kosonen (2014, 4) put it. Moreover, new products, services and processes should be generated (Ståhle et al. 2003, 11) and organizations should be able to respond quicker to the changing conditions (James & Drown 2012, 16). According to Tierney (et al. 1999, 591), innovations are key for the prosperity and George & Zhou (2001, 513) take it even further, speaking about their crucial role in “*organizational survival*”. To put it bluntly – innovate or die.

According to Mumford (2012a, 7), the changes in technology and market demand in connection with environmental turbulence may in fact stimulate creativity and innovation. Mumford (et al. 2012b, 40) also defines the problems that call for creative solutions. The basic characteristics are five-fold: 1/ the problems are ill-defined, 2/ they are novel, 3/ they are demanding, 4/ they are complex, and finally, 5/ they can be exploited for the benefit of the organization. The current problems of the public sector, highlighted above and further examined in this study, fulfil all those criteria. This means that the public sector must improve its capacity for creativity and innovation (Poutanen & Ståhle 2014,

260) and the social institutions should also reinvent themselves in order to better manage the transition into what Inayatullah (1999b) calls as “technological multi-civilizational society” and Markard (et al. 2012, 956) defines as “multi-dimensional and fundamental transformation of the socio-technical system”.

Yet, there are barriers in adoption of the new managerial practices and they might come from one of three factors identified by Carlile (2004): lack of understanding, interest and identity with the issue. They will be further described, analyzed and discussed in the next part of the study.

1.1.2 City administration as a system

This study deals with the systemic barriers for organizations from the public sector, more precisely the city administration. In this section, the city administration as a system will be presented.

System is a set of elements but not a random set. In the most basic understanding, the interconnections between the elements as well as a function or purpose are necessary for a system to be established (Meadows 2008). In other words, system is not only the sum of its parts (Mesarovic & Tahakara 1989) but a set of objects that are tightly interconnected, often in a complex way (Ståhle et.al 2003, 30; Markard et al. 2012, 956). As Maula (2006, 31) notices, those objects are not rigorously defined by the systems theory, and they can be anything from people to things to ideas. The relationships between the objects and within the system are visible through communication and other actions that can be observed (Ståhle et al. 2003, 30). In other words, system behavior reveals itself as a series of events over time (Meadows 2008, 89).

According to Meadows (ibid., 13), we know that we deal with a system and not a simple collection of elements when we can: 1/ identify parts; 2/ identify how the parts affect each other; 3/ identify that the parts working together produce different effect than when working separately, and lastly, 4/ identify that this effect can persist even if the circumstances change.

Ståhle (2003; 2008) identifies four factors, which are not only the elements of every organization but also define the organization as a system. They are: 1/ relationships, 2/ information flows, 3/ know-how and goal orientation, 4/ power structures – hierarchy (created and executed by management). The strength or weakness of the organization as a

system depends on the strength of the relationships, the dynamic of the information flow, importance of purpose, and quality of capabilities and management. All those factors of the systemic power are closely interdependent: relationships are needed for the information to flow, sufficient level of competencies ensure that the benefits are produced, and the information flow is crucial for producing the organization's growth basing on the best skills of its employees.

City administration is a classical system in the understanding of Meadows (2008) and Ståhle (2003; 2008). Different departments, sub-departments and units constitute parts of the system. There are strong interrelations and interdependencies between them – from legal to financial to personal. By working together, the organization produces completely different effect than when working in silos, and specific competencies are needed to make sure that the city administration works properly and produces benefits. What makes the city administration different from other organizations, especially from the private sector, is political context. The public sector in general, and in this case city administration in particular, is affected by the mass media (currently also social media on the evolving scale), politics with its election calendar and politicians with their agenda (Abney & Lauth 1986). In the conditions of politics-administration dichotomy (Svara 1998) the evidence-based strategies might be manipulated according to the political programme, and the city administration might get paralyzed by the change of the city mayor or main department managers. As this is part of democracy, it can be considered as a general and natural factor in external environment of the city administration system that sometimes has a strong impact on its work.

For the city administration, especially in turbulent times and uncertain future, it is important to have an understanding of itself as complex system, with its net of external and internal interrelations (like politics). The awareness that the structure influences its operations (Meadows 2008, 89) is especially important when thinking about the system's capacity to generate innovations. Does the current structure allow the processes necessary to produce creative ideas and transform them into innovative services, products and practices? This is one of the underlying questions of the study.

The city administration can be defined not only as a system but also as a classical organization. As Mäkinen (2004, 72) states, the organization is set of people working for a common goal, engaged in an organized and relatively permanent activity, which is realized by systematizing and sharing existing resources in addition to the exchange of knowledge, experience and information.

1.1.3 Different perceptions create different futures

Futures Studies assume that there is no one given future, while aiming at investigating the alternative futures with the use of prospective thinking (Bell 2009, 73). According to Amara (1981), the future cannot be predicted but different images of the future events can be created, constituting more or less precise anticipations. The future is not pre-determined and thus, it can be affected. Who believes that there is only one future, which is set by higher powers, cannot see the wide range of alternatives. This little awareness of the possibility to influence the future leads many to lethargy and allows to repeat the same mistakes, over and over again (Inayatullah 2008, 5).

Different perceptions of reality create different images of the future and the more diverse the views, the more colorful the images. The perceptions might depend on one's background, psychology culture, experience, history, religion, legal framework, collective judgments or values (Bell 2009, 83). Those factors are usually revealed in the public discussion in the form of metaphors, myths, which contain archetypes and reveal the specific way of interpreting the world (Shevellar 2015, 413). Those "mental models of real world" as Sterman (2000, 16-24) calls them, influence strategy, structure and decisions of the various systems from the society to the organizations, *de facto* shaping their future. In other words, as reality is socially constructed (Inayatullah 1999a, 815), all those ideas, images and visions can be used to change it (Inayatullah 2005, 47). As Hutchins (1995, 287) says, firms are "culturally constructed technical and social systems" from what we can assume that they can be transformed if their perception changes. This applies to the organizations from the public sector as well.

This approach to the future, which is socially constructed, implies that the preferred change can happen only when we understand the different perceptions and what they mean for the future. This way we are able to distil possible scenarios with the wide range of choice of futures. To realize the most preferred one, one needs to advocate for it by influencing the current perceptions of reality, because future is now and it unfolds constantly. This aspect will be further discussed when describing the Causal Layered Analysis.

1.2 Purpose of the study and structure of the study

The whole spectrum of challenges new to the public sector has been presented. The assumption that led to the study is that the organizations from the public sector, namely city administration do not have capacity to deal with those problems and that the traditional, Weberian bureaucratic (mechanistic) system they operate in, is not working. As Rowley & Rovens (2000, 16) observed, that confrontation of new problems with the old system naturally creates confusion. The situation is clearly disturbing, because managers should do something but they do not know what. The positive lesson is that “*the solutions are at our hands*” (Meadows 2008, 4). As the system structure is a source of system behaviors (ibid., 89) and innovations (Brown & Eisenhardt 1997, 2; Mumford et al. 2002, 7), we can deduct that in order to diagnose the problem, the system of city administration should be examined and the systemic barriers should be detected. However, if the system we are operating in is too complex, it might limit our ability to understand and influence it, resulting in policy resistance and failure (Sterman 2000, 22). In such case, persisting problems remain unsolved (Schuitmaker 2012).

In its video, the Council of Europe (2013) presents 12 principles of good governance at local level. According to the Council, efficiency and effectiveness, continuous improvement of skills and capacity, openness for change and innovation are as important as fair elections, transparency and human rights. Consequently, it can be assumed that innovation of the city administration is a value, which should be strengthened, developed and advocated for. According to Bell (1997, 42), the main task of Futures Studies is “*to maintain or improve the freedom and welfare of humankind*”. Researchers of Futures Studies should “*discover or invent, examine and evaluate, and propose possible, probable and preferable futures*” (Bell 2009, 73). And as we know that the innovative organizations are widely recognized to be the main factor for the future success of the nations and people (Stähle & Pirttivaara 2010, 4), the aim of this study is to contribute to the development of better and more effective management practices.

The study is structured as follows: after the introduction to the background and basic concepts in Chapter 1, the Theoretical Framework of three-dimensional system follows in Chapter 2. It is divided into parts where different aspects of systems are presented and analyzed from different perspectives. The learning for the further chapters is also identified. Those different aspects are: 1/ three dimensions of the organizations from the perspective of systems thinking; 2/ systems as living organisms from the perspective of

their capacity for self-organization, self-renewal and the role of feedback and information in these processes; 3/ potential of the systems to deal with change from the perspective of the leaders and the capacity to generate innovations. The research design, including research questions, working hypotheses and information about data collection, material and method of analysis – Causal Layered Analysis – is presented in Chapter 3. After that, Chapter 4 focuses on the results: four images of the future, accompanied by the identified barriers and drivers. Chapter 5 closes the study by discussing the empirical findings in the light of theory and gives recommendations on how to overcome barriers for innovations in organizations from the public sector.

2 THE SYSTEMIC APPROACH / THEORETICAL FRAMEWORK

2.1 Three paradigms of system thinking reflected in three dimensions of organizations

Systems theories were developed during the twentieth century and the perception of the systems has evolved – from the mechanistic to organic to the dynamic understanding of the systems. The system movement does not constitute a uniform theory but is rather a collection of the concepts formulated by the scholars from different disciplines (Stähle et al., 2003). With every concept, the understanding of the systems becomes deeper, more complex and more dynamic. The perception of control and flexibility also changes dramatically.

The first who dealt with the system theory was Ludwig van Bertalanffy, who built a general systems theory in the 1920s and 1930s. Bertalanffy's theory focused on the open systems – living organisms that communicate continuously with their environment (Stähle 2008, 5). The processes within the system can be described through the chains of inputs, throughputs and outputs and serve as a continuous feedback. This feedback helps the system choose the path of development in order to stay balanced and close to equilibrium. Even if the system is continuously in motion, the motion is not chaotic and does not threaten the system (Stähle et al. 2003). Even though it was developed earlier, this view represents the second paradigm of systems thinking. It refers to the organic dimension of the system, while the first paradigm focuses on their mechanistic nature.

This other, more static view was presented by the scholars from the field of cybernetics, including Norbert Wiener. According to Wiener (1950), systems are machine-like organisms, whose operations can be controlled and predetermined. Systems are closed and their interaction with the environment is limited – this brings us back to the Newtonian mechanistic perspective and classical physics (Stähle et al. 2003). This view is described as the most basic, first paradigm of systems thinking.

The theory of systems evolved together with the developments of the economy, environment and societies, observed during the twentieth century. From the 1960s onwards, systems thinking began to notice the complexity, unpredictability and dynamics

of the organizations. The concepts of Jay Forrester (1968, 1993), Peter Checkland (1981) and Peter Senge (1990) embraced these observations and started presenting systems as dynamic, chaotic and hard to control and manipulate. This dynamic paradigm, the most recent in systems theory, brought the understanding that the systems formed by humans behave in an unpredicted way and have their own internal dynamics, which is far from equilibrium. It is chaotic but at the same time it has a potential for self-organization and self-renewal, which will be described later.

That three-fold understanding of the system, from mechanistic to organic to dynamic, bring several interesting conclusions that were used to comprehend the structure and mechanism of the organizations from the companies to the public organizations. They help understand:

- How systems are organized and how they work – from being static and predictable according to the first paradigm, to dynamic yet balanced according to the second paradigm and chaotic yet self-organizing according to the third paradigm.
- How to influence the system – by the control according to the first paradigm, to the feedback according to the second paradigm, and an excessive information flow and interactions according to the third paradigm. (Stähle 2008.)

The three paradigms and their understanding of the systems can be used for the analysis of the processes and internal dynamics of the organizations, e.g. companies, public organizations and networks. Each organization can be seen through the lenses of one of the paradigms (organizations can be more or less bureaucratic and controlled) and different parts of the organization can represent different paradigms (e.g. a financial unit in the organization is more bureaucratic than the R&D unit). Therefore, each organization can be seen in three dimensions: mechanistic (reflecting the first paradigm), organic (reflecting the second paradigm) and dynamic (reflecting the third paradigm), creating the three-dimensional system. Each of these dimensions differs in approach to the following factors of the system: relationships, information flows, know-how, and management (Stähle 2008). The system, with its purpose, is built by the relationships (“*interconnections*” as Meadows called them) and changed through the information flows.

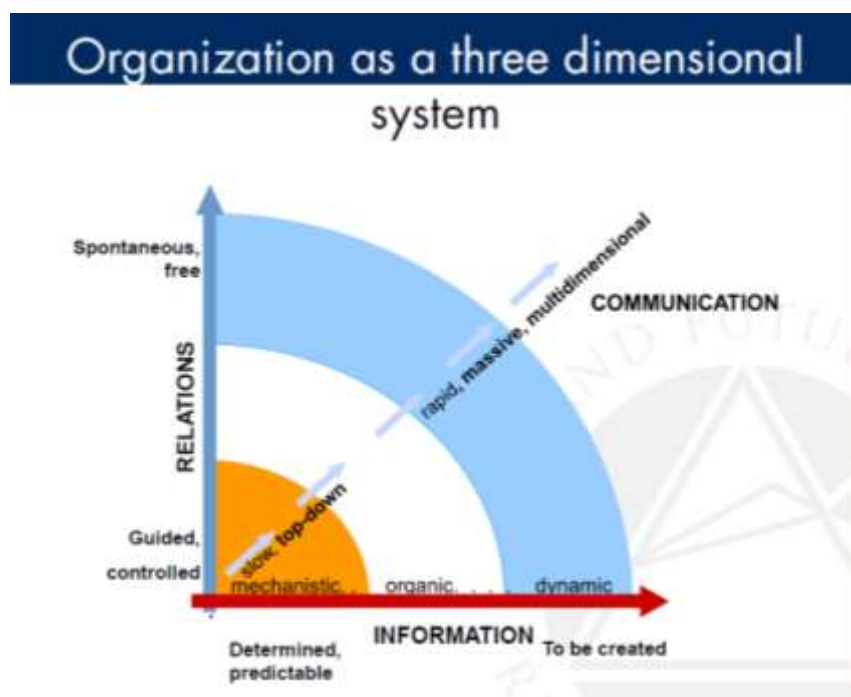


Figure 1 Organization as a three dimensional system (from the lecture of P. Stähle 24.4.2014)

As Figure 1 demonstrates, the particular dimensions of the organization are defined through the differences in these four factors. From the mechanistic point of view, the organizations are ordered systems, where the roles are clear and the information flow is one-way (from the boss to the subordinates). The roles and the functions of the system are regulated by the statuses and there is no confusion about the authority as well as control. The organization is managed by the commands and direct use of power and its goal is permanent efficiency. The mechanistic system tries to remove the obstacles that might disturb order. It is in the situations where the quality criteria must be guaranteed or the routine procedures need to be followed (Stähle et al. 2000). Systems like that can be defined as traditional Weberian bureaucracies with all its consequences, including limiting the employees' creativity and ability to generate innovative ideas (Papa et al. 2008, 390; Weber 2015 [orig. 1922], 73-128).

The organic system differs clearly from the mechanistic ones in every aspect. The relationships are built through reciprocal interaction and consensus seeking, and the information flow is multi-way. The goal of the system is gradual development and the organization is managed through dialogue and feedback system (Stähle et al. 2000; 2003). The organic organization admits that the communication between the individuals is a key value and that the organization benefits from the tacit knowledge of its experts. To be

successful in generating growth and desirable change, people need to have a continuous access to information, which allows the organization to adapt quickly to the changes in surrounding environment (Ståhle et al. 2000). However, those processes are ordered and regulated, highly depending on feedback (Ståhle et al. 2003). The social aspect of knowledge creation and sharing is already visible in the organic system. In her paper, Pöyhönen (2004, 46) reviews an interesting concept of Japanese *ba*, which is a space for knowledge sharing to be created and utilized between the actors. *Ba* does not exist on its own; it should be managed by providing autonomy, trust and commitment. Even if the concept might sound oriental, it seems very relevant for the current discussion about the management processes in the Western cities (see Nonaka & Takeuchi 1995; Nonaka et al. 2001a; 2001b). This approach is welcomed when dealing with projects and in multi-stakeholder networks.

The mechanistic and organic dimensions do not sufficiently describe the depth and width of the current changes in business and public sector operations, and therefore they do not exhaust the complexity of the managerial structure needed to deal with new challenges. New approaches, which help make the best out of chaos and uncertainty and create innovative solutions, are needed. One of those is the dynamic approach to the organizational system.

The dynamic approach represents the next step on the ladder of complexity and unpredictability of the systems. The dynamic dimension of the system reflects the third paradigm of the systems theory and it is useful to be implemented and promoted in the organizations that seek innovations. In a dynamic system the relations are spontaneous, the information flow is chaotic and the management focused on networking (Ståhle et al. 2000). Here the managers must love change (Rowley & Roevens 2000), tolerate uncertainty (Ståhle & Grönroos 2000) and constantly reinvent themselves (Brown & Eisenhardt 1997, 28). The limited structure and flat organization in the dynamic system might help managers and other team members to find themselves in the fast-changing reality (ibid., 15). And whereas the business sector has discovered the dynamic systems a while ago and some companies experiment with e.g. implementing less hierarchical structures and working through the goal-oriented diverse teams (Mannix & Neale 2005, 32), those new managerial practices are not common in the public sector.

The following Table 1 summarizes the main characteristics of the three dimensions of the organizations, which will be further reviewed in the evaluation of the interviews conducted for this study.

Table 1 Description of the three dimensions of the system (based on Ståhle et al. 2000; 2003; Ståhle 2008; Ståhle & Grönroos 1999; 2000)

	Mechanistic system / Mechanistic dimension	Organic system / Organic dimension	Dynamic system / Dynamic dimension
How does the system look from outside?	Ordered, regularly functioning entities	Organic and open systems that depend on constant interaction	Hectic, chaotic entities, which cope with uncertain, sudden and contradictory changes
Who and how controls the system?	Top managers control the functioning of the system – by orders	Managers delegate power – by dialogue	Managers, who can take risks and tolerate continuous change – by networking and visioning
How are the relationships managed?	Relationships dictated by hierarchy	Important to establish reciprocal relationships and opportunities for interaction	Free relations within the system and with external world – wide networking
How does the information flow?	One-way: top-down	Two-way, knowledge is shared in real-time social interaction	Multi-way, chaotic
What characterizes the system best?	Predictability, unanimity, continuity.	Controlled development and growth, sufficient stability	Chaos, spontaneity, fast reactions to changes
Objective	Permanent efficiency	Gradual development	Continuous innovation

Today practically all organizations consist of all three dimensions developed to a different extent, depending on the organization's strategy. As Mintzberg (1980) noticed, there are no pure types and every system is a mix of different configurations. The ability of the organization to limit the influence and control of the mechanistic system and focus the collective energy on the dynamic system can generally decide about its innovativeness and in consequence about the organization's development and survival (Poutanen et al. 2014).

Those different configurations and the most optimal conditions for generating innovations will be discussed later in this chapter. Even though we can assume that the ideas are created and most innovative solutions can be found in the dynamic system, it is important to notice that it cannot exist on its own. For the system to be successful in generating innovations, all three dimensions must be operational (Ståhle & Grönroos 2000), act properly (Ståhle et al. 2003) and be balanced (Brown & Eisenhardt 1997, 7).

2.2 Systems as living organisms

It is common to identify chaos with disorder and mess. Donella Meadows (2008, 6-7) points out clearly that we live in “*messy time*” and in a “*messy world*”. Even though chaos becomes the new order, managers are afraid of it and they try to control the environment by competing, fragmenting and post-crisis reactions. However, according to the systems theory presented here, only what emerges from the chaos has a chance to survive and grow, to perform better and to generate innovations. Inflexible organizations, the companies that are not able to adapt and the leaders that are afraid of change, risk the premature failure and death (Rowley & Roevens 2000; Doz & Kosonen 2014). The systems have the natural ability to modify, to adapt and to change and this part of the literature review will deal with their capacity for self-organization, self-renewal as well as the role of feedback and information flow in these processes.

2.2.1 *System’s capacity for self-organization*

Systems have the capacity to overcome chaos and self-organize without the external control. It is their general feature described first by physical chemist Ilya Prigogine in 1961 (Prigogine 1961). The phenomenon of self-organization can be observed from different perspectives in various contexts and it is completely normal, however not all systems can do it. The necessary conditions are five-fold (Prigogine & Stengers 1984, 106-169; Ståhle 2008, 7-9):

1. The system needs to be far from equilibrium, i.e. at the edge of chaos, as the new order can be generated only from chaos. Old structures are destroyed and new are created. This applies to all systems but mechanistic, which will simply disintegrate under the pressure;
2. There must be overload of information, i.e. the system should produce information beyond its needs. This implies imbalance and confusion, which boosts transformation;
3. There must be abundant information exchange and abundant interaction – a wide exchange of information can generate new structures, but only if it is based on highly sensitive feedback and is non-linear;

4. A power play between determinism and free choice, i.e. the event of bifurcation, which can be explained as a sudden event that could have not been predicted but when it happened and was used as an occasion to take a decision, this decision cannot be reversed. It is a specific momentum and in today's jargon, it can be compared to the "*window of opportunity*" or organizational ambidexterity (e.g. Tushman & O'Reilly 1996, 1-36; Rohrbeck & Gemünden 2011, 231-243);
5. Time – all the processes take time and the right timing must be obeyed, there is a strong thinking about the future involved, either conscious or unconscious.

The Prigogone's principles of self-organizing systems also define the four criteria for innovations and they are: 1/ chaos, 2/ information flow, 3/ detection of weak signals, 4/ flexibility. Rational planning and logical thinking do not help and the abundance of information should be considered as a source of creativity, not a problem (Stähle & Grönroos 2003, 129-131).

Self-organization is a spontaneous process, which is a result of the structure of the systems (Sterman 2000, 22). It is particularly interesting and relevant for the big and complex systems, consisting of several different subsystems and influenced by other systems from outside, like the city administration. It might help them get comfortable with chaos and learn how to manage it.

2.2.2 *System's capacity for self-renewal*

The systems have capacity for self-renewal which means that they continuously change and innovate. Self-renewal also implies that they do not necessary die once they fail. There are different theories about the factors that drive and support the process, widely described in the literature of the subject (see Nonaka 1991; Leonard-Barton 1995; Weick 1996; Brown & Eisenhardt 1997; 1998; Stähle 1998; Stähle & Grönroos 1999; 2000). In this part, the traditional autopoiesis and self-reference will be presented, along with more modern views on the topic, including the conditions for self-renewal and the concept of complex evolving systems.

Autopoiesis means self-production or self-maintenance and it was introduced to the system theory by Humberto Maturana and Francisco Varela in the 1970s. Autopoietic systems are characterized by two features:

- They build boundary between themselves and the environment and this boundary is easy to identify, which allows self-definition;
- They produce themselves by self-replication, which means that every state of the system derives from the previous state of the system (ref. Stähle et al. 2003, 39-40).

This understanding implies that the autopoietic systems are independent from the environment, however are not indifferent to the external feedback. In their essence the autopoietic systems are closed, but in order to ensure efficiency, they must engage with the outside world. The change does not happen in the core of the systems, which is maintained unaffected (Stähle 2008, 14).

The concept of autopoiesis was expanded by Niklas Luhmann (1995) who applied it to the social systems, claiming that communication guarantees system's capacity to maintain and duplicate itself. Thanks to Luhmann's learnings synthesized, it is possible to elaborate four basic criteria of organizational self-renewal, which are:

1. Organization identity – system is aware of its own identity, priorities and uniqueness. This identity must be clear and distinguish the system from the other systems. This might be grounded on the shared worldview and principles and guides the priorities;
2. Relationships – system is based on trustful and positively dependent relations. They are developed and reinforced all the time and are supported by active and positive communication. Trust and risk-taking are crucial factors in the processes;
3. Information – the authentic and meaningful information is exchanged within the system and between the system and outside world. This information is necessary for generating new ideas, which can result in innovations;
4. Cooperation – using the right timing for taking decisions and acting upon them. This requires that the involved people are aware of the situation and can recognize the opportunities it brings. Most of those situations cannot be predicted. (Poutanen & Stähle 2014, 263-264.)

Leonard-Barton (1995, 4) points out that self-renewal cannot happen before the organizations understand their core capabilities in the following areas: 1/ employees' knowledge and skills, 2/ physical and technical system of the organization, 3/ managerial system, 4/ values. All this forms a framework in which the information exchange and learning can happen. Openness for learning is a key factor for renewal, as is the

experimental mindset and exchange of information within the organization (e.g. Leonard-Barton 1995; Ståhle 1998; Weick & Sutcliffe 2001).

In reference to the phenomena of self-renewal as described here, Mitleton-Kelly (2003, 26-47) presents ten principles of the “*complex evolving systems*”. They echo the earlier presented conditions for self-renewal and therefore can be used as a summary. The ten principles according to Mitleton-Kelly are: connectivity, interdependence, feedback, emergence, co-evolution, being far from equilibrium, historicity and time, space of possibilities, path dependence and self-organization. As all the previously quoted researchers noticed, those are the key factors supporting organization’s capacity for innovations, which will be discussed later in this paper.

2.2.3 Importance of information and feedback

The role of information exchange and feedback for the maintenance, evolution, self-organization and self-renewal of the system is crucial, as it has been presented already. In the context of systems, information is not only a mere fact; it’s rather an event with an impact bigger than just news. Useful is only the information that influences the system and motivates the system to transform – i.e. information, which is repeated but does not have any impact can be considered as useless (Luhmann 1995, 67-69). Moreover, information creates interconnectedness and decides about system’s efficiency. Information abundance supports the process of self-renewal and determines if the system can self-organize. While information changes the state of the system, it is also a necessary element for the system to function. Therefore, it is crucial to provide the quality information within the system, crystallize the meanings and make sure that the information flow is not blocked (Ståhle 2008, 18). This is needed to achieve what Doz & Kosonen (2014, 11) call a “*collective commitment*” – one of three vectors of the strategic agility.

No matter if the system is mechanistic, organic or dynamic and if the information is exchanged one-way, two-way or multi-way, it needs to happen for the system to work and for innovations to be generated (Poutanen et al. 2014). Information exchange, especially sharing new information, broads one’s perspectives and boost creativity (Zhou & George 2003, 551). “*Thinking outside of the box*” is simply not possible without new information (George & Jones 2001).

Learning, required for self-renewal and future developments, needs information widely distributed within the system. Even if the managers know everything but the other employees are not aware of the goals and activities of other departments, the innovation will not appear (Rowley & Roevens 2000, 44). It should float untamed and be as open as possible, because “*an organization is as sick as its secrets*” (ibid., 77-78). Besides, the key general rule about information in the organizations that want to be innovative is that the faster, the more – the better for organization (Ståhle & Grönroos 2000).

Specific type of information – the feedback – requires additional attention. Frequent feedback – internal and external – is crucial in integrating the abundance of information and moving forward (Poutanen & Ståhle 2014, 270). Even though the criticism might be unwelcomed in many organizations, it is confirmed that without the opportunity to openly evaluate the previous or current experience, there is no way forward (Rowley & Roevens 2000, 80). Respectively, positive feedback can boost the creativity considerably (George & Zhou 2001, 520), especially when the situation allows the manifestation of one’s influence. Feedback creates dynamics in the system and catalyzes our decisions and actions (Sterman 2000, 22).

Feedback needs procedures (e.g. monitoring of progress, evaluation, system of appraisal, 360° feedback), which ensure that it can be delivered without unnecessary delays. In case of complex systems the measures for stabilizing feedback should also be introduced. According to Meadows (2008, 13-32), it can be done in two ways: 1/ by introducing the balancing feedback loops to the system and 2/ by introducing the reinforcing feedback loops. The former are equilibrating and goal-seeking structures which are sources of stability and resistance to change. The latter are self-enhancing structures, which lead to growth or help escape the collapse. This explanation has two implications: the feedback not only plays a double role in the system but it can also be manipulated, the same way as the information flow (delayed, blocked or reinforced). Feedback loops are in the center of the proposed “*Places to intervene in the system*” and, according to Meadows (ibid., 13), they play the core role in understanding the world of systems.

The delays in feedback loops might have a tremendous impact on the system and protect it from recognizing and solving many pressing problems. As the speed of the changes accelerates and the information becomes more chaotic, it is not difficult to imagine that the feedback and learning processes might get stuck. Sterman (2000)

diagnosed the main ways in which it can happen, presented in Figure 2 below. Hypothetically, they constitute the barriers for innovations.

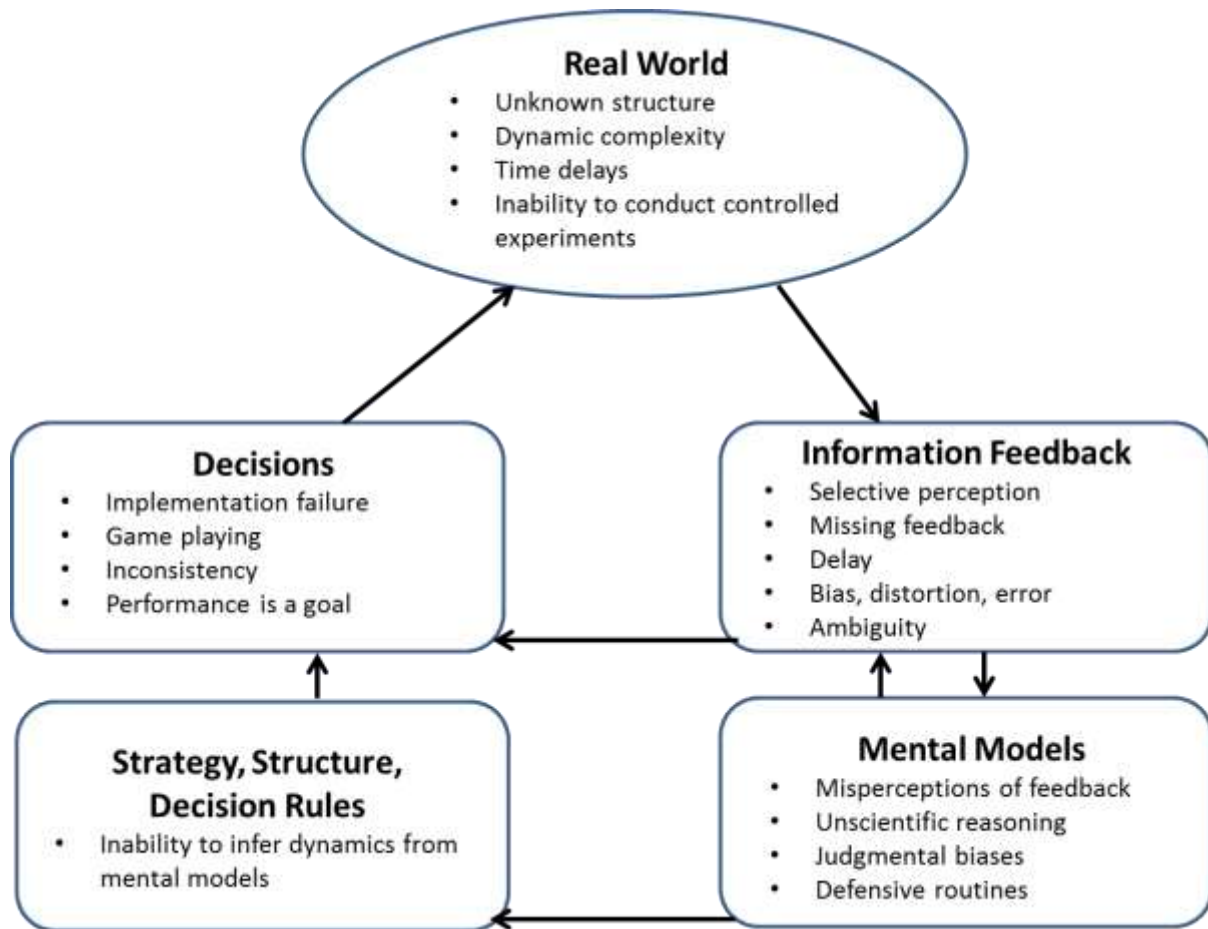


Figure 2 Impediments to learning (Sterman 2000, 20)

All those factors, which constitute the most common barriers for learning and effective management of the systems, occur on the daily basis in the organizations, protecting them from correct assessment of the situation, implementing effective measures and achieving success. Sterman argues further that for learning to occur, the link in the feedback loops visible in the figure must not be blocked and the information exchange should happen quickly (2000, 19).

To sum up, for the innovation to occur the information flow within the system and between the system and the outside world must be active and unhampered. At the same time, the feedback system in the organization should work properly, otherwise the learning and generation of new successful ideas will be blocked.

2.3 Systems in the time of change

The analysis of the theories indicates the evolution in thinking about the systems and their environment – from the non-complicated and easy to control to extremely complex and completely chaotic. Chaos seems to be a key word when describing the today's operational conditions of organizations. According to Rowley & Roevens (2000), new times challenge the companies with the new thinking. Today it is not about either-or decisions (e.g. reducing costs or investing) but about how to execute traditionally conflicting operations simultaneously and with success. This puts pressure on the systems and on their leaders. Organizations must be innovative in order to survive and the entirely new solutions, methods and approaches are needed (Stähle & Grönroos 2000).

2.3.1 *How systems can deal with chaos*

The observed changes are not limited to the business world only. Public organizations with their limited budgets, new demands and problems to solve also need to adjust to the new conditions. The general perception that the world becomes chaotic preserve and lots of effort in organizations from public sector is utilized to carb it. In fact, the public sector system was designed to minimize chaos. The traditional bureaucracy – a mechanistic system – was created to ensure stability and efficiency, not innovations. Therefore, it is driven by predictability and control (George 2008, 455). As Rowley & Roevens (2000, 27) notice in their “Organize with Chaos” book, in such a system innovation requires a lot of approvals on different levels and one “no” at any stage kills the whole process. That makes it completely irrelevant for the current and future world, as there must be room for freedom, coincidence and unpredictable chances to occur and be used. After all, chaos is one of the four criteria for innovations (besides information flow, detection of weak signals and flexibility), defined by Prigogine (ref. Stähle & Grönroos, 2000, 131).

Chaos that we experience today is generated through e.g. higher customer expectations, state-of-the-art technological innovations, unstable economy, riots and social media feeds, just to name a few reasons. These changes are not mechanistic and cannot be easily influenced. It is clear that old methods cannot be applied and consequently, more holistic, integrated and strategic thinking is required. As Rowley & Roevens (2000, 49) suggest, managers must start to love change and reorganize their

working by connecting all people to real world and real information, liberate creative energy and recognize, welcome and develop new opportunities. Moreover, careful planning – the most popular way to limit chaos – might be misleading, as it in fact does not bring the organization to the new level of development. Flexibility, open mind and trust in the team members are more important than a detailed plan (e.g. Doz & Kosonen 2014; Rowley & Roveens 2000; Ståhle et al. 2003).

2.3.2 *The role of leaders*

Leaders are key persons in the process of change and they must understand challenges and opportunities of new times. They might stimulate the progress and enhance innovations by managing in an open way or block them by supervising and controlling, according to the traditional management school (Mumford et al. 2002; Ståhle 2008; George 2008). Managers of the future must not only start to love change, as Rowley & Roveens (2000, 58-59) suggest but also “*leave the traditional comfort zone of control, punishments and rewards*” (ibid., 68). It seems that the role of the leaders in organization must be clearly re-evaluated and re-established, as the today’s managers were trained in a different culture and according to the different principles. It might be discussed that also the framework of the organizations and legal system must change in order to give the managers room for wider freedom and experimentation. However, as many argue (e.g. Rowelet & Roveens 2000; Mannix & Neale 2005; Tierney et al. 1999; Doz & Kosonen 2014), the organizations can be transformed by people, and the first to change are the managers and the ways they work.

Rowley & Roveens (2000, 143) point out four different types of successful strategic leaders. They might be: 1/ deal makers who articulate new images and make strategic arrangements with individuals; 2/ coaches who listen, question and protect in order to make all the associates successful; 3/ mentors who inform, consult and share information, present choices and options but do the things their own way; 4/ top clients who accept only world class delivery. The successful leaders are flexible and play one of these roles or their set according to the situation. In addition, Mannix & Neale (2005, 33) highlight the need of the leaders to set up heterogeneous teams, because diversity empowers. Leaders should also trust their people more and be able to create effective, creative relations within the system and between the system and the outside world by active

networking (Doz & Kosonen 2014; Ståhle & Grönroos 2000). As the study of Brown & Eisenhardt (1997) revealed, successful innovation managers are those who combine flat structure of the organization with clear priorities, extensive communication and flexibility.

The change in management practices cannot happen without investing in the training of the leaders. Learning new skills, capacity building programmes, systemic professional development are part of the proposed solutions (Doz & Kosonen 2014; 14; Ståhle & Pirttivaara 2010, 16). Doz & Kosonen (2014, 37) highlight the need of the stronger entrepreneurial skills among the managers, who should be able to enhance generation of new ideas, promoting them, and advocating for change. To be able to do this, the managers and other employees of public sector should be sent for internship in the private sector and come back empowered and liberated to take on the new endeavors. Without this, they will be locked in their limited worldview and the vicious circles of the unsolved problems (Inayatullah 2007; Schuitmaker 2012).

In sum, the leader of the future is someone, whose focus is on generating innovations. The way he or she manages is in line with the principles of the dynamic organizations. This kind of leader differs strongly from the director of mechanistic or organic system. Dynamic organization needs a visionary, innovative manager who is sensitive to weak signals and knows how to manage networks. The authority and orders play little role in these circumstances. The skills of networking, managing partner relations and recognizing the connection points around are of higher value (Ståhle & Grönroos 2000, 169-184).

2.3.3 System's potential to generate innovations

Dynamic systems are powerful structures and, if well managed, they can generate innovations effectively. There are several systemic and non-systemic factors that serve as drivers or obstacles in the process of innovating. The systemic factors (e.g. information flow and leadership) have been described already. The non-systemic drivers/obstacles can be of economic, social, technological, environmental or political nature (Ståhle & Pirttivaara 2010). They all are crucial when dealing with systems as complex as the city administration. The system can reinforce its innovative capacities through recognition of strategic points, courage to rely on the intuition, overcoming the pressure of criticism and

uncertainty as well as finding the inspiration through collective intelligence. In this case, the open dialogue supports innovation (Ståhle & Grönroos 2000, 155-158). Ståhle & Pirttivaara (2010) list several factors that constitute the best conditions for innovative ecosystems, similar to the city administration. They are: 1/ societal inclusiveness, 2/ exploitation of the full potential of the system, 3/ mutual and multilateral codependency, 4/ interest, inspiration and commitment, 5/ recognition of bottom-up initiatives and support for co-creation.

Apart from systemic conditions described already, the main prerequisite for innovation is creativity, as described widely in the literature of the subject. Its value to the organization cannot be underrated (Mumford et al. 2012a, 7), as it is seen as the critical element of successful competition and management of change (de Alencar 2012, 87; Damanpour & Aravind 2012, 483). Some see creativity as a personal characteristic of the leaders and employees (e.g. George & Zhou 2001; Zhou & George 2003), while the other argue that the creativity depends strongly on the structure of the system (e.g. Csikszentmihalyi 1999; George & Jones 2001; James & Drown 2012). According to Csikszentmihalyi (1999, 313), “*creativity is as much a cultural and social as it is a psychological event*”. There is no doubt that environmental conditions are crucial, as they can support the creativity and reward creative efforts (Stenberg 2006, 89). System’s support is needed not only at the stage of idea generation. It is crucial for the new ideas to be accepted (ibid., 90) and utilized. The fact that not all good ideas are effectively used for creation of new services and products was observed a long time ago (Csikszentmihalyi 1999, 313).

The open approach towards creativity might be rejected not only by the managers of the past but also by the employees and authorities. The experimentation and looking for the solutions “*outside the box*” might be conflicting with expert’s knowledge and agenda (Van Wynsberghe et al. 2003, 215-218). Also potential idealistic ideas can be impractical and not possible in implementation (Apte 2007, 607; Kaltenborn et al. 2012, 336). Time, funding, human resources and knowledge capital might also be limited. This makes the work of the managers even more demanding and proves that the studies on the systemic barriers for innovations are relevant and needed for the future of public sector.

3 EMPIRICAL DESIGN

3.1 Research approach

The research aims to examine the systemic barriers for innovations in organizations from the public sector – city administration. The examination helps understand not only what is happening in the system but also what the drivers for innovations might be. Good examples are provided, which allow learning and benchmarking.

Three research questions were defined for this work:

1. What are the main barriers for innovations in public sector organizations?
2. What are the main drivers for innovations in the public sector organizations?
3. What kind of measures would help the organizations to reduce these barriers?

To answer the research questions, careful literature review was conducted as presented in Chapter 2 and the seven interviews with experts took place to collect the material. It was then analyzed with the use of Causal Layered Analysis (see subchapter 3.4). The analysis aimed at distracting four diverse images of the future, which can constitute four alternative states of the public sector. Moreover, a list of systemic barriers and drivers for innovations as well as set of solutions proposed by the interviewed experts is provided.

The results of the study can be utilized in several ways: 1/ to support preparation of the leadership training for managers of the city administration, 2/ to facilitate the organizational change in the city administration, 3/ to plan the recruitment of the staff for the city administration, 4/ to support the strategic planning of the city departments.

3.2 Working hypotheses

As explained earlier, the motivation for the study comes from the observation that the city administration in general does not have capacity to deal with the new challenges by generating and embracing innovations and this is due to several systemic barriers. As it is impossible to develop the organization's innovative capacity without understanding it as a

united entity (Stähle et al. 2000, 83), the systemic approach and Causal Layered Analysis are applied.

The study put forward four working hypotheses:

Hypothesis 1: City administration is not innovative enough to deal with the new challenges

This hypothesis is based on observations, comments widely shared in the professional circles, society and media as well as popular and scientific articles, calling for greater innovativeness of the organizations from the public sector to deal with the challenges. In most of the cases, the city administration is not aware or is little aware of the problem and the response to changing conditions is delayed.

As the conditions for the public sector change (with e.g. financial crisis and finances limited more than ever before), the city administration needs to learn from the innovative practices of the business world and apply them in their operations.

Hypothesis 2: There are several systemic barriers for innovations in city administration

The lack of innovations of the organizations from the public sector is caused by the barriers, which are greatly embedded in its system. These barriers are connected to the relations, communication and leadership model preserving in the city administration. The city administration is still in most of the cases a traditional bureaucracy and works as a mechanistic system.

To be able to generate and embrace innovations, the city administration needs to change and be managed in a way balanced between the mechanistic and dynamic systems.

Hypothesis 3: Good examples will help identifying the drivers for innovations in city administration

There are already some cities, which have introduced measures to improve the innovativeness by altering their structures and way they work. Those good examples are slowly emerging and the analysis of their operational system helps identifying the drivers for innovations in city administration that could be applied in other cities.

The identified drivers can help improve the operations of the city administration in European cities in a way that could be accepted by most of the leaders and employees,

without starting a great revolution. Those changes can be implemented in an evolutionary way without misbalancing the system.

Hypothesis 4: In order to survive in the future, public sector needs to evolve from the system with the predominant mechanistic dimension into the system with the predominant dynamic dimension.

While the systems with predominant mechanistic dimension are useful for sustaining stability and ensure the proper work of the organization, the innovations need more dynamic environment with flat structures and informal platforms for exchange of ideas.

3.3 Data collection – Expert interviews

After confirming the research questions and the main hypotheses, the interview guide was constructed. As the purpose of the study was to investigate the existing model of the three-dimensional system in a new context (public sector, local level) and examine the innovativeness of the organizations, the so-called deductive (Marshall & Rossman 2016; 78; Elo & Kyngäs 2008, 109-111) or directed (Hsieh & Shannon 2005, 1281) content analysis was applied. The aim was to identify the themes, which were driven by the research questions and hypotheses (Brown & Clarke 2006, 84). The result of those considerations was a semi-open guide, with a set of questions about the interviewee's opinion on the innovativeness of the organizations from the public sector, their experience in working with the organizations from the public sector as well as different aspects important from the point of view of research questions and theoretical framework (see Appendix 1).

The attention was paid to the goal that the inquiries should help not only seeking the reply to the defined research questions, but also uncover the worldview statements and potentially also myths and metaphors about the studied issue. The interview guide was planned in a way that it allowed to ask additional questions. Depending on the availability and openness of the interviewed expert, less or more questions could have been asked and the additional inquires could have been made. In this way the interview guide can be considered as a semi-structured method of collecting data, standing in between what Fisher (2010, 175) identifies as a structured (with the options of responses listed) and unstructured method (with the researcher fully open to the different responses). The

interviewer could also ask the next questions with the reference to the previous answers of the interviewee. The interview took between 40 minutes and 1 hour, in most cases 50 minutes. The interviewer tried to stay neutral during the process of interviewing, encouraging the experts to share their experiences but without any pressure. The process will be described further in Chapter 5, where the methodological considerations are discussed.

The interviewees were chosen on the base of their experience in working at or with organizations from the public sector and city administration. It was important to keep the balance between the practitioners and researchers, insiders and outsiders, men and women and to interview people from different units and levels of the city administration and from different countries. All interviewees were approached with the written invitation letter that described background and purpose of the study as well as the conditions of the interview – that it would be audio recorded and that all data will be handled anonymously. Nine experts were approached and eight interviews were conducted. One expert was not able to take part in the interview, and due to a technical error one interview was not recorded and the data collected could not be used in the analysis. All in all, seven interviews were conducted successfully and the composition of the panel of experts looks as following:

- there were four women and three men interviewed;
- four of them were from Finland and three from abroad –from three countries and two continents;
- there was one professor of political science, one researcher and former director at the city administration, one director of the organization working with the city administration, one coordinator of national network of cities, director at the city administration, manager at the city administration and the director of the national innovation agency – they are listed here in the random order and the numbers of the interviewed experts (IE) do not follow it;
- altogether, the experts have more than 110 years of working experience with organizations from the public sector and city administration.

Three interviews were conducted by skype and four face-to-face. All experts signed the consent allowing the use of the material for the study under the condition of anonymity (see Appendix 2). The interviews were carried out in English. Even though it

is not a native language for most of the interviewed experts, there were no language barriers.

All interviews were tape-recorded and transcribed. The fragments that could identify the interviewee were removed. The audio recordings are safely stored by the interviewer.

3.4 Data analysis – Causal Layered Analysis

The data collected for the study was analyzed with Causal Layered Analysis (CLA), developed by Sohail Inayatullah in the 1990s as a qualitative method used in critical future research. CLA does not allow predicting the future, rather discussing problems, plans, potential developments and possible images of the future (Inayatullah 2009, 8). The starting point of CLA is the assumption that the way the situation is seen by the people, partners and stakeholders – the way it is framed – influences the policy solutions and the behavior of the actors responsible for taking actions (Inayatullah 2002, 480). As the name suggest, CLA analyses the different layers – four of them – which are linked causally, i.e. there is a cause-effect relation between the layers, which are later analyzed from the top down to the bottom and from the bottom up to the top. These four layers are (Inayatullah 2009, 8; 2004, 16-18):

- Litany – surface of the problem: the comments which are often exaggerated, quantitative trends, problems, generalizations. This level is most visible and obvious.
- Social causes/System – statements about the actors and their structural relationships, including economic, cultural, political, environmental, technological and historical factors. The role of the state and other institutions is discussed at this level.
- Discourse/Worldview – bigger scale and usually non-negotiable statements or deeper assumptions that reflect and reveal the worldview and beliefs of the actors. The discourse supports the system. Uncovering this layer and deeper assumptions it carries, helps revise the problem. Based on the varied discourses, alternative scenarios can be derived.
- Myth and metaphor – deepest and most hidden layer: archetypes, slogans, folk sayings that reveal and reflect often unconscious and emotional dimensions of the

problem and grounds for particular futures. Analysis of the metaphor is a key to understanding the situation and potential solution of the problem.

According to Inayatullah (2002, 482), the metaphor is the starting point for a desired change; without changing the metaphor we cannot expect sustainable change. The idea of CLA is that moving up and down as well as horizontally on the different layers, provides a possibility to integrate the multilayered analysis, discourses and worldviews (Inayatullah 1998). As a result, a rich view of the multilayered problem can be constructed. The potential differences rising from exploring the multiple layers can be used in building alternative scenarios.

CLA can naturally be combined with the systems thinking, as the four different layers of analysis allow us to understand the structure of the organization (Inayatullah 2004, 18) with all its limitations and opportunities it offers (Inayatullah 2000, 17). According to CLA, every system creates its own story, which describes it, provides it with identity and protects it (Inayatullah 2004, 15). CLA uncovers all the layers of the system and allows getting to know it properly (Inayatullah 2005, 48).

The added value of CLA is that it brings the deepest, often missed, layers into the light and to the discussion. Metaphors and myths, commonly ignored in a scientific and political discourse, show how the different actors interpret and conceptualize the world (Din Larif 2015, 91). Sometimes they do it unconsciously (Shevellar 2015, 413) and here CLA proofs its utility – by noticing the deep roots of the issues and allowing understanding the causes of the causes as well as the reasons of the specific behavior of individuals or the systems (Inayatullah 2015, 387). CLA acknowledges that different people and different groups perceive the world in different way (Curry & Schultz 2015, 64). This is mirrored in all four layers and constitutes the “*other ways of knowing*”, as Inayatullah (2004, 12) calls them. Those diverse views widen the researchers’ perspective and provide them with a range of alternative futures.

According to the principles of CLA, understanding of different perspective is crucial for the future-oriented policy-making (Inayatullah 2015, 387). A desired institutional change can only happen when the worldviews and myths are changed, as they are the fundamentals of the system (Sykes-Kelleher 2015, 217). Worldview and myth change is a demanding task – it requires new stories, which can be generated by the alternative futures derived by CLA (Inayatullah 2005, 49; Inayatullah 2008, 12; Bin Larif 2015, 100). In that sense, CLA provides both a diagnosis by mapping the different layers,

deconstructing the metaphors and discovering the myths (Inayatullah 2008, 6) and treatment by constructing the alternative solutions (Inayatullah 2004, 18), which break the equilibrium by redefining the structure (Borgini 2005, 24).

CLA seems to be a complex and useful technique for comprehensive decision-making (Graves 2015, 52) and large-scale change (ibid., 56). According to Inayatullah (2004, 42), CLA's key benefits are generated because the method:

- Explores and includes “*different ways of knowing*” in the images of the future;
- Moves the discussion beyond the obvious facts and observations to the deeper and often unconscious thoughts and sentiments;
- Allows developing more comprehensive plan for the desired future change via informed policy actions.

The general limit of CLA is that it does not predict or forecast the future; it only fosters the discussion about the roots of the problems and the alternative solutions. In this way, CLA seems to be an optimal tool for the analysis in this study.

In detail, the data analysis will be conducted according to the following steps, suggested to the great extent by Dzidic & Bishop (2015):

- Considering the research questions, scanning the transcribed interviews for the signs of the four layers of CLA and highlighting them with a font (CAPS, *italics*, underlying and **bolding**) for an easier tracking – coding between the layers;
- Scanning the transcribed interviews for the elements of mechanistic, organic and dynamic dimensions of the system and highlighting them with a different color;
- Preparing a table with four layers of CLA, where the relevant extracts of the text from the interviews is included;
- Detailed analysis of the different responses, views and statements on different levels: looking for the differences and similarities according to the horizontal and vertical dimensions, moving up and down and horizontally to gain insights and form the futures images – coding within the layers;
- Extraction of four images of the future, basing on the collected results of the interviews analyzed through CLA lenses;
- Extraction of the barriers and drivers for innovations in the organizations from the public sector as well as suggested solutions.

4 INNOVATIVE PUBLIC SECTOR – BARRIERS AND DRIVERS

4.1 Four images of the future

Four images of the city administration could be constructed from the results of the data analysis with the use of Causal Layered Analysis, as described previously. They are based on the past and current experiences and observations of the experts and at the same time they allow deriving the images of the future.

The four images are: 1/ Locked Tower, 2/ Turtle in The City, 3/ The Ice Is Cracking and 4/ Open and Fearless (Figure 3).

Table 2 collects the main characteristics of the four images. The detailed description with the use of quotations from the conducted interviews follows.

Table 2 The main characteristics of the four images of the future of city administration (The litanies presented are the syntheses of the litanies derived from CLA).

	1. Locked Tower	2. Turtle in the City	3. The Ice Is Cracking	4. Open and Fearless
Metaphor / myth	City administration is like a locked tower – a world on its own – with limited contacts with outside experts and networks as well as limited awareness of the changes happening outside but convinced that their city is a superpower and its experts can handle every problem without any external help.	City administration is like a turtle – slow and careful. It moves but only bit a bit and it does not take any risky decisions. It waits, observes and it can sustain for decades in the same condition.	City administration is still a little frozen but at the same time opened for limited changes. There are some cracks in the ice, which give the opportunity for implementation of the change.	City administration is open for change, collaboration and citizens' opinions and at the same time it likes experimentation, risk taking and trying new approaches. Public sector works according to the similar rules as private business.
Discourse / worldview	Mechanistic, conservative, closed, superior	Mechanistic-organic, careful, fearful,	Organic. Duality: old-new, old-young, traditional-	Dynamic, open, progressive, experimental

		responsible	progressive, status quo-change	
Social causes	Hierarchy and close supervision, responsibility for public money.	Traditional Weberian bureaucracy with the strictly defined steps of dependency and accountability.	The system in limited transition – some traditional structures are kept while some new operations are implemented.	Flat structure with open communication and visionary leaders who trust their employees.
Litany	“We know it better – we don’t need any collaboration with external partners and we do not care that the others cannot understand us. After all, we really don’t need them.”	“The change is dangerous. It is better to wait and see than to experiment. And why the rush?”	“We would like to change but are we ready for it? Some might be, but the others are not. Maybe they benefit too much from the current system or maybe they just get anxious.”	“We love change and we know how to be innovative. Don’t be afraid and come with us. We have countless opportunities and we are not afraid to discover them.”

4.1.1 *Locked Tower*

The name *Locked Tower* comes naturally for the vision where the predominant feeling is superiority, closeness, lack of awareness in which direction the world is going to and that the change is needed. Moreover, in this vision experts working in the city administration know everything and do not need any external help in solving the city’s problem. On the other hand, managers closely supervise the work, not leaving lots of time for other activities than planning and reporting:

“It’s very traditional: it’s close supervision, reporting and that’s it. So there is not a lot of room for iterative doing and trying and testing.” (IE6)

In the *Locked Tower* managers do not express the need to go out to the world and see or experience something new because they themselves trust that they know it best and that there is no need for an external knowledge:

“They think that the wisdom is not as valuable outside of their own organization.” (IE2)

This kind of attitude – self-confident but at the same time closed and isolated – might have specific limiting consequences to the innovativeness. The lack of ambition as a result of feeling good enough already and not seeing the need for a change can stop innovations, as expressed by Interviewed Expert 1 (IE1):

“She thinks that her city it’s not as innovative as elsewhere, because they believe themselves to be already the best city.” (IE1)

This attitude can come from the modest awareness of the managers that the change is needed. Managers, even though experienced and appreciated, might have difficulties in realizing the changes in the working environment and the demands from the customers, as discussed in the interviews:

“Maybe it’s lack of understanding? I don’t say they are not smart people but they don’t have understanding how things could work or how we could produce services in modern way.” (IE6)

In addition to the lack of capacities of the managers, the underlying problem of the lack of change is the resistance and defending position of the leaders. Some protect their interests and some simply are afraid of changing the status quo, which might not be the best but at least is safe and secure:

“They don’t have the skills or the attitude and understanding why they should renew themselves. And this is a big, big problem and challenge that we are facing. There is a lot of defending the old interest and the main reason for that hesitance, I would say, and direct opposition is lack of understanding where the world is going and what is happening and secondly of course, the fear of change, which is very natural of course.” (IE7)

On the Discourse / worldview level, it seems that the managers of the city administration are convinced their city has everything, including know-how, they need to survive:

“So I think, in a way, the main problem is that they don’t respect that there is wisdom outside their own organization. They always feel that their own organization is the best to bring the issues forward.” (IE2)

This limited view might have strong consequences for the innovativeness by constraining the thinking about opportunities. For the managers that have worked for the same organization for years and do not have other experiences, it is difficult to change the point of view and see the problem through the other lenses than traditional:

“That might restrict their thinking, it may restrict that they have only the same eyeglasses, year after year, that they have never been anywhere outside to see how things look like.” (IE2)

This is very different from what is observed in business world, where the specific units take care for securing innovativeness of the organization. The organizations from the public sector seem to leave from one day to another, with little thinking about the future developments and creating the conditions for the future growth:

“And if you look at any kind of company, you always have an R&D department, you don’t have developing R&D activities in public sector anywhere. It’s zero. And it’s kind of interesting, because there is no future planning anywhere, all the money goes to running current operations and solving current crises.” (IE7)

The principles of the hierarchical system with its rigorous control and planning are the key to understand the *Locked Tower*. This clearly eliminates the opportunities for flexible decision-making and reacting to the changing environment in the real time. The decision, that needs to be approved by several instances, might take months. The result is an outdated solution or unused opportunity:

“The most common way is, I think, the hierarchical system of planning in a very structured way and then following whether issues have been done the way they had been planned to be done. But I doubt that if somebody has something, which may come from the situation in the world or situation locally that would really fit to the issues you are doing. I don’t think you can even take it to the table or to the discussion in half a year. And in half a year the issue might have gone.” (IE2)

The one, most obvious reason for this situation is the responsibility for the public money. The organizations from the public sector, including the city administration are aware of their legal and ethical obligations in that sphere:

“All the money is centralized and if you need any money to support some innovation, some interesting process, it’s such a long and intensive process to get the money. And it’s exactly the same, very, very long process, if you want 500 euros or dollars or 500,000.” (IE1)

As said before, *Locked Tower* is a system where the contacts with outside world and external knowledge are clearly underestimated. The isolation is strengthened by the serious problems in communication between the workers of such system and the outsiders. The staff of *Locked Tower* created its own jargon, which might not be understood by the strangers:

“I don’t understand when they are so deeply in their issues that even the language has changed to be not the ordinary people’s language.” (IE2)

Close supervision, lack of trust, isolation – all this suggests that *Locked Tower* is a traditional system with the aim to secure status quo. It is a system with predominant mechanistic dimension and very limited organic and dynamic dimensions.

4.1.2 Turtle in the City

Turtle in the City is a metaphor, which refers to the organization from the public sector, which is very slow in operations and response to change. Its people are very careful – definitely not risk takers. In the *Turtle in the City* everyone is afraid of taking innovative decisions and doing innovative things because they do not want to be accused of spending tax payers’ money in an irresponsible way. The system is a traditional Weberian bureaucracy.

This vision is reflected in the opinions of the several Interviewed Experts, who point at the slow processes, anxiety related to spending of public money and the hierarchical decision making:

“I think it’s very slow to change and when it does change it changes for a very long time.” (IE1)

“Most bureaucracies, most local governments are really anxious in what they do. They feel, whether it’s true is another question, but they feel, because they are spending public money, therefore they need to be accountable to the public and therefore they need to do strange things to try out new ways of doing things.” (IE4)

“I think it’s the management system, it’s very hierarchical so you have to rely on your supervisors or managers to have this innovative state of mind or think alike. You have to have a decision to move forward, to get the decision or the permission from your supervisor and that process, decision-making process is what kills the innovation very fast.” (IE6)

The worldview is based on the feeling of carefulness, fear of experiments and responsibility for the public money. Risks and mistakes should be eliminated, while the

awareness of being accountable for tax payers' money persists and seems to strongly be imprinted in the DNA of public administration:

“I think for any people to be innovative they need to have freedom to implement their own ideas. And they also should have permission to fail and to try and try again till they get successful. But in organizations from the public sector if you fail, then that's it – no second chance.” (IE6)

“I would say what limits very much and makes the leader being so hierarchical it's the fact that they are accountable for the public money. This makes them much more responsible and therefore they don't like taking the risk. This is something real.” (IE3)

The system in this vision is a bureaucracy with all its rules and steps that need to be taken for the issue to be considered as a problem or as a solution, which do not enhance innovativeness. Hierarchical structures and multiple levels which are necessary to go through for the decision to be approved, slow down the innovations considerably:

“Because the public sector traditionally is a Weberian bureaucracy, Max Weber's bureaucracy was inspired by the public sector, this is how we came to discover the idea of bureaucracy and what the bureaucracy is, it is big hierarchy and accountability between different levels and that most of the times stops innovations.” (IE4)

“The structure in public sector is very hierarchical and you have to get the permission for whatever you do and that kills innovation.” (IE6)

The way the system operates is a result of the legal framework, which describes the rules of the work of the organizations from the public sector, creates the structures and institutions for accountability:

“Then of course there are things coming from legislation and things like that, some things need to be done in decision-making and political things and of course they are stricter in the organizations from the public sector compare to private.” (IE5)

In the *Turtle in the City* image, planning is considered as a key to success and what was planned must be realized, with no exceptions and derivations, as money follows the plans:

“But if we’ve done planning eight months ago we cannot do it this way, we have to do it like this or we have the money allocated to those things and we have no money and no resources to do other things, so it’s a challenge.”

(IE6)

The reality of work in the organization from the public sector, according to the *Turtle in the City* image is old-fashioned and focused on avoiding risks by e.g. filling in set of documents or receiving the approval from multiple instances, which directly limits innovativeness:

“The requests to your finance department that come back and back it’s so heavy. Therefore, the innovation is really reduced, by the time it will happen it’s already too late, almost.” (IE1)

“I think they are still quite old-fashioned in like, and not able to respond to changes quickly.” (IE2)

“Now, in public sector in general you know that to become the best in the job is to avoid risks and to wait for your turn.” (IE7)

To compare with previously described *Locked Tower*, the mechanistic dimension of the *Turtle in the City* system is limited for the benefit of the organic dimension. There is less isolation and more awareness of the change needed, as well as interactions within the system. However, the organic dimension is still very restricted.

4.1.3 The Ice Is Cracking

In the third image – *The Ice Is Cracking* – some changes start to appear: the system opens, allowing limited experimentations and new practices. However, there is a tension between old and new, status quo and change, familiar and unknown. Some managers understand the need for change but at the same time they face the resistance of the system. The dualities: young vs. old, conservative vs. progressive can be observed and in one country different models can exist:

“There are many cities that are old-fashioned, stale, in a way still communistic in their thinking, rigid, and there is a few that want to change, that want to do things differently, that realized that 21st century had started and the question is why in one country with in principle same governance

arrangements, why do some cities decide to break out of the mold whereas the others are in there.” (IE4)

As Interviewed Expert 2 claims, there are organizations that feel the need to change their practices and get more open. They create the jobs unknown before with the aim to boost exchange with other sectors or stakeholders and ultimately become more competitive:

“Some organizations have tried now to hire people, whose job responsibility is to communicate with other sectors.” (IE2)

In the *Ice Is Cracking* image the world is divided into progressive and traditional and the general worldview is somewhere in between. The new is emerging but slowly and cautiously. There is an understanding of the need to change but still the resources and capacities are limited. Some are afraid of taking any action and prefer to wait until the new order emerges:

“I think they realize that they have to change. It’s very human to have resistance against changes. I think they know they have to change. But I think they want to wait and see and not be in the forefront of changes.” (IE2)

“I think it’s changing. I saw two worlds – there were the departments, which were very modern, where the structure and the relations are very flat, but the formal structure is still very hierarchical – there are all the levels.” (IE3)

The change might be against the interest of those, who benefit from the status quo and this is why they are not open for it:

“Of course so much depends on the generation, because those who are now in control, they resist or try to object the change because it’s not in their interest, but everybody under them would like some change to happen.” (IE7)

When we look into the social causes and examine the system of *The Ice Is Cracking*, we can observe some fragmented initiatives, experiments and pilots implemented in some of the cities by the progressive leaders. However, the openness and acceptance of the changes vary – some are more progressive, while the others are still careful and need time to adjust:

“The mayor has actually changed the structures of the organization quite dramatically. He has put people who were experts in one sector to work in another sector and there had been quite a lot of resistance at the beginning but the machine is now working really nicely.” (IE2)

In some cases, the administration might not be as ready for the changes, as one might think it is. The experience of an expert hired to the organization that seemed to be pretty dynamic, but later fired because of being too “progressive”, is relevant here:

“I stopped working because I had a different approach, maybe too different and maybe the administration didn’t want to develop that fast and came to the conclusion that I endanger the status quo, that there is the openness for innovations but maybe not in that pace and maybe not that fast so in the result my contract was not renewed.” (IE3)

Some barriers for the change are systemic and some depend on the people working in the city administration. The situation where in one country, working according to one legislation, there are cities which differ in the operational model considerably, brings the conclusion that probably some obstacles are mental ones and depend on people’s predisposition to experiment, take risks and try something new more than on the laws:

“I think the barriers are mainly inside your head and mental barriers more than real barriers.” (IE5)

The system’s readiness for a change is unpredictable. It can be stiff and traditional on one day and flexible on the other. Those, who have ideas and innovative plans, need to wait for this “*window of opportunity*”, recognize and use it:

“It depends on many things, it can be a political situation, it can be the time and the day of the person I am telling it to, if he or she woke up on the wrong foot. And the general thing if e.g. the given topic is on the agenda of the government, so in that sense it’s many pieces, the puzzle pieces must be in place and then you bring your last one and then you can get things forward. So in that sense you never know when the door is open, so it’s difficult to see where the other puzzle pieces are in that position that now you need to put the last one and then the picture is whole.” (IE5)

On the level of litany, in the *Ice Is Cracking* image, the old-school mindset and confusion of administrative staff can be noticed. People do not know what to do, how to work and they do not feel comfortable in that new situation, even though it might seem better for innovations and highly praised by the manager:

“For me it’s interesting, I like change. It also forces people to bring new ideas, new things and looking for new solutions. But it’s also painful, since people don’t know what to do and how to do it. People get confused and when people get confused, they get anxious and then they are not good workers any more. Sometimes the spirit at the work place might be quite low.” (IE6)

In comparison to the two previous images, in the *Ice Is Cracking* we can observe growing organic and dynamic dimensions, while the mechanistic dimension is being limited. New methods of work, communication and solving problems are being implemented to some extent. Supervision and hierarchy do not play the predominant role as in the earlier images.

4.1.4 Open and Fearless

Open and Fearless describes the image of city administration as an open, innovative organization with flat structure. Curiosity and experimental mindset are predominant here, as is the environment that allows this kind of mindset:

“To have somebody, who is curious and ready to change, doesn’t feel that they already know everything, they have this willingness to adapt and is prepared and is put in the climate that encourages to experiment.” (IE1)

In the *Open and Fearless* image, public sector is open for collaboration, listens to the citizens and stakeholders, and explores new opportunities. An inspired and inspirational leader gives the vision and enhances the progress. This new world is emerging because the old was not efficient enough to survive, as observed by the Interviewed Expert 7:

“It cannot stay like that, I am very optimistic that it will destroy itself.” (IE7)

Open and Fearless is full of brave people, who are ready to try new things and break the existing barriers for the sake of improved performance. The leaders, open for the external ideas and know-how, are able to admit that they cannot innovate alone – that in fact it takes the whole organization to do so:

“Openness for the ideas of the other people, that I don’t have the monopoly for the solutions, that those solutions can come from the side, from my

employees, from the citizens, from the NGOs, some kind of a priori preparedness to listen to and look for the best in those solutions.” (IE3)

“I think it’s possible but it requires a little bit of courage.” (IE4)

External experts are welcome to participate in the discussions, decision making and implementation, as is the independency, which creates spaces for improvement:

“Freedom and bringing in an external expert, authority expert from outside created a lot of opportunity for change and there was change.” (IE4)

In the *Open and Fearless* image the leader has a vision and he or she can achieve it by being at the same time a politician, generating the support within the system of administration and a community leader, involving a variety of stakeholders in the work for the cause:

“So there is almost a symbiosis between two types of leadership: political leadership and community, or entrepreneurial leadership.” (IE4)

The worldview of *Open and Fearless* is very experimental, curious and flexible. The guiding slogan clearly indicates that the mindset is open and taking risk, experimenting and trying new things is welcomed:

“Just do it, if you fail, it’s ok, then you try again.” (IE6)

The main emotion is trust – trust of managers towards the staff and the trust of the people themselves that they can do the job:

“The managers must trust their people, they have to trust, they have to lose the horse to run quicker. They really need to give people freedom and trust that people are worth the freedom and possibility to be more innovative and more creative.” (IE2)

The leaders’ role is to empower people and encourage them to think outside the box. It is important to involve all of the people from the different levels of the city administration and make their voice valuable:

“Our goal was to release the energy of the people working there, through all those changes. To let them feel that they have something to say, that their opinion matters, that even if their position is not very high, the city administration works thanks to them, so they should be the subjects when it comes to the decision-making.” (IE3)

The system of *Open and Fearless* is very dynamic and the structure is flat. The flexibility makes it highly responsive to the changes in outside environment:

“You need to have flat organizations that are flexible, that have the opportunity to adapt and adopt.” (IE4)

The cooperation within the system but also with different stakeholders is in the center of operations:

“They have to cooperate more with other sectors – with private, with NGOs, with the universities.” (IE2)

The management is done in a very different way than in e.g. *Locked Tower* or *Turtle in the City*. Instead of planning, implementing and reporting, a goal-oriented and solution-seeking culture is promoted:

“I think the management should understand other ways of doing, that it’s not planning, implementing and reporting but it’s like: we have this problem, we have to find the solution, so that gives us the objective and then we form the teams and let the teams work on problem and find the solution and then we see how it goes. So let them try, let them learn and let them find the solution.” (IE6)

On the litany level, the strong need for the change, adaptation and innovativeness is visible:

“Public sector has to listen to the people’s needs and has to adapt to the changing issues in the society, definitely.” (IE2)

This change can only come from the leaders, who allow it:

“Of course it depends on the leaders. The city has one mayor for many years, who is modern and innovative.” (IE3)

However, it should be supported by the other actors and community:

“People who were completely outside of the local government, outside of bureaucracy, outside of the public sector, they were school leaders or environmental entrepreneurs or businessmen who commented to the politicians and said: let’s do things differently, let’s at least try and that worked.” (IE4)

For this to happen, informal ways of organizing work and ways of recognizing citizens’ contribution is needed. There must be informal places and procedures that allow quick exchange of information. Making people talk is not enough though, they should be listened to and their voice should be valued in the further decision-making:

“People have some places, forums and areas where they can meet and discuss informally, maybe even do planning and implementing in a less

formal way, which involves local people, of course, since the citizens don't want to get involved in very formal processes. They want to have it informal; they want to have it entertaining but also something that they find useful and easy.” (IE6)

To compare with the other three, *Open and Fearless* is the system with strong dynamic dimension and very limited mechanistic and organic dimensions. Flat structure, strong openness to the outside world, readiness to take risk, experimental mindset and agility resonate well with what was described as a dynamic system before.

4.2 Key barriers for innovations in organizations from the public sector

Several barriers for innovations in organizations from the public sector were detected during the interviews. This subchapter presents those that were mentioned most often and discussed as important ones.

There were five main barriers to innovations identified. They are:

1. Hierarchy,
2. Poor communication,
3. Imbalanced work division,
4. Poor leadership and
5. Bad management of human resources.

When it comes to hierarchy, the different levels of decision making and accountability are seen as an obstacle for the innovations to emerge – before the idea reaches the top of the hierarchy and gets the approval, it might be outdated and modified in a way that do not resemble the original one. Moreover, the paper work and bureaucracy do not facilitate the process.

Communication seems to be a challenge as well. People complain about being overloaded with the electronic communication, like e-mails. They also admit that the potential of other e-tools, which could help reaching out to the stakeholders and citizens for better decision-making, is rather unused. Formal meetings, planned well in advance and structured according to the organizations' rules are the main platform of communication and might not guarantee the smooth flow of information within the organization.

Imbalanced work division was mentioned by all of the interviewed experts and appears as an important barrier. While most of the working time is dedicated to planning and reporting, there is no sufficient time left for brainstorming and implementing. This creates frustrations and leaves little space for innovativeness.

The fourth barrier – poor leadership is connected with lack of trust of managers, which results in close supervision and control of employees. This can be linked to the paper work and heavy reporting mentioned above – the control generates the documents that must be filled in and create the procedures that need to be obeyed. This leadership model is associated with the “old” and “traditional” way of managing. Lack of training or insufficient training are seen as the supporting reasons for that.

Finally, bad management of human resources was identified as the last barrier. It means not only that the organizations from the public sector tend to recruit people who are not risk takers but they also do not use the potential of employees who have innovative ideas and energy. The traditional organization of work with the clearly described tasks, responsibilities and reporting levels is promoted. At the same time the motivational and professional development programmes, used in the private sector are not popular in the public sector.

It can be concluded that all of the detected barriers are embedded in the system of the organizations from the public sector. In other words, the comprehensive interventions in the system structures and redefinition of the myths underneath are needed to remove the barriers.

The key barriers, accompanied by the extract from the interviews are collected in Table 3 presented below.

Table 3 Main barriers for innovations in organizations from the public sector

Barrier	Direct quote from the Interviewed Experts
1. Hierarchy: - Different levels of decision-making and accountability; - Paper work and bureaucracy; - Slow and heavy process of presenting the innovative idea and getting the approval to develop it further.	<p><i>“People working in the sector must respect a lot of hierarchy. There is a lot of systems and paper work and bureaucracy.” (IE1)</i></p> <p><i>“I think they are too often too concentrating on the hierarchical decision making, both in decision-making and how the organizations are formed.” (IE2)</i></p> <p><i>“From the formal point of view – the occupational law and the organizational structure, when you look at this structure, you see it’s very hierarchical.” (IE3)</i></p> <p><i>“Most organizations from the public sector are traditional bureaucracies, so very hierarchical and you are not allowed to jump one level up and when you have a good idea you cannot pitch it directly to the top of the pyramid, you</i></p>

	<p><i>always have to go through all of those different layers, which is highly ineffective for innovations.” (IE4)</i></p>
<p>2. Poor communication:</p> <ul style="list-style-type: none"> - Overload of irrelevant electronic communication; - Unused potential of tools available to enhance participation of different actors in decision-making; - Lack of informal ways of sharing the information outside the scheduled staff meetings. 	<p><i>”The biggest problem with communication and it stops innovations in public sector is people have a tendency to copy everybody in the emails and then we get the classic thing when you get 200 emails a day and therefore it’s very difficult to actually decide which is innovation, which is the thing I should really work on and just the time to be aware of everything and that actually kills communication.” (IE1)</i></p> <p><i>“So I think we could use more ways of getting ideas and opinions. Of course there are already some tools, possibilities in the internet at the moment, there are possibilities, but are we ready to use them to their full potential? I would say we are not.” (IE5)</i></p> <p><i>“It’s difficult and it’s a bit a challenge to find the informal spaces in the organizations. Every time we wanted to create it, we had to know how often will we meet – once a month or once a week, at which time, we have to know who is going to be involved, who we are going to invite and we have to know what topics they are discussing, so that’s the formality trying to take over informal.” (IE6)</i></p>
<p>3. Imbalanced work division:</p> <ul style="list-style-type: none"> - Focus on planning and reporting; - Too little time for brainstorming and implementing 	<p><i>“The two that I’d have least time for would be brainstorming and implementing, honestly. And there would be more for the slow processes, so there would be planning, explaining to management and the formal committee, the reporting. And that’s a bit of frustration, isn’t it? I think that that’s a pity but the most of the jobs I was doing that was quite a bit of planning and evaluation but mostly convincing people that that’s a good idea, explaining to management and colleagues and getting them on board.” (IE1)</i></p> <p><i>“I think most of the time is going to reporting and planning. Some of the time is also going to explaining to the management. And of course there is contact with colleagues. Brainstorming, very little, I think, and quite structured way of doing brainstorming. Implementing, well, if I think for example about people I am dealing with, implementing takes quite little time, which is terrible. So more time goes to the other issues than implementing.” (IE2)</i></p> <p><i>“The bureaucracy took lots of the time: just administration or representation. You know, often I simply had to sign some documents. Let’s say that most of the time was reporting and there was always time missing for brainstorming, for looking for new solutions and for planning. I felt it was not enough. Especially that those administrative and representative functions took really that much time.” (IE3)</i></p> <p><i>“In general I can recognize all of this and it depends very much on the day, week or time of the year so it varies, in that sense it’s difficult to pick only one. Maybe I’d still say it’s this kind planning but quite close behind reporting.” (IE5)</i></p> <p><i>“At the moment, I would say the planning and reporting are taking most of my time; maybe it’s the time of the year. But other than that, generally planning and maybe implementing. Especially planning, as I am a manager, so the planning is a big part of my work. The brainstorming takes less time because for that you</i></p>

	<i>need other people.” (IE6)</i>
<p>4. Poor leadership:</p> <ul style="list-style-type: none"> - Close supervision and control, - Lack of trust and freedom given to the employees, - Lack of training and capacity to run the organization in other way than traditional. 	<p><i>“There is a lack of freedom given to the individual staff to experiment, to potentially fail.” (IE1)</i></p> <p><i>“There were also people who were very frustrated that they had ideas but they were bullied in a way, directed to some small activities, when it turned out that she is a great organizer of big events, she has innovative solutions.” (IE3)</i></p> <p><i>“It’s very traditional: it’s close supervision, reporting and that’s it.” (IE6)</i></p> <p><i>“Of course so much depends on the generation, because those who are now in control, they resist or try to object the change because it’s not in their interest, but everybody under them would like some change to happen.” (IE7)</i></p>
<p>5. Bad management of human resources:</p> <ul style="list-style-type: none"> - Recruitment of people comfortable with bureaucracy but not risk takers; - Not using the potential of people, who have innovative ideas and energy; - Promotion of traditional organization of work; - Lack of incentives and bonuses 	<p><i>“The people that work in the public sector are not the risk takers, because the risk taker would find that environment too slow and would like to work somewhere else, and this kind of person that would accept to use all this bureaucracy is not the same kind of person that is comfortable with innovations.” (IE1)</i></p> <p><i>“I think people are using far too small amount of their capacity at work and ok, some people prefer that and use their innovative capacity outside work but I think that’s terrible loss for organizations not to listen to people, not to give people freedom to really be creative and change their own job also so that it would serve the organization in an optimal way.” (IE2)</i></p> <p><i>“Maybe there is more of that in the private sector, how they support the personnel, e.g. bonuses to generate, to give the ideas.” (IE5)</i></p> <p><i>“And they are all used to managers who come and tell them what to do, how to do it and when to do it.” (IE6)</i></p> <p><i>“Innovation is not rewarded or seen positively in addition to this complete lack of incentives for doing better job. So I think those are the root causes for lack of innovation in public sector. And the situation is bad.” (IE7)</i></p>

4.3 Key drivers for innovations in organizations from the public sector

Several drivers for innovations in organizations from the public sector were detected during the interviews. This subchapter discusses the ones that were mentioned most often and discussed as important ones.

As a result of the analysis of interview material, four key drivers for innovations in organizations from the public sector were identified. They are:

1. Investing in human resources development,
2. Promoting experimental mindset and culture,
3. Brave leaders with vision and commitment to change that are able to inspire the others,
4. Work division that allows more time for brainstorming and implementing instead of planning and reporting.

Investing in human resources development means, above all, that employees should be given opportunities and space to realize their potential by sharing their ideas and working in more creative ways than traditional. Training and professional development programmes should be well designed and used widely to encourage both leaders and other workers to be more innovative.

This relates to promotion of experimental mindset and culture, which is seen as another driver. In the opinion of interviewed experts, fear of mistakes should be eliminated and, instead, a mistake should be perceived as learning. Testing new approaches, piloting new actions, openness to the ideas of others and freedom to select the way the task will be realized or problem will be solved are the important components of the experimental mindset, which should be introduced in the organizations from the public sector to boost their innovativeness.

Brave leaders with vision and commitment were mentioned as those, who play the key role in setting up the conditions for innovations in the organizations from the public sector. They should be confident about the direction they choose and trust in their employees. Leader that has a clear goal but gives people freedom in realizing it is seen as the one that can support innovative processes in the organization.

Lastly, the work division that limits the planning and reporting and offers people more time for brainstorming and implementing is seen as another driver.

It can be concluded that all drivers, but the experimental mindset, depend clearly on the system of the city administration. However, as the previous analysis of four images and barriers confirmed, the experimental mindset is not an individual feature but it can be enhanced and boosted by the system. In this context, it could be done by structural and legislative changes. The wider and deeper discussion on the drivers will be conducted in the next chapter.

They key drivers, accompanied by the extracts from the interviews are collected in Table 4 presented below.

Table 4 Main drivers for innovations in organizations from the public sector

Driver	Explanation by the Interviewed Experts
<p>1. Investing in human resources development – releasing the potential of the staff through:</p> <ul style="list-style-type: none"> - Training; - Making the staff more confident; - Balancing innovative and creative people with those who are good at administrative tasks. 	<p><i>“I am sure there is potential, there always is, particularly if you invest in training and you encourage a culture where you believe in your staff, where you make your staff feeling confident and I think that’s not always the case so I think if you invest in your staff, you can always increase this potential.” (IE1)</i></p> <p><i>“My experience in general is that people want to be more creative in they are allowed to.” (IE4)</i></p> <p><i>“All kinds of people are needed in the city structure. If one end would be that everybody is innovative so then the administration doesn’t work and nobody is innovative, then nothing new is happening.” (IE5)</i></p> <p><i>“You have to educate them, of course, and teach them new methods, or start working the other way. Since they’ve done this work for 20-25 years, they are very good in what they do and they are experts but they don’t maybe realize themselves how much knowledge they have and how much expertise they have, since they use only limited amount of that.” (IE6)</i></p>
<p>2. Promoting experimental mindset and culture:</p> <ul style="list-style-type: none"> - Eliminating the fear of mistakes; - Allowing testing different approaches; - Openness for the ideas coming from outside of the system. 	<p><i>“The organizations should much more understand mistakes. And the clever person does not make a mistake twice. You tried something, it didn’t work out, you tried something else. Fear of mistakes is so terrible and the managers should also have the guts to allow the mistakes to be made.” (IE2)</i></p> <p><i>“Openness for the ideas of the other people, that I don’t have the monopoly for the solutions, that those solutions can come from the side, from my employees, from the citizens, from the NGOs, some kind of a priori preparedness to listen to and look for the best in those solutions. So if there was this kind of attitude, I think it would change a lot.” (IE3)</i></p> <p><i>“I think for any people to be innovative they need to have freedom to implement their own ideas. And they also should have permission to fail and to try and try again till they get successful.” (IE6)</i></p>
<p>3. Brave leaders with vision and commitment to change that are able to inspire the others.</p>	<p><i>“The managers must trust their people, they have to trust, they have to lose the horse to run quicker. They really need to give people freedom and trust that people are worth the freedom and possibility to be more innovative and more creative.” (IE2)</i></p> <p><i>“Of course it depends on the leaders.” (IE3)</i></p> <p><i>“I think the best ways of what I’ve seen is when you have a committed politician who feels empowered through its political platform, so what is believed to be its value system to exercise the leadership to say: this is where we go – forward!” (IE4)</i></p>

	<i>"I would hope that in the city administration somehow the managerial level would have that kind of thinking or room is allowed for this kind of innovative thinking."</i> (IE5)
4. Work division that allows more time for brainstorming and implementing instead of planning and reporting.	<p><i>"For me the most of my work should go on implementing but certainly the bigger proportion that I was doing with all these brainstorming, but not only brainstorming, reading around what are the good ideas happening and things like that."</i> (IE1)</p> <p><i>"Implementing and brainstorming should have much bigger role than the others, than I feel it is now."</i> (IE2)</p> <p><i>"Definitely there should be more time for brainstorming and planning. And not only for planning with my staff that we sit together and plan but there is also more time for planning with those from the higher level, with our supervisors."</i> (IE3)</p> <p><i>"Maybe on anyway this implementing because we do a lot of plans and also reports and there is always too little time on this really implementing the issues."</i> (IE5)</p> <p><i>"For me, I'd like to do the planning and implementing. I like to make things concrete, do it quite fast. I think the best way to learn is to do. So maybe even less planning but actually doing, so you can test things, you can explore things and you can learn by actually doing and get new ideas."</i> (IE6)</p>

4.4 The way out – two possible options

The interviews conducted for this research allowed constructing four images of the future and define the main barriers as well as drivers for the innovations in the organizations from the public sector. In addition, there are two views on what will happen in the future and how the change will be realized, as there is a predominant view that the change is needed and will happen.

Those two views are 1/ slow – evolutionary and 2/ fast – revolutionary. Table 5 below collects the arguments for both options and where it also offers the scenario of change, where it is possible.

Table 5 Two options for change

	Evolutionary change	Revolutionary change
Pace of anticipated change	<ul style="list-style-type: none"> • Slow: <p><i>"Public sector organizations such as</i></p>	<ul style="list-style-type: none"> • Fast: <p><i>"The best recipe for policy change is a</i></p>

	<p><i>municipality or a ministry, they never disappear but they are slow to change.” (IE1)</i></p> <p><i>“I think they realize that they have to change. It’s very human to have resistance against changes. I think they know they have to change. But I think they want to wait and see and not be in the forefront of changes.” (IE2)</i></p>	<p><i>disaster. A disaster is a something that happens with sudden force.” (IE4)</i></p>
Reasons for change	<ul style="list-style-type: none"> • The end of ‘old world’, • Austerity, • Need to diversify the services: <p><i>“Because you can see the world is falling apart.” (IE4)</i></p> <p><i>“This situation with bad economic situation is also a possibility that you are forced to think in a new way, so in that sense it would show the real management and leadership that you put your time and energy to be innovative in your thinking in a new way.” (IE5)</i></p> <p><i>“So lack of money and increase in the needs and diversity of the needs, it forces us to change.” (IE6)</i></p>	<ul style="list-style-type: none"> • Severe crisis, • Old conditions destroyed: <p><i>“Something hitting you hard as a terrorist attack or a severe austerity measures, they are probably disastrous enough to start considering things in different way.” (IE4)</i></p> <p><i>“But I guess we just have to end in the crisis to get it.” (IE7)</i></p>
Areas of change	<ul style="list-style-type: none"> • Legislation, • Structure: <p><i>“I think it’s changing, slowly, but maybe the thinking should change or the legislation, the change of the organizational structure, because I think that it is difficult to be innovative.” (IE3)</i></p>	<ul style="list-style-type: none"> • The whole system: <p><i>“It cannot stay like that, I am very optimistic that it will destroy itself. No, but we just cannot afford this way, so it will be sooner or later.” (IE7)</i></p>

One general conclusion can be deducted from the interviews – while there is a sentiment for a revolutionary change, which would allow building the preferred system on the ruins of the old one in a quick way, the evolutionary one feels more realistic, safer and socially accepted. In fact, it is happening all the time – some limited changes are implemented in many organizations around the Europe, at least in those, which realize that they need to change.

5 DISCUSSION

5.1 Summary of key empirical findings

The analysis of the research material was done in a very rigid way from different perspectives. First of all, the Causal Layered Analysis was conducted, which allowed deriving four underlying myths for the organizations from the public sector and four different images of the future. They are:

1. Locked Tower,
2. Turtle in the City,
3. The Ice Is Cracking,
4. Open and Fearless.

While in the first image the system is very hierarchical and the predominant emotion is fear, in the last image the structure of the organization is very flat and the predominant emotion is trust. Control is replaced by freedom and the strangers become partners. With every image the system becomes more open and dynamic.

The interviews were also analyzed through the lenses of the systemic theory and from the point of view of the organization as a three-dimensional system. Leadership, communications and relations, as well as system's ability to renew itself and generate innovations were examined. As a result, five barriers and four drivers for the organizations from the public systems were defined. The barriers are:

1. Hierarchy,
2. Poor communication,
3. Imbalanced work division,
4. Poor leadership,
5. Bad management of human resources.

The drivers are:

1. Investing in human resources development,
2. Promoting experimental mindset and culture,
3. Brave leaders with vision and commitment to change that are able to inspire the others,
4. Work division that allows more time for brainstorming and implementing instead of planning and reporting.

While all of the barriers are embedded in the system, all of the drivers are systemic as well. They depend on the system and they influence its ability for innovations greatly. The drivers suggest the changes that should be implemented in the systems, which are lagging behind in innovativeness. They can be used as recommendations and lessons for those who want to be more innovative.

As there is a general opinion that the current system is not effective in generating and embracing innovations and the barriers are much stronger than the drivers (the practices behind the barriers seem to be a natural feature of the system, established in the other conditions, while the practices behind the drivers are innovative on its own and still very fragmented and implemented on a limited scale), the change is considered as needed and welcomed. The analysis of the interviews allowed defining two options for the change, which are:

- Evolutionary;
- Revolutionary.

While the revolutionary change is possible (e.g. with the unexpected global or local disaster of any kind) and would probably be preferred option for many, the evolutionary one feels more plausible.

5.2 Empirical findings in the light of the theory

The aim of the discussion is to answer the research questions: 1. What are the main barriers for innovations in public sector organizations?; 2. What are the main drivers for innovations in the public sector organizations?; 3. What kind of measures would help the organizations to reduce these barriers? Also, the aim is to give some recommendations on how to overcome barriers for innovations in the organizations from public sector. Practical application of the theory will be proposed.

At first, the discussion will focus on the evaluation of city administration as a three-dimensional system and how does it influence the innovativeness. Then, the city administration's capacity for self-renewal and innovation will be examined. Finally, some of the recommendations will be presented.

5.3 City administration as three-dimensional system

As presented in the theoretical part of the study, each organization, a system on its own, consists of three systems – mechanistic, organic and dynamic. While the mechanistic one is responsible for ensuring the stability and effectiveness of the processes in the organization, the dynamic one creates opportunities for the innovations to emerge. The difference between the systems is defined by relations, information flow, leadership, management tool and objective as presented in Table 1 on page 18. The thorough analysis of the interviews allowed distinguishing four images of the system of public administration: 1/ *Locked Tower*, 2/ *Turtle in the City*, 3/ *The Ice Is Cracking* and 4/ *Open and Fearless* (Figure 3).

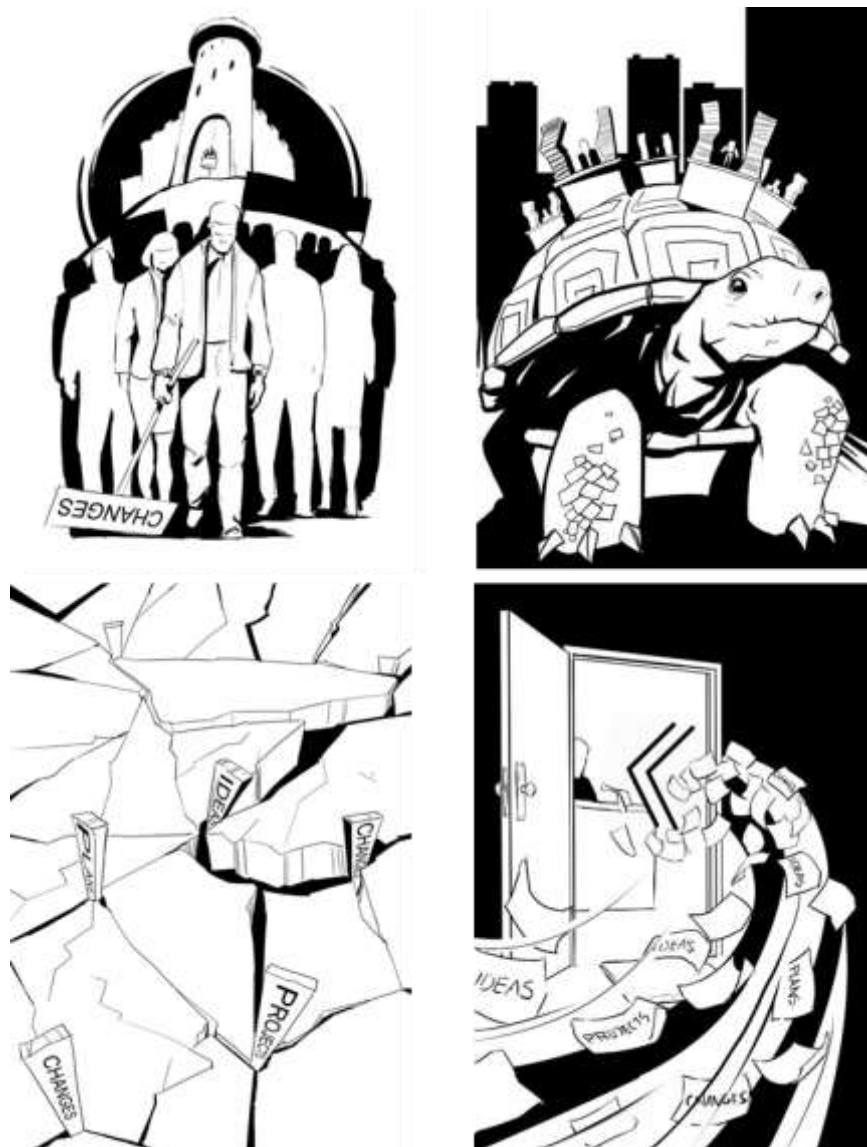


Figure 3 Four images of the future. Clockwise: 1/ *Locked Tower*, 2/ *Turtle in the City*, 3/ *The Ice Is Cracking*, 4/ *Open and Fearless*

While the first system is very hierarchical and can be defined as a traditionally mechanistic, the last one is quite flat and can be regarded as a dynamic one. The level of openness, collaboration and networking increases with each of the system and is correlated with the decrease of hierarchy, fear and bureaucracy. Figure 4 presents the four images vis-à-vis the three dimensions of the system, according to Stähle (2014), which reflects the gradual development of the certain dimensions on the way – from the mechanistic dimension predominant in the *Locked Tower* to the dynamic dimension predominant in the *Open and Fearless*.

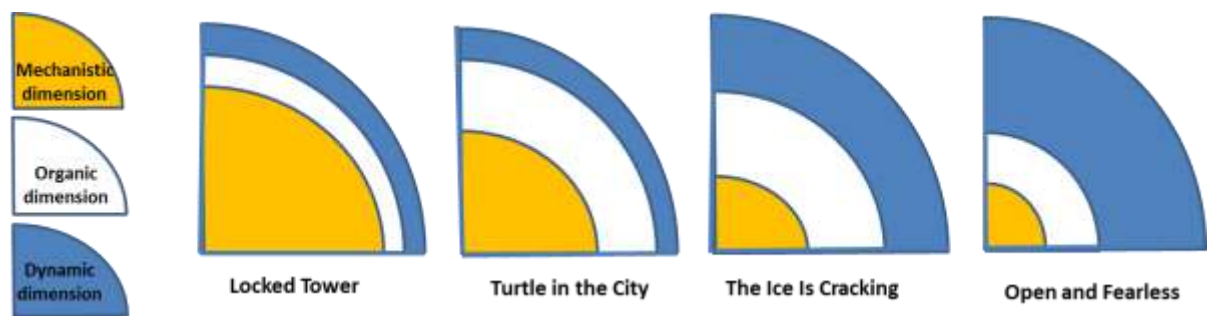


Figure 4 Development of the three dimensions of the system in the four images

As the interviews revealed, the most common ways of managing in the organizations from the public sector today are the one described in *Locked Tower* and *Turtle in the City*, i.e. full of bureaucracy, hierarchical relations, fear and risk-avoidance. They are the normal ways of running the organizations, where one dimension – mechanistic dominate the others. The systems as in *The Ice Is Cracking* are emerging but slowly and on the limited scale, while the *Open and Fearless* is still only an aspiration and the future, that is welcomed and expected but nobody knows if it will actually happen. Although “it must happen”, as it seems to be a condition for the public sector’s survival. With the changing world around, the public sector should not stay behind, even though the change towards more dynamic management model might raise confusion, uncertainty and doubt at some stage.

According to the theory of the organization as a three-dimensional system, each dimension is needed for the system to work effectively. The relevant configuration should be applied according to the objective of the system. If it is permanent efficiency, there should be more mechanistic ingredients than in the system, which aims at gradual development (this one will be more organic) or continuous innovation. The latter one requires that the dynamic dimension will be predominant and the mechanistic limited to

the absolute minimum. This is contradictory to what we observe in the public sector right now but in line with the aspirations and preferred version of the future.

5.3.1 City administration's potential for self-renewal and generating innovations

The city administration's need for adaptation to the changes in the external environment has been recognized widely both in the literature of the subject as well as during the conducted interviews. There is no doubt that the world is going through the transformation and the public sector should not only acknowledge it but also follow the changes. It is a pre-condition to its survival and future development.

City administration and self-renewal

The city administration clearly constitutes the autopoietic system, which has been defined in the theoretical part of this paper (Chapter 2). There are the boundaries between the system and the external environment and they are easy to identify. Even if the system cooperates with the external partners, it is always easy to recognize if the city administration follows the city's rules. The process of self-replication also takes place and there is a continuum in the development of the city administration. Its core stays the same and even though its ways of operations change, the legal framework does not alter fundamentally. This core finds expression only through the system activities. In other words, there would be no city administration without internal networking, information exchange between people, sharing the knowledge and common activities. To close the analysis of the city administration through the autopoietic lenses (Stähle, 2008), it is crucial to add that one can comprehend the system only through the active involvement of its work. The outsider will always be left with the limited understanding of the internal processes of the city administration.

The city administration also fulfils the four antecedents for self-renewing systems described by Poutanen & Stähle (2014): organizational identity, relationships, information and cooperation, although the scale can differ and not be satisfactory. Firstly, the members of the city administration are aware of being part of the organization and share specific values, goals and rules. They are able to self-define themselves as elements of the city administration. It is important to notice that the strong identification might lead to the situation where every partner form outside of the organization is treated as a

stranger, with whom the city administration does not want to cooperate. The goals might be too different and the language (professional jargon) does not allow fluent communication and networking. Secondly, the relationships within the organizations are constantly renewed through the process of volunteered or forced cooperation. One might ask however, if there is enough of internal networking within the system and if people really do know each other and if the managers are aware of the responsibilities, competences and potential of their staff. Certainly, more exchange between different departments of the city organization would be welcomed. It was highlighted that trust and risk-taking are the part of the process, which they are clearly lacking in the organizations from the public sector, as the analysis confirmed. The third point, information exchange, might be controversial. On the one hand it happens, but on the other hand communication was regarded as a very weak point during the interviews. All Interviewed Experts pointed out poor quality of communication in the city administration (overflow, slow exchange etc.). This is a matter that should be improved. Finally, the issue of the city administration being opportunistic and using the momentum to act quickly when the timing is right is also problematic. This very much depends on the capacities of the leaders, as the city administration itself is slow and might not be able in general to recognize the appearing opportunity. Its awareness, preparation and response are in the hands of smart managers – if the city has them, it can also use the emerging chances.

It can be concluded that the process of self-renewal of the city administration takes place on the limited scale and several factors should be improved (e.g. communication, capacities of managers) to fully benefit from the process.

City administration and innovations

Some still think that the organizations from the public sector do not need to be highly innovative, that innovations do not belong to public sector's world. The new times with their new challenges and significant changes in the economy question that perception and bring the public sector to the centre of competition for funding and attention, and consequently press them to deliver innovative solutions, services and processes. The organizations seem to be unprepared for this; many still resist understanding that innovations belong to the rules of the new game and there is no future without being innovative. The conducted analysis of organizations from the public sector – city administration – provided a good insight in their system, which confirms that thesis.

As described in the theoretical part, Ståhle & Pirttivaara (2010) identified five factors that can boost innovations in the systems similar to city administrations. They are 1/ societal inclusiveness, 2/ exploitation of the full potential of the system, 3/ mutual and multilateral codependency, 4/ interest, inspiration and commitment, 5/ recognition of bottom-up initiatives and support for co-creation. As the analysis showed, the city administration in general might have problem with fulfilling any of those five conditions. The partners, stakeholders and citizens are often excluded from the planning (consciously or unconsciously) or their voice is not heard. The system's potential is definitely not exploited to the full, as there is lack of recognition of its employees' competencies and making use out of them. Even though, there is a natural mutual and multilateral codependency, some systems manage to close themselves so much that they feel they can survive on their own. Interest – awareness of the changes, inspiration – creative ideas and commitment to change is also missing in most cases. The organizations with leaders and employees, who can recognize the challenge and address it in an innovative way are still regarded as exceptions and looked at with jealousy or distrust. Finally, the situation of recognition of bottom-up initiatives is similar to the one with social inclusiveness. The processes of initiating, developing and recognizing such initiatives are still lacking.

To stay competitive and generate innovations, the organization must continually renew its resources (Ståhle & Grönroos 2010). The analysis of the city administration delivers the list of gaps in the area of the management of human resources and provides some thoughts about the leaders and other employees. First of all, the poor leadership and bad management of human resources were identified as two out of five main barriers for innovations. Most of the managers were trained long time ago and they have worked in city administration since then. The closed perspective is mirrored in supervision and control. Not only freedom is lacking but also elementary trust in the competences of the employees. The leaders do not get trained on the regular basis, and even if some trainings are offered, they are taken but do not result in a better performance at work. At the same time, there is a problem with other human resources. There is a general tendency to recruit the risk-avoiders to the city administration and the risk-takers are encouraged to “play it safe”. There are no incentives for the creative ideas or innovative solutions (prizes, bonuses, sport vouchers) and in most of the cases people are expected to produce requested documents or specific results and follow the traditional rhythm of the organization, with its structures and hierarchy.

The issue of creativity is naturally linked with the innovations as it was widely described in theoretical part of the study (Chapter 2). Also here the organizations from the public sector fail. The lack of experimental mindset, fear of mistakes and lack of time combined with the hierarchical structure, which slows down the creative processes, are the main problems in regard to creativity. As it was proved, creativity is not an individual feature and it depends on the system. It feels that in the case of the organizations from the public sector, it is destroyed before it even appears.

In conclusion, the analysis revealed that there are the gaps in organizations from the public sector in meeting the conditions for innovations and there are also several barriers that hinder the innovations. With the current operational practices the organizations are highly effective in ensuring stability and efficiency. However, if they aim at being innovative, the identified barriers should be removed or limited. That would provide space and opportunities for free exchange of ideas, trying new approaches and implementing new solutions. Obviously, there is no prescription for implementing an ideal innovative system and one can expect unwanted side effects from any change. Therefore, the change should be implemented gradually and with respect to the local circumstances. Benchmarking between those cities, who would like to improve but do not know how and those, which have already implemented some elements of the dynamic system could be encouraged. Closer evaluation of the dynamic practices could also help identifying those, which are beneficial for the public sector and fit with the responsibility for the taxpayer's money.

5.3.2 How to overcome barriers for innovations in organizations from the public sector

In addition to the research questions, four working hypotheses were set. They are:

H1: The city administration is not innovative enough to deal with the new challenges

H2: There are several systemic barriers for innovations in the city administration

H3: Good examples will help identifying the drivers for innovations in the city administration

H4: In order to survive in the future, public sector needs to evolve from the system with the predominant mechanistic dimension into the system with the predominant dynamic dimension.

All of the working hypotheses were strongly supported by the research material. All of the Interviewed Experts noted that the organizations from the public sector are not ready to deal with the new challenges and the described way of operations, evaluated through the lenses of the theory, confirmed it. Several barriers for the innovations in city administrations were defined and some good examples helped identifying the drivers.

At the same time, as it was assumed the city administration needs to get inspired by the private companies and introduce more elements of the dynamic system into its operations. Most likely the change will happen gradually, even though the revolution could be more effective.

Recommendations

To overcome barriers for innovations in organizations from the public sector, several systemic changes should be implemented. In addition to the general rule that the predominance of the mechanistic system should be limited and balanced by enhancing the elements of the organic and dynamic systems, more concrete practical recommendations can be provided:

1. Organizations from the public sector should invest in the development of their human resources. It can be achieved by providing professional development programmes, which include capacity building training and reward system. Talent recognition and development should be part of the public sector, as they are in the private business. More risk-takers and creative people with different background should be hired. That would require following actions:
 - developing training and reward system,
 - updating the job descriptions and division of responsibilities between the staff,
 - training of the recruiters.

It is very important to highlight the need of the comprehensive reform of the organization, as the solutions proposed above would not be effective without transforming the other parts of the system, e.g. managerial model, mindset and work division.

2. Experimental mindset and culture should be accepted and promoted as the preferred one. In practice it would mean that the fear of mistakes would be eliminated and testing different approach would be allowed. The city administration should be open to ideas coming from outsiders: experts, partners, stakeholders and citizens. This can be achieved through:
 - introduction of the venture capital or grants for experimentation,
 - system of reward for new ideas and creative solutions,
 - revision of the legislative barriers for experimentation,
 - creating channels and processes of involving outsiders into brainstorming and decision-making processes,
 - allowing spending some time for development of one's own projects and peer-exchange or peer-education,
 - creating Departments of the Future, cross-sectoral units responsible for thinking about the future.

3. Top managers should be brave leaders with vision and commitment to change and who are able to inspire the others. Today, the managers become the top bosses in the recognition of their long work for the organization, obeying the rules of hierarchy or political loyalty. They often lack the awareness about the challenges the public sector faces, as well as capacities to run their organizations in the innovative way, including boosting the processes suggested in point 1 and 2. To change it, the following actions should be implemented:
 - hiring good general managers with experience in private sector,
 - obligatory process of job rotations within the organization and outside,
 - trainings and peer-support programmes for the managers.

4. Work division that allows more time for brainstorming and implementing instead of planning and reporting should be implemented.

This refers to the other changes and, like any other recommendation, cannot be implemented on its own. The work division can be altered only if the system becomes less mechanistic and the amount of requested reports as well as plans is reduced. This can only be achieved if the trust is improved and the capacity of the staff and leaders allows moving to a more dynamic system. The following actions can be proposed to make this happen:

- simplifying the reporting procedures by making the report shorter, recording instead of writing, unifying the reports – one universal report instead of many different sent to various institutions,
- following the delivery of the main result without the detailed control about the actions,
- general planning for five – ten years, which gives the frame for the acceptable spending but at the same time allows spontaneity and flexibility,
- reorganizing the work into the teams with the objective to find the solution to the problem,
- decreasing the amount of formal meetings and controlled relations and introducing the channels and arenas for informal exchange.

Most of those solutions might sound new for the public sector but in fact they are not very revolutionary and impossible to implement. The city administration should not be afraid of trying them remembering at the same time that fragmented solutions introduced against the context and conditions cannot be effective. Only the proper recognition of the environment and the needs, combined with the training can bring positive effects.

The main lesson from the Causal Layered Analysis is that we need to change the metaphor and/or myth, if we want to change the system. This means that the dominance of the *Locked Tower* and the *Turtle in the City* should be limited. Instead, politicians, managers, staff and citizens – the society in general – should accept that the *The Ice Is Cracking* and the new – *Open and Fearless* are coming. The superiority feeling of the *Locked Tower* and the fear of the *Turtle in the City* must be replaced by freedom and trust. Only then, the real transformation is possible. As the transformation of myth is a societal process, it might take a generation and lots of work but the study suggests that it is worth investing time and energy into it.

On the other hand, the risk and dangers that the change brings should not be neglected. For many, finding itself in a new reality might raise fear and confusion. The *Open and Fearless* does not mean that the success will be produced without any effort and the city administration will become a center of freedom and eternal happiness. The change might also generate chaos and confusion, which should be well managed in order to avoid

catastrophe. The cities should learn from each other's experiences and evaluate their transformative efforts ventures for the benefit of others.

5.4 Methodological considerations

The key objective of each research is to keep it trustworthy and conduct the analysis in the most objective way in the line with the principles listed by Lincoln & Guba (1985, 290): 1/ truth value – credibility, i.e. how the relations between the interviewer and interviewees might influence the quality of the material and the final outcome, as well as how the confidence is established; 2/ applicability, i.e. how the results of the study can be applied in different contexts; 3/ consistency, i.e. possibility for repetition of the findings when asking the same questions to the same interviewees and finally 4/ neutrality – to what extent the personal views either of researcher or interviewed experts might affect the final results.

All those aspects were taken into account and addressed when planning and executing the research in the following way:

Truth value – credibility

The credibility in the relations with the interviewed experts was achieved by approaching them in a professional way with the letter of invitation. This letter explained the objectives of the study, the way the interview will be conducted and the conditions for analysis and storing of the data. The anonymity was guaranteed to the interviewed experts, which was a very important condition to ensure that they will be willing to discuss their experiences in the open way.

Three out of seven interviews were conducted via skype, giving the interviewed experts an opportunity to talk from the environment they felt most comfortable in. The interviewer and interviewees could see and hear each other very well and there were no technical problems, which could generate frustration, panic or other discomfort. Other interviews were conducted face-to-face, three in the interviewees' offices and one in the office of interviewer. In all of the cases, the interview took place at the time given by the interviewed experts. As all of them are experienced experts, the use of English language or the fact that the interviews were recorded did not feel intimidating.

Applicability

Even though it is impossible to ensure the full applicability, and the context might differ so much that the use of the study results is irrelevant, the particular research seems appropriate for the European context, where the city administration works within very similar legal framework and with the same goals, priorities and challenges. The pan-European financial crisis hit the city administration in most of the countries of the continent in the same way. At the same time, the declarations, initiatives and actions of the European Union or Council of Europe as well as countless cross-border projects, unify the way the city administration operates. Of course, there might be certain variations about the applicability of the study results to the smaller or bigger cities and metropolises. The system of the latter shows many similarities with the national governments and their awareness, capacities and resources differ radically from the regular middle-size city, where the results of this study are most applicable.

To reach out to different contexts, the researcher conducted the interviews with people from Finland and abroad, all of them working in the international context to some extent and therefore referring in their experiences not only to what they see at home or in their particular city but also what they observe in general. There were enough similarities in the contexts and experiences found to assume that the results can be applied in different cities from different countries.

Consistency

The consistency was ensured in two ways. First of all, all interviewed experts received the invitation to the interview, which shortly explained its objectives and expectations. They had time to consider the topic of the research and ask additional questions before the interview. They were all asked if they understand it and feel comfortable with it and all the answers were positive. As all of the experts taking part in the interview are mid-level and senior experts, they were asked to reach to their wide and well established experience. They were not rushed and had time to think about their answers.

Secondly, the interview guide was constructed in a way that would allow detecting the possible internal inconsistency. The same questions were asked in a different way and in different contexts to examine the different aspects of the system and uncover different layers of CLA. The interviewer was focused and able to react in case the inconsistency would appear. In a situation like that, the interviewee would be asked to comment on the differences in their answer. This did not happen in any of the seven interviews.

Neutrality

The study intentionally sought personal views, opinions, stories and metaphors describing the reality of city administration from the interviewed experts as this are the objective and sense of the Causal Layered Analysis. However, the interviewees were not influenced in any way to share the stories they did not want to, to open more than they are ready or to say something provocative for the sake of the attractiveness of the material. In this respect, the neutrality of the interviewer was ensured by following the interview guide and sound approach towards the theoretical framework during the interviews and when analyzing the material.

Limitations

Even though the author focused on providing the highest quality of the research as described above, certain limitations must be acknowledged. The research was conducted only by one researcher, and the sample size was not big, not fully representative either. The duration of the interviews limited to one hour and the interviewer met with the interviewed experts only once. The collected material was analysed with the use of the qualitative method, which flexibility might have led to the biased categorization of some opinions and views presented by the experts during the interviews.

As the Causal Layered Analysis is not a method to forecast the future, it should be used in combination with the other methods, e.g. scenarios (Inayatullah 2004, 43). This was not done in this research. Consequently, the four images derived from the analysis of the interviews are not the future scenarios *per se*. The future dimension of the public sector was also neglected in the interviews, allowing the interviewed partners to elaborate on their past and present experience, with expressing the wishes about the future state. This aspect could have been added to the interview guide, allowing the author to discuss the future of the public sector better. Finally, it was not possible to collect the good examples (good practices) that could serve as an inspiration to the city administrations, even though this question was asked during the interviews. The answers were either too general to be used or the provision of the example would allow identification of the interviewed expert who shared it.

5.5 Suggestions for further studies

The presented study can be considered as an initial research of the issue that deserves wider examination on many levels. The results are general and the recommendations universal for the city administration in the European context. However, the broader and deeper analysis of the country-specific or city-specific level is suggested to fully understand the needed reforms and how to avoid the implementation gap between innovative processes or foresight activities and their presence in the strategies or action plans. The issue of political influence could also be studied in more detail, as politics and democratic processes have impact on the operations of the city administration. The limits of legislation or, on the other hand – the opportunities it offers – could also be explored. There is a common assumption that the law might allow more than the leaders and staff are aware of and exploring those areas could be liberating. Evaluation of the job description and the recruitment processes could be conducted to find out how to improve those areas of the system.

Moreover, the study on how to transform the system in the risk-avoiding cultures (see Hofstede 1983) could be an interesting and practical piece of research. All in all, the management of chaos is such an important topic that it definitely deserves more attention also in the context of public sector.

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Master Thesis:

How to overcome barriers for innovations in organizations from the public sector

INTERVIEW GUIDE

RESEARCH QUESTION	INTERVIEW QUESTIONS
<p>1. What are the main barriers for innovations in public sector organizations? In which part of the organization's system are they located?</p>	<p>What is your experience in working with the public sector organizations?</p> <p>Do you think that the public sector organizations should be innovative? Why, why not?</p> <p>Are they?</p> <p>How would you describe the organization you work/worked for?</p> <p>How would you describe the communication within the organization?</p> <p>How would you describe the relations within the organization?</p> <p>How would you describe the leadership?</p> <p>How hierarchical was/is the organization?</p> <p>How the planning process looked like? Did you find it useful?</p> <p>What were the main sources of frustration?</p> <p>Where is/was most of your time at work going to:</p> <ul style="list-style-type: none"> - reporting - implementing - brainstorming - planning - explaining to the management - contact with other colleagues <p>When most of your time at work should go:</p> <ul style="list-style-type: none"> - reporting - implementing - brainstorming - planning - explaining to the management - contact with other colleagues

	<p>Do you think there is something in your job or in other organizations that you observe that is a barrier for innovations?</p>
<p>2. What are the main motors for innovation in the public sector organizations?</p>	<p>What's the most common ways of managing, that you have observed?</p> <p>Do you think that public sectors organizations realize the full potential of their human resources?</p> <p>From your experience, what should be improved?</p> <p>How to create conditions for openness for change among the leaders?</p>
<p>3. How the system of public sector organizations influences their ability to embrace, implement and produce the innovations?</p>	<p>Do you think that public sector organizations are prepared to deal with the new challengers? Are they ready for the new times?</p> <p>Are the new ideas appreciated?</p> <p>Who are the leaders? And what do they promote?</p> <p>Do they promote interest, inspiration, commitment (energy flows) or are they focused on controlling?</p> <p>What is prized – individual effort or team work?</p> <p>Communication flow, exchange of information. – creative collaboration methods</p> <p>People chosen because of their knowledge or competencies?</p> <p>Are the bottom-up initiatives appreciated and co-creation supported?</p>
<p>4. What kind of measures would help the organizations to reduce these barriers?</p>	<p>Do you agree with the statement that the managers must start to love change? What it should mean in practice?</p> <p>How the people working in the public sector organization can influence this process of change?</p> <p>Do you have any example of well-managed organization or an innovative process you witnessed?</p>



Master Thesis:

How to overcome barriers for innovations in organizations from the public sector

Researcher: Karolina Mackiewicz Supervisor: Professor Petri Tapio

Please tick box as appropriate

I confirm that I have read the invitation letter with information about

I understand that the information provided in this study is audio recorded and I agree on this procedure.

I am satisfied that I understand the information provided and have had enough time to consider the information.

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason, without my legal rights being affected.

I understand that the information I provide in this study will be stored, including in digital format. I understand that any information that makes me recognisable as a person is treated confidentially and will only be shared anonymously within publications.

I agree to take part in the above study and I understand that the information I provide will be used by Karolina Mackiewicz as a part of her Master Thesis.

Name of Participant:

Date:

Participant Signature

Name of Researcher:

Date:

Researcher Signature

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