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CHALLENGES OF COLLABORATIVE INNOVATION IN THE PUBLIC SECTOR: EMPIRICAL FINDINGS FROM THE PRIVATE SECTOR PERSPECTIVE

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Abstract

The purpose of this paper is to increase knowledge of challenges of collaborative innovation in the public sector from the private sector perspective. Collaborative innovation in the public sector refers to opening the innovation process up to multiple actors such as private companies, third sector organizations, citizens, universities and research institutions instead of keeping it within the boundaries of a particular governmental organization. The knowledge of collaborative innovation in the public sector is scarce so far. Empirical knowledge of the challenges from the private sector perspective is scarce in particular. The present study addresses this knowledge gap. It is based on empirical material collected from 20 private sector informants involved in collaborative innovation in the public sector. As the result, this paper identifies several challenges of collaborative innovation in the public sector and describes them. The results of this study have a practical implication especially to urban policy makers and developers, companies and third sector organization collaborating with cities, as well as educators in the field of innovation and urban development. The findings have also a significant relevance to universities since they are widely involved in collaborative innovation in the public sector, and often they initiate and coordinate such collaboration. This paper first reviews the literature of the nature of innovation in the public sector, the special characteristics of public sector, and collaborative innovation in the public sector. Next, it explains the empirical method. Then, it describes the empirical findings on challenges of the collaborative innovation in the public sector, from the private sector perspective. After that, it draws the final conclusions.

Keywords: Collaborative innovation, Public sector innovation, Open innovation, PPP public private partnership, Smart City, Innovation networks, University-Industry Collaboration, Higher Education.

1 INNOVATION IN THE PUBLIC SECTOR

The definition and distinctive characteristics of innovation in the public sector is explained by Potts and Kastelle (2010) [1] as follows. The central concept of public sector refers to the coordination, production and delivery of goods and services by publically owned and accountable organizations. Indeed, the public sector refers to the civil service and public administration as funded by public revenues, such as taxes, as tasked with the coordination and delivery of policy mandates, a significant proportion of which are legacy policies. The differences of innovation in private and public sector include the following factors. First, the main motivation of the innovation in the private sector stems from creating new profit opportunities by creating new ways to create value to consumers of businesses. In contrast, the incentive structure of motivation and accountability, the innovation context distinguishes the public sector from the market sector. Incentives to innovation in public sector organizations are those of internal career politics and upward mobility in management within an extant hierarchy. Second, there is a weak incentive to develop and champion new ideas so as to seed innovation and induce cooperation through leadership. The main incentive to public sector innovation is not to add value to consumers, as in the private sector, but rather to signal qualities of intelligence and leadership within an internal promotion game focused on the organizational head of a department. Public sector innovation may turn into an internal "signalling game" [2] of differential promotion in a hierarchical organization. Third, the contexts of experimentation and failure between market and public sector innovation are different. Innovation is about experimenting and learning. There will always be failures in this process. In the private sector, the risk is carried out by the financiers, and failure is a natural cost of doing business provided that learning occurs from which to derive new opportunities. In the contrary, the public sector tends not to encourage experimental learning. Failure is particularly expensive in the public sector due to negative media exposure and opposition monitoring. Success through innovation is therefore valued less because political champions are likely to claim that for themselves anyway, but the avoidance of failure is highly valued because of accountability [3,4]. Consequently, the avoidance of failure is an organizational priority [1].

The public sector has adopted also ideas of open innovation [5] in various ways [6]. Open innovation means a paradigm which assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology [7]. Lee et al. (2012) [8] examined how open innovation is manifested in the public sector in several Western World countries, and found that the open innovation approach, especially when it includes involving the potential users of the services, can be a useful way to strengthen the public well-being sector to meet the future challenges.

2 CHARACTERISTICS OF PUBLIC SECTOR

The public administration has an important role in boosting innovation in the economy and at the same time, it should trigger innovation itself in the public organisations in order to increase productivity, to improve efficiency, to enhance the creation of public value and thus to meet the society challenges [9]. However, the nature or operation and decision making in public organizations have certain special characteristics compared to the private sector. Private companies have smoother decision making processes while public organizations experience more turbulence, interruptions, recycles, and conflict [10,11,12]. Nutt and Backoff (1993; in Nutt, 2006, 291-294) [13,14] explained the following characteristics of public decision making processes in comparison with the decision making in the private sector organizations.

- Decision makers are obliged to seek out the views of people in controlling bodies in public sector organizations
- Competition shifts to collaboration in a public organization, so key players must have a role in suggesting alternatives.
- Limited availability of performance and intelligence data in public organizations
- The need for consensus increases in public organizations
- More time is required to balance user needs with demands of the controlling bodies in a public organization
- Alternatives are more likely to be revealed as they are identified in a public organization
- More people are involved in decision making in a public organization. Everyone has an ownership stake in public organizations
- Clarity about the desirability of an alternative declines, increasing the time to make decisions in a public organization
- Search time and resources are more limited in a public organization

The public sector plays an important role in generating innovations to tackle today's emergent and persistent challenges, for example the unstable global economy, climate change, and crime. Contemporary societies are becoming increasingly dynamic and complex in nature and the demands for public sector innovation are ever-growing. Furthermore, many governments are facing additional pressure to produce cost-effective solutions due to budget constraints caused by the financial crisis. Indeed, innovation in the public sector has become a topical subject of interest and is climbing towards the top in many governmental agendas. Even though the public sector has produced numerous celebrated innovations, it is argued and widely acknowledged that standard government solutions and the traditional ways of innovating in the public sector will not suffice in the face of the new emerging challenges and the citizens' rising expectations for public services [15,16,17,18].

The discussion on the public sector is often filled with strong preconceptions and stereotypes. Many attempts at explaining the public sector's shortcomings and figuring out how to improve public sector activities such as innovating are based on the assumption that governmental organizations are being outperformed by their private sector counterparts in various functions. Hence, comparing the public and private sectors in e.g. organizational, cultural, and strategic aspects has become an essential part of the literature on the public sector and a burgeoning field of study in its own right [19,18,15, 20]. While it is fairly safe to assume that some of the stereotypes associated with the public sector are true, at least to a certain extent, there are also opinions and research suggesting that the differences may not always be as prominent as one might think. Some organization and management theorists have even argued that the public-private distinction is unnecessary and that generally there are more similarities than differences between the sectors [21,22,23].

3 COLLABORATIVE INNOVATION IN THE PUBLIC SECTOR

Various reasons for the public sector's inability to respond to its innovation demands have been presented in the literature on public sector innovation. The public sector is considered highly bureaucratic by many and often associated with characteristics such as red tape, inertia, and top-down hierarchy [17,18]. The bureaucratic nature of most governmental organizations has been identified as one of the primary limiting factors to innovation within the public sector. Bommert [15] argues that bureaucratic governmental organizations tend not to take full advantage of all the innovation resources that exist at various levels within the organization and outside its borders as the innovation efforts primarily reside at the top of the organizational hierarchy - this results in reduced quality and quantity of the generation, implementation, and diffusion of new ideas. Furthermore, a risk-averse organizational culture and poor skills in risk and change management are common in the public sector and considered barriers to innovation [21]. In their empirical study on collaborative innovation in cities, Ojasalo & Kauppinen [24] discovered that cities' organizations often lack systematic tools for cultivating innovation. They (ibid.) found out that city officials and employees are not blind to the need to foster innovation and are actually frequently identifying problems that have potential to turn into innovations when solved, but there seems to be a lack of methods and systematic approaches to take the innovation process to the next step which results in missed opportunities.

Collaborative innovation has emerged as a potential new way to help the public sector meet its innovation needs. Collaborative innovation in the public sector is based on the idea of opening the innovation process up to multiple actors such as private and third sector organizations and citizens as opposed to keeping it closed i.e. strictly within the boundaries of any particular governmental organization. The involvement of external actors in the innovation cycle increases the amount of both intangible and tangible innovation assets the public sector has at its disposal. In fact, the availability of the right kind of assets and matching them with problems are key in collaborative innovation and take priority over formal rules and roles of bureaucratic organizations [15].

The idea of collaborating with external actors is not particularly new in the public sector and the early examples can be dated back to the Roman imperial period, whereas more recent examples include e.g. various networked approaches to governance in which the utilization of assets across organizational boundaries is being emphasized. Opening processes and systems up to external actors with innovation-specific goals in mind has its origins in the private sector [15,16]. For example, Chesbrough [25] has presented the concept of Open Innovation that can be considered the polar opposite of the traditional approach in which innovations are generated through companies' internal research and development activities. Open Innovation is based on the idea that companies should utilize both internal and external ideas and paths to market in their quest to advance their technology and create value.

Collaboration has the potential to enable synergies in which the public sector together with various external actors can produce greater results and achieve more than what the sum of their individual efforts would be [16]. According to Bommert [15], collaborative innovation is a suitable approach for the public sector as it helps overcome the organizational and cultural barriers that restrict innovation in the public sector. Furthermore, the collaborative approach to innovation is beneficial for the generation, selection, implementation, and diffusion of ideas. Sørensen & Torfing [18] present similar arguments and also note that the collaborative approach helps in identifying problems and challenges as well as assessing risks and benefits as it enables a broader perspective than innovating in-house.

Collaborative efforts between government and external actors are not free from challenges. The sharing of discretion between the parties involved can cause certain managerial difficulties as there is no fixed rule that determines how discretion should be dealt with. If the decision making of any particular effort is completely one-sided, it cannot be called a collaboration but rather a contract. However, finding out how to deal out discretion requires careful thought and balancing [16]. Another potential challenge to collaborative innovation is that actors from different sectors may have differing or contradicting interests and ideas how to utilize and disseminate the results of the innovation activities. As Bienkowska et al. [26] found out in their study on public-private innovation in Sweden, it might be problematic to find a hybrid order in which the private and public sectors' ways of using research results are in a symbiosis that is mutually reinforcing in nature. Hennala et al. [27] researched multi-actor involvement in public sector innovation processes and came to the conclusion that it can be challenging to create and maintain collaborative innovation processes that are perceived as equally beneficial to all parties involved.

Collaborative innovation is also a hot topic in the Smart City discussion and Erkkilä [28] considers the potential for collaboration a key element of a smart city. A connection between smart cities and collaborative innovation can also be identified in the social inclusion aspects of Smart Cities programs. According to Ojasalo & Kauppinen [24], urban innovation is at the core of the Smart City concept and can benefit greatly from collaborative approaches. The perceived benefits are numerous and they (ibid.) have organized them into four categories: novel services/products/solutions, economic gains, urban and regional development, and systemic improvements and process improvements.

4 METHOD

This paper emerges from a 2-year research project on open innovation platforms in Smart Cities. The project addressed several objectives. The research method is qualitative and based on data from in-depth interviews and co-creative workshops [29]. The overall data of the research project include 65 in-depth interviews from the following countries: Finland, Spain, Netherlands, China, Italy, Denmark, USA and Australia. The interviews were audio recorded and transcribed for later analysis. The interviewees also had a chance to make drawings during the interviews. The drawings were photographed, collected, and interpreted in the analysis. The informants represented public, private and 3rd sector, as well as innovation platforms and research institutions.

The informants were selected based on their experience or expertise in innovation in the cities, public procurement, Living Labs, or other type of innovation intermediaries in the city context. The interviewees include persons from the city government, private companies, 3rd sector organizations, innovation intermediaries, as well as research institutions. Interviewees selected from the city government had experience or expertise in innovation, urban development, and collaboration with private/3rd sector organizations. Interviewees selected from the private sector had experience or expertise in collaboration with cities. Similarly, interviewees from 3rd sector had experience or expertise in collaboration with the cities. Interviewees from innovation intermediaries had experience or expertise in Living Labs or facilitation of collaborative innovation networks. Researchers interviewed were academics who have examined innovation intermediaries or urban development.

Interviews took around 1-3 hours. In addition to in-depth interviews, the data of this paper include material from 4 co-creative workshop addressing innovation collaboration between cities and external actors. The data of the workshops include the transcriptions of selected parts of the workshops, notes, photos on written and drawn material during the workshops, as well as written summaries of the main conclusions of the workshops.

From these 65 interviews the 20 private sector interviews represented the private sector and they were analysed in research reported in this paper. Thus, the results reported here are based on analysing the data from 20 informants representing the private sector.

The data were analyzed by open coding and selective coding, in terms of the grounded theory method [30]. "Open coding" or initial coding is described by Glaser [ibid., p. 56] as follows: "The goal of the analyst is to generate an emergent set of categories and their properties which fit, work and are relevant for integrating into a theory". "Selective coding" on the other hand, means that: "...analysis is guided by the core variable. Selective coding significantly delimits his [i.e. the analyst's] work from open coding, while he sees his focus within the total context he developed during the open coding". Thus, the effort moves from the general to the focused. The purpose of the "open coding" or initial coding in this study was in discovering a potential initial solution to be proposed for the existing knowledge gap, in other words, how to connect a city government and external actors for innovation collaboration. We identified a potential to propose an open innovation platform which contains an intermediary round table as a key element. With this initial idea or interpretation in mind the focus shifted to "selective coding". This included finding empirical clues from the material in hand which help in proposing the nature and structure of such innovation platform. As the result, we come up with a proposal of a model described in the next section (ibid.).

5 EMPIRICAL FINDINGS

Next, we describe the findings on challenges of collaborative innovation in the public identified in our study. These findings emerged from empirical research conducted among private sector actors involved in such collaboration. The results were presented in Kähäri (2017) [31]. They represent the private sector perspective to collaborative innovation in the public sector. The main challenges identified from the private sector perspective are

- Organizational Silos in Cities
- Rigidity, Hierarchy, and Bureaucracy in Cities' Organizations
- Legislative Challenges
- Negative Attitudes Towards the Private Sector
- Resistance to Change
- Lack of Openness in Market Dialogues
- Cities' Procurement Policies Favor Big Companies
- Short Contract Periods Limit Long-Term Commitment
- Issues with the Sustainability of Ideas and Successful Projects
- The Current Metrics and Bidding Criteria Limit Innovation
- Lack of Conformity and Scalability in Cities' Systems and Processes
- Public and Private Sectors Operate at Different Paces

Organizational Silos in Cities. The data suggest that it is common for cities to be organized in silos that operate independently from each other and might have differing agendas that guide their actions and decision making. Rather than being single entities with a common set of problems, challenges, and needs, cities are perceived to comprise a diverse group of operators, bodies, and organizations that – even though existing under one umbrella – do not necessarily communicate with each other nor work together towards shared goals. From the point of view of an outsider, for example, a private sector supplier, crossing the borders between different silos and departments within a city seems arduous due to the various conflicts of interest that exist and prevail within the organizational structures.

The very logic based on which the cities' organizations are formed is considered suboptimal for customer-centric service development; a large portion of the data and findings collected by working with the citizens as well as suppliers is being underutilized as it is not distributed and shared across the silos. Even though it is acknowledged that a will to do good exists and good work is being done in cities, it is the cities' organizational structures that prevent the ideas and work from reaching their full potential. The aforementioned underutilization of data is most prominent when there is no clear managerial body that sees the big picture and administers the city as a whole.

Rigidity, Hierarchy, and Bureaucracy in Cities' Organizations. The typical organizational structures of cities are considered rigid and hierarchical which might be detrimental to innovation and collaboration efforts with external actors. Cities' organizations are facing challenges to cope with the pace at which the world outside along with its needs are changing, because the cities' internal logic, skills, and processes are changing and developing slowly if at all. One interviewee noted that, in their experience, many people employed by cities have joined the organizations years or decades ago when the organizations have been very different from what they are - and more importantly, should be - today, but somehow their positions and jobs have remained unchanged throughout the years even though they don't necessarily meet the requirements of the modern-day operating environment. The existence of the aforementioned positions creates inertia and is seen as a hindrance to the efforts of the people who actually have vision and insight on how to develop more modern and innovative processes and ways to work.

The hierarchical power structure in cities' organizations is another challenge identified in the data. From the point of view of an external supplier, carrying out projects or research and development activities with cities is difficult, because in order for any work to get done and projects to get started, strategic decisions need to be made but the people who actually have the authority to make the decisions are so high up in the cities' organizations that they are not involved in or concerned with individual projects. Several interviewees felt like the city representatives they have been working with have been open to new ideas and easy to work with, but at the same time powerless to make any decisions and get things moving forward which results in good efforts stopping dead on their tracks when approval to proceed is sought from someone higher up in the hierarchy who has no real interest in the project at hand.

Bureaucracy in cities' organizations is also considered a challenge. One interviewee noted that the cities organizations are actually full of innovative ideas but they tend to get lost in the red tape before ever being realized. Another private sector representative described a situation in which their company

was working on a project together with a group of city employees who were surprised and amazed at the level of liberty they were given to experiment and try out new things without having a group of higher-ranking city officials hold several meetings about it first. In this particular example, the subject of experimentation was a simple admission form that day care customers need to fill out which is something a private sector company would change immediately if it were likely to improve their customers' experience, but something that, in a city, would require long bouts of internal deliberation and the involvement of a large group of people with sufficient authority in the organization.

Legislative Challenges. The work carried out by cities is strictly controlled by rules, laws, and regulations which is considered a limiting factor to innovation and new ideas. In cities, the decision-making model is grounded in legislation, particularly, the national law on public procurement, and the data suggest that once decisions on any particular procurement project have been made, it becomes extremely difficult to have them overturned or changed going forward. This means that a large part of, for example, an innovation project is pre-determined and even though such projects tend to be dynamic and unpredictable in nature, they remain somewhat chained to the initially formulated set of rules as any drastic change might be considered a breach of contract from a legal standpoint. This results in situations where the city employees get extremely cautious about legal implications and have a reluctant attitude towards anything new that has not been covered in the guidelines set at the beginning of the procurement project in question.

Another somewhat limiting factor about the currently prevailing laws on public procurement that was identified in the data is that whenever cities are looking for innovative solutions, they are legally bound to go a certain route and follow certain processes in order to even find out what is available in the market. Whenever looking for a new solution or supplier, cities are obliged to do a certain amount of tendering which, on the one hand, supports equality, but on the other hand, means more work and resources used as the tenders need to be carefully planned and conform to the existing laws and regulations. Furthermore, the strictly pre-determined format of the cities' requests for proposals limits the solutions available – several interviewees reported instances in which great solutions have been disqualified in the tendering phase because they haven't met every detailed requirement set out in the request for proposal. The tendering process described above creates situations in which cities need to know exactly what they want to buy before actually buying it or even considering alternatives which means that great external solutions the city hasn't been able to think about internally are left out of the competition before it even starts.

Negative Attitudes Towards the Private Sector. The data suggest that in certain situations, city employees have somewhat negative and condescending attitudes towards external suppliers and partners, especially SMEs. Several interviewees felt like, when collaborating with cities, they have not been treated as equal partners but rather as inferior parties in the hierarchy which probably stems from the long traditions of hierarchical organizations the city employees are used to. The condescending attitudes are even more prominent when it comes to the relationships between cities and SMEs whose managers and staff are typically of the hands-on type and often busy and very much involved in their companies' daily operations, whereas certain city employees are more used to dealing with highly educated and seemingly important executives from big corporations.

It also seems like the cities' attitudes towards external suppliers may sometimes limit openness in communication – one interviewee reckoned that city employees might feel threatened and even jealous whenever someone from outside the organization gets involved, because they consider it a failure when their organization cannot solve all problems internally and have to resort to external help. The lack of openness works both ways and the data indicate that the problem does not lie solely in the cities' organizations; the private sector suffers from similar attitude-related problems and the lack of willingness to share all information and systems openly with the cities they are working with. The data also suggest that there are still city officers who cannot see any value in involving private or third sector suppliers in the city's activities which is also reflected in the way they communicate and serve the external suppliers.

Resistance to Change. Decision making in cities is perceived to be based on precedents and therefore the decision making logic follows the idea that something that has not been done before does not need to be done now or in the future either. New and innovative ideas tend to be difficult to fit into the currently existing pigeonholes and the data suggest that city officials are not comfortable dealing with things that cannot be easily categorized.

The perception in the private sector is that some city officials are reluctant and afraid to leave their comfort zones in pursuit of new innovations and improvements, so they prefer to stick to the old, tried-

and-tested ways of working that, while probably not optimal, at least get the job done somehow. Various new systems and methods to help with the procurement of innovative solutions are already in place in different cities, but it seems that unless made mandatory by the top management, the city employees responsible for procurement are reluctant to embrace and use them when their old ways work adequately, at least seemingly.

Lack of Openness in Market Dialogues. A certain lack of openness in procurement policies was identified as one of the key factors that limit cities' open innovation efforts. For example, cities organize market dialogues in which they engage in discussion with their suppliers in order to explore the current supply of solutions in the market and anticipate possible upcoming changes. Market dialogues should be based on the principles of openness and equality, but the perception within the private sector seems to be that the market dialogues are often carried out as mandatory formalities with no real intention of engaging in active dialogue between the suppliers, citizens, and other parties involved.

Several interviewees with experience in market dialogues noted that for tactical reasons, cities as well as private sector companies are often not willing to disclose enough information to create a setup for open dialogue. Even though the purpose of the market dialogue events is that the cities can present their ideas, challenges, new projects, etc. so that they can be openly discussed and improved on, they seem to have no real interest in hearing what the other participants actually think. The market dialogues are typically organized at a stage where the actual proposal or project in question has been so carefully prepared that making any drastic changes based on the external feedback is not realistic from the city's point of view.

Cities' Procurement Policies Favor Big Companies. While it has been acknowledged that small and medium-sized companies often have feasible and competitive solutions to cities' challenges, the current procurement policies seem to favor big companies. Firstly, cities tend to buy large solution packages in which numerous different services are procured under one tender – many SMEs are left out of the competition just because they can-not provide all services covered in the tender, even though they would be able to make competitive offerings on one or several smaller fragments of it.

Cities' procurement policies and tendering processes are considered complicated and heavy which also favors big companies with abundant resources. It seems like the sheer act of completing a city's request for proposal in such a way that it does not get disqualified due to some minor format error can take considerable amounts of man-hours which is discouraging and in some instances makes it downright impossible for SMEs to even offer their services let alone win the tender. One interviewee also noted that with some cities, winning tenders has become an art of technical competence in public bidding processes and it has become a matter of making the right tactical moves rather than offering the most suitable and competitive solution.

Short Contract Periods Limit Long-Term Commitment. The service contract periods between cities and their external suppliers are fairly short from the suppliers' point of view. Companies in the private sector would generally prefer long-term returns as well as relationship-building possibilities and the fact that, in order to keep their business, they have to regularly compete in a bidding setup after their contract period with a city comes to an end seems to be de-motivating as well as a limiting factor in terms of commitment.

The notion that cities are regularly changing their vendors may seem contradictory to the idea that public sector organizations are generally reluctant to change their existing setups and procedures. However, it is what the cities are obligated to do and in this instance the private sector opinion seems to be that extending contracts without having to go through the gruelling competition process every two years would be preferable if the collaboration seems to flow smoothly and holds potential for further development.

Issues with the Sustainability of Ideas and Successful Projects. A large part of innovation and R&D work done in cities is carried out in projects, and a tendency of letting the results fade away after a project's lifecycle was identified in the data. This is considered problematic by the suppliers involved in the aforementioned projects as they feel like there is often no sustainability to their work and ideas, no matter how successful they are. Even though the cities are themselves often invested and committed to the various projects they initiate, they do not seem to have adequate processes in place to utilize the results and turn them into ongoing and sustainable parts of their activities.

From the private sector point of view, sustainability issues have similar effects as the short contract periods; the lack of long-term prospects limits commitment. Some examples in the data also de-

scribed situations in which cities have not been completely transparent and open about their actual goals when ordering project work that is experimental in nature from their suppliers. If there are no real intentions and chances to turn a particular project into ongoing business, it would be preferable for the suppliers to know about it before committing to the project so they would have a chance to adjust their approach and allocate their resources accordingly or even decline the project altogether.

The Current Metrics and Bidding Criteria Limit Innovation. The way in which cities rank and evaluate proposals during the bidding phase is largely based on quantitative metrics which is, in many instances, considered insufficient. Large and sophisticated projects end up being defined solely by numbers while various important qualitative attributes are being neglected because the current procurement policies do not allow the suppliers to present them.

The price of the solution as laid out in the proposal seems to be the most important criterion when ranking proposals, but several interviewees noted that they have witnessed first-hand how choosing the cheapest alternative has proved to be costly in the long-term when failure to meet the qualitative requirements that have not been taken into consideration in the bidding phase has resulted in additional and unforeseen costs. The absence of qualitative metrics in the bidding phase does not mean that qualitative factors are not important to the cities – indeed it seems that the procurement policies are not always aligned with the actual needs and cities do appreciate flexibility and high quality in the work of their suppliers, but the suppliers rarely get to show what they can do and present their most compelling selling points in the bidding phase.

Lack of Conformity and Scalability in Cities' Systems and Processes. Cities' external suppliers find it problematic that there is a lack of conformity and scalability between different cities and sometimes between the various silos within one city. It seems that on a national level, most cities seem to be using different systems and different processes which creates extra work for the suppliers looking to provide services for multiple cities at the same time. Considerable effort is required to learn the city-specific lingo, systems, nuances, etc. which in other words means that what may work in one city may be downright impossible to implement in another one without considerable adjustments. The data also indicate that in some instances, there are significant differences within the organizational silos of a single city. Basic daily routines and tasks such as delivering invoices may vary from one silo to another.

Another conformity-related challenge identified in the data is that cities do not seem to sufficiently communicate and exchange ideas as well as good practices with each other. The lack of communication often results in reinvention of the wheel instead of using the resources on creating and developing something new. The data do not reveal any clear reasons as to why more communication and idea exchange is not taking place between cities, but there are implications that it might have to do with the generally negative attitudes towards seeking help from outside the city organization.

Public and Private Sectors Operate at Different Paces. The difference in the pace at which cities and their private sector suppliers operate creates certain challenges. For example, when a city launches a project, it might take them years of planning and development work before the results are actually implemented in practice, whereas companies in the private sector tend to carry their projects out in shorter cycles and also expect quicker returns and results.

The differing perceptions of time between the sectors can be challenging from a financial perspective, particularly for SMEs. The smaller the company, the more important a steady cash flow is and having a city as a customer often means that getting paid for the services rendered can take time due to red tape and slow processes. In some instances, the cities also expect their suppliers to do different kinds of development and ideation work that will only be paid for once the city is finally ready to buy the services – many SMEs are simply not financially able to operate like that.

6 CONCLUSIONS

The purpose of this paper was to increase knowledge of challenges of collaborative innovation in the public sector from the private sector perspective. The empirically based knowledge of this area is very limited so far, and there was a clear knowledge gap to address. The empirical research was based on empirical material collected from 20 private sector informants involved in collaborative innovation in the public sector. As the result, our study contributed to the literature by identifying twelve main challenges and explaining them. They were: organizational silos in cities; rigidity, hierarchy, and bureaucracy in cities' organizations; legislative challenges; negative attitudes towards the private sector; resistance to change; lack of openness in market dialogues; cities' procurement policies favor

big companies; short contract periods limit long-term commitment; issues with the sustainability of ideas and successful projects; the current metrics and bidding criteria limit innovation; lack of conformity and scalability in cities' systems and processes; and public and private sectors operate at different paces.

The following suggestions for further research emerged from our study. Firstly, a comparative study on the differences between private and public sector perspectives to collaborative innovation is needed. This would help orchestrating the innovation collaboration between the private and public sector actors. Secondly, the role and opportunities of digitalization in the collaborative innovation in the public sector requires more investigation. Thirdly, more knowledge is needed of how different actors in the private sector perceive the collaborative innovation in the public sector, for example corporations vs. SMEs/startups, service vs. manufacturing industries, and international vs. local companies.

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