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An Analytical Framework

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**Collaborative Innovation in the Public Sector: An Analytical
Framework**

By Eva Sørensen and Jacob Torfing

Working paper series from the research project Collaborative Innovation in the Public Sector (CLIPS)

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CLIPS' vision is to promote and advance innovation in the public sector in order to improve the public service and create new public policies. The scientific ambition is to shed light on the significance of learning-based cooperation, institutional design and public management of innovative processes in the public sector.

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- **Urban and rural development**
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The CLIPS project is managed by prof. Eva Sørensen, Department of Society and Globalisation, Roskilde University. The working paper series: studies in collaborative innovation are edited by prof. Eva Sørensen.

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Collaborative Innovation in the Public Sector: An Analytical Framework

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1. Introduction

The last decades have witnessed an astonishing surge in the use of *governance networks* at all levels and within most area of public policy making. Governance networks bring a plurality of public and private actors together in more or less institutionalized arenas of negotiated interaction that contribute to the production of public value (Sørensen and Torfing, 2007). Governance networks have received considerable attention among public administration researchers who claim that governance networks provide a pluricentric alternative to unicentric governance through public hierarchies and multicentric governance through markets (Kersbergen and Waarden, 2004).

Despite important precursors such as Heclo (1978) and Sabatier (1988), the research on governance networks only began in the early 1990s (Marsh and Rhodes, 1992; Kooiman, 1993; Mayntz, 1993; Scharpf, 1994). Over the last 20 years the research on governance networks has become increasingly fashionable and the research focus has shifted several times. The *first generation* of governance network research emphasized the contribution of networks to effective policy making (Provan and Milward, 1995; Rhodes, 1997; Scharpf, 1999). Governance networks facilitate the exchange and pooling of resources, coordination of policy initiatives and development of joint policy solutions. The *second generation* of research has focussed on the role of governance networks for democratizing public policy making by enhancing empowered participation, democratic deliberation and democratic ownership (Benz and Papadopoulos, 2006; Klijn and Skelcher, 2007; Warren, 2009). Although governance networks sometimes suffer from illegitimate exclusions and the lack of accountability, they may help to enhance the input and output legitimacy of public governance. A new *third generation* of research now seems to be emerging. It aims to investigate the innovative capacities of governance networks and explore when, how and why governance networks can contribute to innovation in the public sector (Hartley, 2005; Considine, Lewis and Alexander, 2009; Eggers and Singh, 2009).

The new focus on the innovative capacities of governance networks is very timely. Public innovation has become a hot issue and has moved to the top of the policy agenda in most Western industrialized countries. New technologies and scientific discoveries give rise to a lot of innovation in the public sector, but among researchers and practitioners there has been a growing emphasis on *actor-centred innovation strategies* emphasizing the roles of managers, employees and users. Management-driven innovation highlights the proactive role of strategic public managers. Employee-driven innovation endeavours to exploit the knowledge, competences and ideas of public employees. Finally, user-driven innovation aims to learn from and about the users in order to better understand their experiences, needs and preferences.

While recognizing the need for actor-centred strategies in the pursuit of public innovation, we do not believe that there is any privileged actor who alone can initiate

and drive innovation processes in the public sector. It is important to bring together actors with different experiences and ideas in order to develop creative solutions and it is important to involve all the potential veto actors in order to be able to ensure implementation. Therefore, we need to focus on how public innovation can be enhanced through *collaboration* between public and private actors such as users, street-level bureaucrats, public managers, elected politicians, private firms, interest organisations, etc.

Previously, the notion of collaborative innovation has been used in studies of how innovation in private firms can be enhanced through collaboration with regulatory public agencies, other firms and their own customers (Gloor, 2005). In our research *collaborative innovation* refers to network-based collaboration aiming to spur innovation in the public sector.

This paper aims to discuss the need and conditions for public innovation and to analyse how multi-actor collaboration can enhance public innovation through the facilitation of creative learning, the production of joint ownership and the exercise of metagovernance aiming to sustain drivers and remove barriers to collaborative innovation. Section 2 focuses on the needs and conditions for innovation in the public sector. Section 3 defines innovation, identifies the constitutive phases in innovation processes and highlights the role and impact of collaboration. Section 4 explores different theoretical advances in the social sciences that support the idea of collaborative innovation. Section 5 identifies some key dimensions in the analysis of collaborative innovation in the public sector. Section 6 provides some empirical insights into how collaborative innovation can be enhanced through organisational reform and innovation management. Finally, the conclusion presented in section 7 reflects on the ambiguous impact of New Public Management (NPM) on collaborative innovation and points to the need for the development of a NPM 2.0.

2. Innovation in the public sector

The *private sector* has always focussed on innovation, which is seen as a potent lever of product development, cost reduction, market expansion, higher sales and increasing profits. Many private companies have their own Research and Development departments and some of the largest and most successful firms such as Google and 3M permit their employees to spend up to 20% of their working hours on developing their own business ideas (Eggers and Singh, 2009). An increasing number of big companies such as IBM and Procter & Gamble have created external knowledge networks that help them to develop and implement new creative ideas in collaboration with users, scientific experts and public authorities (Nambisan, 2008).

Part of the neoliberal critique of the *public sector* has been to blame it for not being sufficiently dynamic and innovative. However, despite the stubborn myths about the public sector as an uninventive dynamic bureaucratic machinery characterized by red tape, inertia and stalemate, there is a lot of innovation in the public sector. Administrative reforms, policy changes and transformation of the content and repertoire of public services are frequent, and in some areas the public employees complain that the constant changes in rules, norms and standards create large pressures and stress.

However, in most cases public innovation is a result of more or less *accidental events*. The public sector is renewed in response to crises and scandals triggered by the mass media or external performance reviews. Public bureaucracies are transformed as a result of the heroic efforts of new executive managers who want to prove their worth by initiating public sector reforms. Spending cuts force street-level bureaucrats to cope with scarcity and find new ways of working smarter rather than harder. New processes and services are developed through local experimentation facilitated by a time-limited access to special purpose funding. This accidental character of public innovation demonstrates the need for a *new innovation agenda* that aims to turn innovation into a permanent and systematic activity that pervades the entire public sector.

There is a huge *demand for innovation* in the public sector since the public sector is confronted with at least three mounting pressures. First of all, the citizens have rising expectations to the quality, availability and effectiveness public services. The demand for tailor-made services and flexible regulations is also on the rise. At the same time, public resources are limited due to a combination of structural and conjunctural factors. Given the works extensive character of public service provisions, the public sector cannot produce the same high productivity gains as the private sector, which tends to define the general wage level. The economic recessions following in the wake of the financial crisis put further strains on the public finances and the available resources.

Second, the professionals, the public managers and the elected politicians have growing ambitions with regard to public governance. At the same time, society is becoming increasingly difficult to govern due to the growing complexity and fragmentation of social, political and economic processes, which is further accelerated by globalization.

Third, with the rise of what is generally known as the Risk Society, it becomes clear that a growing number of public tasks have the character of 'wicked problems'. Wicked problems are problems that are ill-defined, difficult to respond too, require specialized knowledge, involve a large number of stakeholders and carry a high potential for conflicts (Koppenjan and Klijn, 2004). Such problems cannot be solved simply by throwing more money and standard solutions at them.

Together the growing expectations and ambitions, the scarce resources and the surge of wicked problems foster an urgent need for enhancement of public sector innovation. Innovation is needed in both public services and in public policies. In addition, we must rethink and transform the production and delivery processes in the public sector and change the image, form and functioning of public organisations.

The urgent need for public innovation should not make us blind to the fact that some of the basic conditions of the public sector in its classical, bureaucratic form might actually *prevent innovation* (Halvorsen et al., 2005; Røste, 2005). As such, it is often asserted that the presence of bureaucratic rules and the lack of competition and economic incentives tend to stifle innovation. Another problem is that public services are relatively complex and based on statutory rights and, therefore, difficult to alter without causing all kinds of problems. Finally, the public sector is governed by elected politicians who are risk averse because there is an institutionalized political conflict and competition in the top of public organisations.

However, we should not forget that there are also important *drivers of innovation* in the public sector. New objectives and standards issued from above and the implementation of more rigorous forms of performance management force public agencies to change established rules, norms and routines. Pressures to innovate also come from within public organisations. As such, public managers and employees are well-educated people who are driven by professional values and ambitions that prompt them to improve their performance. The new innovation agenda provides a golden opportunity for the professionals to mobilize their knowledge and competences that recently have been suppressed by New Public Management reforms aiming to enforce rigid performance standards. Last but not least, the ‘customers’ in terms of citizens, clients and users are much more actively engaged in raising demands, providing critical feedback and co-producing public services than the customers in private markets. Whereas the former have access to a variety of voice options in terms of formal complaint systems, user satisfaction surveys and participation in user boards, the latter are merely using the exit option provided by the free consumer choice.

3. Public innovation through collaboration

As *innovation* is rapidly becoming a new buzzword in the public sector, there is a risk that the concept of innovation loses its edge and becomes synonymous with all kinds of change or transformation. Therefore, the study of collaborative innovation in the public sector must build on a rigorous definition of innovation. As such, we shall define innovation *as a more or less intended and proactive process that generates, implements, and disseminates new and creative ideas, which aim to produce a qualitative change in a particular context.*

This definition of innovation seeks to clarify a number of intriguing questions about what innovation actually implies. First of all, it maintains that innovation involves intentional action. The process of innovation is an open and unpredictable process that might involve several chance discoveries. Nevertheless, it is based on intentional actions through which different actors aim to respond to problems and challenges or to exploit new opportunities. Innovation involves a deliberate attempt to change, or even improve, the current state of affairs, but when multiple streams of problems, solutions and events are connected and worked upon, the result becomes a mixture of intended and unintended outcomes (Kingdon, 1984).

Second, the definition presented above makes it clear that innovation is not merely about getting a new and promising idea. To get a new and promising idea involves creativity, but creativity only becomes innovation when the new idea is implemented and disseminated and, therefore, capable of producing discernable effects. In short, innovation is defined as creativity plus exploitation.

Third, although innovation aims to bring about change, we are talking about second and third order change (see Hall, 1993). As such, innovation is not about doing or producing more or less of the same thing (first order change), but rather about changing the form, content and repertoire of services, processes or organizational routines (second order change) or transforming the underlying objectives or program theories on which

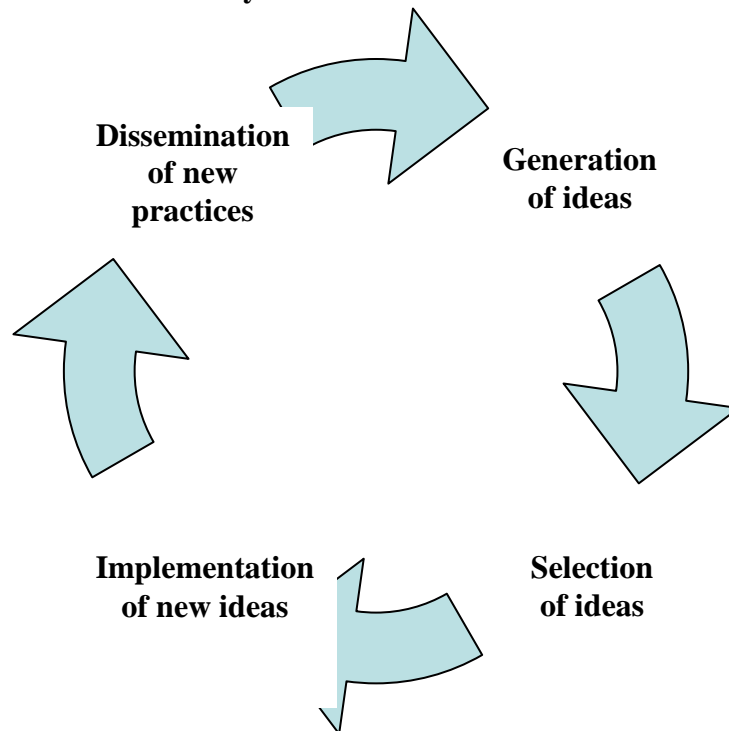
particular policies or services are based (third order change). In short, innovation involves the production of qualitative rather than quantitative changes.

Fourth, the above definition insists that innovation is always contextual. The new is not necessarily new to the world, but perceived to be new in a particular context. Although a new and promising idea have been generated and realized before or at another place, the implementation of the very same idea in a different institutional context clearly qualifies as an innovation. Not only will the design and adoption of a new practice in a particular context result in a qualitative transformation, but the process of transferring ideas always involves a context-dependent selection, combination, translation and adaption of the original ideas (Røvik, 1992). Hence, when public organisations are importing a new idea they usually end up doing the same as the exporting organisation, but in a slightly different way.

Fifth, although innovation carries a positive connotation, the definition presented above does not include anything about whether the consequences of an innovation are positive or negative. However, we may talk about successful innovations in terms of innovations that lead to a desirable result in the eyes of the stakeholders. Ideally, the outcome of public innovation should correspond with the preferences of the elected politicians, make life easier for the public employees, and create higher user satisfaction. In real life, however, politicians, public managers, street-level bureaucrats and users often evaluate the outcome of public innovation in different ways. The different evaluations are not only reflecting the relative gains of the actors that have been involved in the process of innovation, but also reflect the fact that innovation can serve different purposes. As such, public innovation can improve efficiency, effectiveness or quality and there are crucial trade-offs between these objectives (Mulgan and Albury, 2003).

Innovation is a non-linear, iterative and path-dependent process. However, as indicated in figure 1, it is possible to identify four constitutive phases in the innovation cycle (Eggers and Singh, 2009).

Figure 1: The innovation cycle



Generation of ideas involves the development, presentation and cross-fertilization of ideas, but the generation of ideas presupposes the identification of problems and opportunities, clarification of relevant goals and values and questioning of long-held assumptions.

Selection of ideas involves decisions about which ideas are worth pursuing. Ideally, ideas should be big, bold and transformative, while also being feasible, flexible and broadly accepted among the key stakeholders. As such, negotiation, compromise formation and conflict settlement are key features of idea selection.

Implementation of new ideas involves conversion of ideas into new procedures, practices and services. Changing existing patterns of behaviour is a difficult task that requires the exercise of leadership, the construction of ownership and the creation of positive incentives. Since many things can go wrong in the implementation phase, public innovators must be prepared to deal with uncertainties, unforeseen problems and temporary setbacks.

Dissemination of new practices involves the spread of innovation throughout an organisation or from one organisation to another. Spreading innovative practices requires highlighting of the gains obtained by first movers, establishing contacts to potential followers, and overcoming standard objections such as ‘we do not need any changes’ and ‘this is not invented here’.

Our basic thesis is that each of these phases in the innovation cycle can be strengthened through *collaboration* between the relevant and affected actors from the public and private sector (see also Eggers and Singh, 2009). The generation of ideas is accelerated

and enriched when actors with different experiences, insights and ideas interact through processes of creative learning in which ideas are circulated, challenged, transformed and expanded. The selection of ideas is improved when actors with different perspectives participate in the assessment of competing ideas and collaborative interaction facilitates the formation of agreements. The implementation of the selected ideas is enhanced when collaboration creates ownership to new initiatives and help to mobilize resources, ensure flexibility and compensate the losers. Finally, dissemination of innovative practices is propelled by social and professional networks and support from private stakeholders.

Collaboration is a potent driver of innovation in the public sector. Therefore, we need to explore the different *collaborative strategies* that public agencies may use in order to spur innovation. For this purpose Bill Eggers and Shalabh Singh (2009) provide a helpful overview of five different collaborative strategies:

1) *Cultivation*

The cultivation strategy aims to facilitate collaboration between different kinds of public employees within the same organisation, so that they can exchange and develop new ideas and test them in their everyday working life. The goal is to create time and space for collaborative innovation in proximity to, but outside the daily operations.

2) *Replication*

The replication strategy aims to foster collaborative relations with other public agencies in order to identify, adapt and implement their best and most successful innovations. Interorganizational collaboration helps public agencies to gain access to new things that work and makes it possible for them to find out why a new idea works and whether it can be implemented in their own organisation.

3) *Partnership*

The partnership strategy aims to develop and test new and creative ideas through collaboration between public and private partners, which have different rule and resource bases. The public partner may use the private partner as an incubator and experimental testing ground for new and creative ideas that if they appear to be successful can be adopted by the public partner as well, or realized through sustained cooperation between the public and private partners.

4) *Network*

The network strategy aims to facilitate the exchange of ideas, mutual learning and joint action through horizontal interaction between relevant and affected actors who have different kinds of resources and expertise. The driving force in the construction of networks is the recognition of interdependence, or the construction of a community of destiny that binds the actors together despite the presence of diverging interests.

5) *Open source*

The open-source strategy aims to produce innovation by using the internet to invite and recruit co-creators from around the world. In contrast to the network

strategy it is possible to include unknown experts and resource persons in innovative processes in cost efficient way.

The choice between the different collaborative strategies, or between different combinations of these strategies, depends on the time and place, the character of the innovation challenge, and the experiences and capacities of the public agency aiming to facilitate collaborative innovation.

4. Theories of collaborative innovation

The theoretical advances within different fields of study help to pave the way for the development of a theoretical framework for studying collaborative innovation in the public sector. Three fields of study are particularly interesting in this regard: economic innovation theory that focuses on innovation in private firms; politico-sociological planning theory that focuses on social and physical planning in urban and rural areas; and public administration theory that aims to understand the conditions for public governance. The theoretical developments within these three fields of study have much in common in the sense that they come to emphasise the role of collaboration for the enhancement of innovation. At the same time, the three bodies of theory offer complementary insights into collaborative innovation.

Economic innovation theory

The intellectual development within economic innovation theory can be divided into three phases. In the *first phase* Joseph Schumpeter (1946) and his followers studied the role of the individual and collective entrepreneurs in process and product innovation within private firms (Hagedorn, 1996). Innovation was defined as a 'new combination' and the individual entrepreneur, who is neither the inventor nor the owner, is responsible for the creative labour that leads to new combinations. With the advent of monopoly capitalism and large corporations the individual entrepreneur is transformed into a collective entrepreneur that exploits technological possibilities through the expansion of a cooperative entrepreneurship. In the *second phase* the focus is directed towards interorganizational collaboration between private firms and between private companies and public authorities and knowledge producers (Lundvall, 1985). The innovative potentials of industrial districts and clusters are emphasized, and the impact of national and regional systems of innovation is highlighted (Edquist and Hommen, 1999). In the *third phase* there is growing interest in how cooperation between private firms and their users can spur innovation (von Hippel, 2005). Some researchers go as far as to suggest that horizontal user innovation networks can function entirely independently from manufacturers (von Hippel, 2007).

The theoretical development in economic innovation theory has to an increasing extent seen innovation as a function of collaboration. The cooperative and systemic approach to innovation challenges the linear and supply-driven models of innovation according to which science leads to technology and technology satisfy new and emerging market needs. By contrast, innovation is seen as a result of multiple kinds of interactions that take the form of complex chains with numerous feedback loops that takes into account the new and emerging demands of the customers (Edquist and Hommen, 1999). The new approach to economic innovation grants public authorities a new and active role in

creating institutional designs that promote innovation through the construction of relations of interdependence, interaction and communication, which facilitate vertical and horizontal coordination and cooperation among actors with relevant resources and expertise. The emphasis on multi-actor collaboration in and through complex systems of interactive learning is an important source of inspiration for the development of a theory of collaborative innovation in the public sector.

Politico-sociological planning theory

Theories of public planning have been on a similar journey. *Traditional planning theory* was based on the assumption that it was possible to create growth and development in urban and rural areas by formulating and implementing rational and comprehensive long-term plans that were crafted on the basis of expert knowledge and linear projections and extrapolations of demographic trends (Davidorff and Reiner, 1962; Friedman, 1987). From the 1970s onwards this assumption was subjected to a growing critique because the comprehensive plans seldom produced the predicted outcomes. This was partly due to resistance from the local citizens and other lay actors, who did not have any ownership to the plans and the new infrastructural developments developed, and partly due to the fact that the comprehensive plans did not take the local conditions and dynamics sufficiently into account (Sager, 1999). The critics claimed that social and physical planning had to involve the local populations and key stakeholders and make systematic use of the practical knowledge that these actors possess.

The *most recent planning theory* takes a step further in its critique of the traditional planning philosophy. As such, it maintains that we must give up the very idea of rational and comprehensive long-term plans aiming at programming future developments and replace it with a more realistic understanding of planning in terms of an articulation of multiple and decentred transformation processes that create a continuous coordination and overall direction in a fragmented development process (Sievert, 2007). Such a planning process, which Patsy Healey (2009) denotes 'strategic planning', requires the establishment of a plurality of flexible connection points and overlapping governance processes. Empirical studies show that the innovative capacity of strategic planning processes depends on the inclusion of social and political actors that are characterized by a high degree of diversity and linked through networks characterized by a high density (Dente, Bobbio and Spada, 2005). Like the new economic innovation theories, the new planning theories also underscore the value of interaction and collaboration between different actors. However, it also draws our attention to the great difficulties associated with defining the objectives of complex transformation processes in general and innovative planning processes in particular. Innovation can be accelerated through an institutional and discursive framing of collaborative interaction, but it is impossible to determine in advance where the process will end and what the outcome will be. As such, the special contribution of planning theory to a theory of collaborative innovations lies in its emphasis on the open-ended and dynamic character of innovation processes.

Public administration research

Public administration theory has for a long time been occupied by the question of how changes are taking place, but the focus has been directed towards transformation of

public organizations and public governance. However, *traditional public administration theory* was mostly interested in identifying modes of governance and organisational principles that could create a stable and legitimate rule, predictable decisions, efficient governance and top-down control. Max Weber's ideal-typical bureaucracy model delivers on all counts due to its legal-rational foundation, rule-governed practices, horizontal division of labour, and hierarchical decision-making structure (Weber, 1978). Whereas Weber perceives stability as a positive contribution to public governance, Anthony Downs (1967) conceives the high degree of stability in public bureaucracies as a problem, because it prevents a dynamic adaptation of the public sector to societal changes and new conditions for public governance. According to Downs (1967), public bureaucracies tend to become bigger and bigger and large public bureaucracies have great difficulties producing change because they spend all their energy and resources on internal coordination and external boundary wars. In Downs own words, public bureaucracies become increasingly ossified.

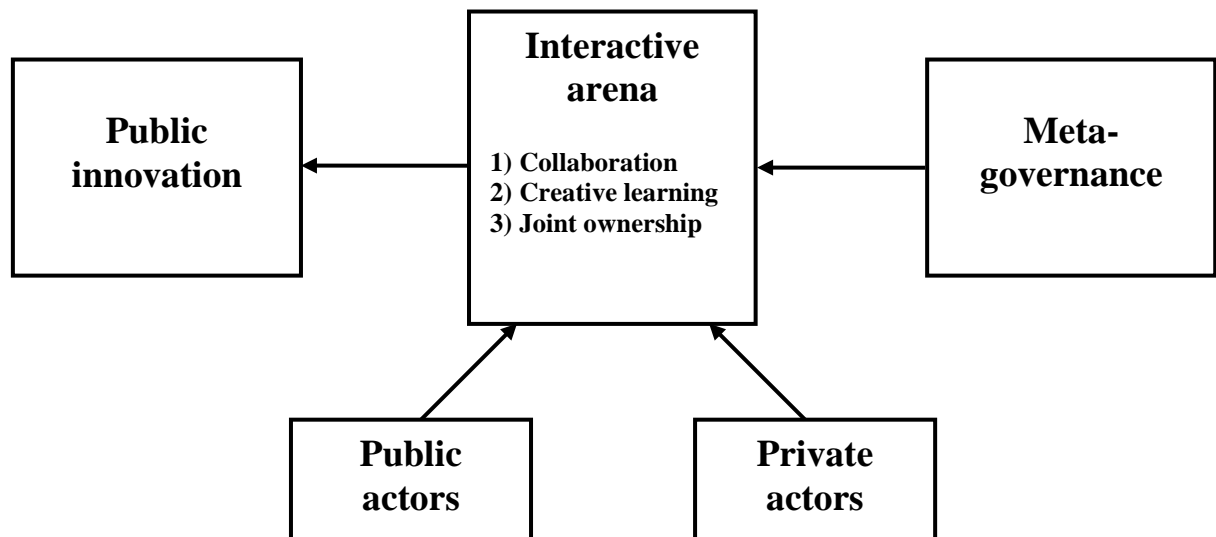
This kind of criticism of public bureaucracies informed the development of *Public Choice theory* (Niskanen, 1987) and the tidal wave of *New Public Management reforms* that from the late 1980s onwards aimed to reduce and reform the public sector (Pollitt and Bouckaert, 2004). The key ambition of New Public Management was partly to increase the use of market-driven governance mechanisms based on competition and free consumer choice in order to create a more dynamic and flexible public sector, and partly to develop new and more effective forms of public management based on performance contracts and performance-related salaries that enhance the motivation and entrepreneurial spirit of the public managers and their employees (Hood, 1991). However, seen from a public innovation perspective, New Public Management has two clear limitations: 1) it builds on a dogmatic assertion that the main source of efficiency-enhancing innovation comes from imitation of the competitive logic in private sector; and 2) it places the responsibility for public sector innovation solely in hands of the public managers.

Building on this criticism, the *new theories of governance networks* recommend that we take a more open approach to the questions of how innovation is created and who can contribute. The new networks theories have developed in response to the growing complexity of modern society and they claim that innovation can be enhanced through both competition and cooperation and that there are a host of actors such as public employees, users and private stakeholders who can provide crucial inputs to innovation processes (Hartley, 2005; Considine, Lewis and Alexander, 2009). Therefore, it is impossible to develop a generic institutional design for public innovation processes and it is impossible to appoint a particular actor as the key driver of innovation processes. As such, the role of public managers is not to produce public innovation all by themselves, but rather to create open and flexible arenas for interaction and collaboration between actors, who in different ways can contribute to public innovation (Nambisan, 2005). This kind of facilitating governance that aims to provide a political, institutional and discursive framework for collaborative innovation is exactly what the new theories of network governance calls metagovernance (Sørensen and Torfing, 2007, 2009). Metagovernance is defined as the 'governance of governance' and it is here that public administration theory can make a special contribution to a theory of collaborative innovation.

5. Analysing collaborative innovation

The study of collaborative innovation in the public sector is a new field of study that aims to create a theoretical interface between theories of network governance (Kickert, Klijn and Koppenjan, 1997) and studies of public innovation (Borins, 1998). Since the study of collaborative innovation in the public sector is still in its infancy, there is no commonly accepted framework for analysing the empirical cases of collaborative innovation. We cannot develop a comprehensive analytical framework for studying collaborative innovation here, but we can offer some theoretical and analytical reflections about how to approach the study of collaborative innovation. To this end, we shall recommend that empirical studies of collaborative innovation undertake a *backward mapping* of public innovation that aims to link different kinds of public innovation to interactive and collaborative network arenas that are metagoverned in a particular way in order to maximize the drivers of collaborative innovation and minimize the barriers. The advantage of this approach is that it aims to explain innovative outcomes in terms of collaborative interaction between multiple actors within particular institutional arenas, while paying attention to the role of a new kind of innovation management that is exercised through the metagovernance of the collaborative arenas. Let us have a closer look at the constitutive parts of the analytical approach that is summarized in figure 2.

Figure 2: Backward mapping of collaborative innovation in the public sector



Public innovation

The dependent variable consists of empirical attempts to produce public innovation. In order to be able to explain innovative outcomes we must select cases where the attempt to produce innovation is achieved and compare them with cases where the actual results are poor or absent. It is not enough to study award-winning success stories of public innovation (see Borins, 1998). We must also study ‘the dog that doesn’t bark’ in order

to check whether there are systematic variations in the conditions and processes fostering different outcomes in terms of public innovation.

The empirical cases of public innovation can be described in terms of the triggering events, the nature and content of the perceived problem or opportunity at hand, and the main driver of innovation. The study of collaborative innovation will focus on agency-driven innovations rather than innovations driven by new technologies and scientific discoveries. However, in real life there will often be several drivers and this will tend to increase the number of relevant cases defined as cases in which social actors have been involved in the production of more or less innovative outcomes.

The relevant cases of public innovation should also be described and categorized in terms of the type of innovation pursued. An important distinction can be made between policy, service, process and organisational innovation. Another distinction draws a line of demarcation between innovations that are initiated top-down by elected politicians or executive managers and innovations that are initiated bottom-up by mid-level managers, civil servants or users. Finally, public innovations can be described in terms of whether they are incremental and tend to follow and extend a particular path or whether they are radical in the sense of aiming to construct a new path.

Interactive arenas

When we have found and described a number of relevant cases, the next step in the analysis consists in identifying the actors that have somehow contributed to the process of innovation that produced a particular outcome. Social Network Analysis can be used to map the complex interrelations between the actors, identify strong and weak ties, and measure the centrality of different kinds of actors (Considine, Lewis and Alexander, 2009). The quantitative analysis of the patterns of interaction must be supplemented with a qualitative analysis of the institutional arena, which is both a medium and outcome of interaction. How are rules, norms, procedures and discursive structures shaped and reshaped in the course of interaction, and how are they supporting, stabilizing or preventing interaction? The analysis of the wider political and socioeconomic context of the institutional arena of interaction may also be relevant, but such an analysis is extremely time-consuming and the explanatory value might be rather limited. If cases are drawn from the same context the contextual analysis can be omitted.

At this stage in the analysis we have identified relevant cases of public innovation and mapped the network of actors responsible for the more or less innovative outcomes. In order to explain the innovative outcomes in terms of the quality of the social interaction we must analyse the *performance* of the network of actors that has been identified. The analysis should focus on three crucial questions: 1) How are the network actors collaborating with each other, and what are the conditions for collaboration in the face of diversity? 2) To what extent is the collaborative interaction facilitating creative learning, and how can creative learning be promoted when the participants have different resources? and 3) To which extent are the processes of collaborative interaction and the creative learning producing a joint ownership to new solutions, and what are the conditions for producing joint ownership in the context of self-interested actors?

The three questions hinge on three central measures of network performance: collaboration, creative learning and joint ownership. Let us briefly consider each of these measures in turn.

Collaboration is important because it involves cooperation through the exchange of information, resources and ideas; coordination of individual actions in order to produce synergy; and co-creation of new ideas and practices (Mandell, 2008). All three forms of collaboration can lead to innovation. Collaboration does not presuppose consensus and it does not necessarily result in the formation of consensual views. In fact, too much consensus tends to hamper innovation. Conflicts can be productive as long as they do not result in a 'dialogue of the deaf'. Conflicts may prevent or ruin collaborative processes, but as long as the actors are bound together by relations of interdependence or the presence of solidarity the disruptive effects of conflicts are negligible.

Creative learning is important because it involves the construction of new knowledge that may lead to new practices and to a transformation of the identity of the actors involved in the learning process. Jack Mezirow (2000) distinguishes between two kinds of learning processes. Instrumental learning is concerned with practical problem solving that is obtained through a revision of strategies and procedures. Communicative learning aims to construct a coherent understanding of social contexts and developments through a communicative search for themes, metaphors and narratives that give meaning to the unknown. However, both instrumental and communicative learning may result in an affirmative view of the world that tends to preserve status quo. Critical reflection is a condition for the development of transformative learning processes that stimulates creativity. Critical reflection questions tacit assumptions, challenges acquired habits and aims to toss metaphors that facilitate new interpretations and new ways of making sense of the world.

Joint ownership is important because it helps to reduce implementation resistance and promotes the adoption and spread of new ideas and solutions. The participating actors' ownership to new ideas and solutions depends on their active participation in the innovation process, and their ability to influence the process, the engagement and responsiveness of the other actors (Skelcher and Torfing, 2010). Active participation of politicians, administrators, private firms and citizens can be difficult to obtain and requires that the public and private actors can make good sense of the transformative process, its purpose and its underlying premises (Wenger, 1998).

Metagovernance

The contribution of the networked interaction processes to public innovation depends on the performance of the network, which can be measured in terms of its simultaneous facilitation of collaboration, creative learning and joint ownership. However, since collaborative innovation is a complex, precarious and potentially chaotic process there is an urgent need for metagovernance. Metagovernance can be defined as the 'governance of governance' as it involves deliberate attempts to facilitate, manage and direct more or less self-regulating processes of collaborative interaction without reverting to traditional statist styles of government in terms of bureaucratic rule making and imperative command (Sørensen and Torfing, 2009). In other words,

metagovernance is a new kind of *innovation management* that aims to enhance drivers and remove barriers while respecting the self-regulating character of the collaborative interaction processes. In principle, both public and private actors can exercise metagovernance, but the legitimacy and special capacities of public authorities give them a lead (Klijn and Koppenjan, 2000). The exercise of metagovernance involves a combination of *hands-off tools* such as institutional design and network framing and *hands-on tools* such as process management and direct participation (Sørensen and Torfing, 2009).

6. The need for organisational reform, role changes and innovation management

Our research project on Collaborative Innovation in the Public Sector (see www.ruc.dk/clips) aims to study empirical cases of collaborative innovation on the basis of the analytical approach that has been delineated in the previous section. The ultimate ambition of the CLIPS-project is to promote collaborative innovation in the public sector by exploring how different barriers can be removed through innovation management.

In order to provide an inductive starting point for our research, we have conducted an electronic Delphi study in which a panel of 150 academic and non-academic experts in public innovation have been asked to identify barriers to innovation in general and collaborative innovation in particular. The experts have been able to comment on a selected number of answers in a second round.

The Delphi study shows that the *structure and organisation of public agencies* provides a number of barriers to collaborative innovation and that organisational reform is mandatory. The economic barriers mentioned by the Delphi panel include short-term economic concerns, lack of energy and resources, limited positive incentives, and fiscal systems that prevent equal gain saving. Typical organisational barriers are the presence of organisational closure and silos, interorganizational conflicts and rivalry, a hierarchical structure with many veto points and an organization culture that celebrates perfectionism. The economic and organisational barriers give us an initial idea about how collaborative innovation can be enhanced through organisational changes.

The Delphi study also touches upon the *role and identity barriers* preventing different public and private actors from contributing to collaborative innovation in the public sector. Politicians are short-sighted and risk averse and ideological commitments prevent them from being creative. Public administrators are important, but they have little time. They often believe that they can do it all by themselves and that they already have got all the answers. As such, they have little faith in the contributions from the users and other private actors, they mistrust other professions, and they are generally afraid to loose power and unwilling to negotiate their professional ethics and quality standards. Users and interest organisations are normally quite interested in collaboration, but they have a narrow perspective and sometimes they only participate in order to gain access to particular resources. Private firms have important knowledge and a lot of resources, but no time for collaboration and a great animosity towards public bureaucracies that they associate with conservatism and red-tape. The many

barriers inherent to the different actors show how important it is to change their perception of themselves and each other.

Last but not least, the Delphi study reveals a strong demand for *public leadership and innovation management*. The Delphi-panel complains that public managers are too risk averse, that they are not involving the employees, and that they have too few network contacts. The Delphi experts call for a bold and visionary leadership in the public sector with more focus on innovation and crosscutting collaboration. Public managers have a crucial role in clarifying the expectations to public innovation and creating a clear division of labour between different public and private actors. They must also have an overview of the entire innovation process in order to remove bottlenecks. Some organisations are good at generating new ideas, but have problems selecting the promising and feasible ones. Other organisations have difficulties getting the new creative solutions implemented and spread. Public managers also have to motivate their employees to pursue innovation by creating time and space for innovation through the limitation of the number of objectives, tasks and performance indicators and by creating incentives for innovation in terms of gain sharing. Last but not least, public managers must encourage internal and external collaboration and empower mid-level managers to act as metagovernors in relation to collaborative innovation arenas.

As such, the new focus on collaborative innovation calls for a new type of innovation management that compares to traditional forms of bureaucratic management as shown in table 1.

Table 1: Comparison of bureaucratic management and innovation management

Bureaucratic management	Innovation management
Focus on programme management	Focus on problems and opportunities
Objective: Stable service provision	Objective: Service improvement
Instrument: Rule-based detail steering	Instrument: Regulated self-regulation
Create clear organisational and professional boundaries and resolve boundary wars	Encourage interdisciplinary project work and create borderless organisations
Hold on to stable and reliable employees	Nurture and recruit creative talents
Ensure coordination	Enhance learning
Enhance efficiency by eliminating slack	Create innovation by mobilizing slack
Take responsibility for organisational development	Facilitate collaborative innovation in networked arenas

The point of the comparison is not that public managers should stop exercising bureaucratic management and only exercise innovation management. Rather, the point is that public managers should combine both types of management in a flexible and reflexive manner.

7. New Public Management: friend or foe?

This paper has aimed to advance a new approach to public innovation emphasising the role of intra- and interorganizational collaboration. Public managers, street-level bureaucrats and users cannot create innovation single-handedly. They need to interact and collaborate with each other, and with other relevant actors such as politicians, private firms and interest organisations, in order to facilitate creative learning and produce joint ownership to new and bold ideas. In order to enhance and exploit the innovative capacity of collaborative networks, public managers must take on the responsibility for metagoverning the interactive arenas. Metagovernance can be seen as a new form of innovation management that challenges the traditional form of bureaucratic leadership.

We shall like to conclude with a few reflections on the relation between New Public Management and the call for collaborative innovation. The protagonists of New Public Management saw themselves as leaders of a reform movement aiming to enhance public innovation. In their influential manifest David Osborne and Ted Gaebler (1993) described New Public Management as an attempt to 'reinvent government'. New Public Management aimed to create an entrepreneurial spirit that would transform the public sector. One of the key ideas was that the public sector should learn from the private sector and that competition between public and private providers would stimulate innovation. Another and related idea was that public managers should act as strategic leaders and take responsibility for developing the public sector. A new emphasis on top-down performance management and bottom-up user orientation served to keep the strategic managers on their toes and force them to innovate to avoid negative feedback. Finally, New Public Management has recommended the formation of public-private partnerships as a means to enhance innovation. In response to the increasing fragmentation caused by the formation of quasi-autonomous agencies and the increasing use of private providers New Public Management even began to recommend the formation of governance networks in order to facilitate cooperation, coordination and collaboration. As such, the scene has been set for collaborative innovation.

However, there are at least four barriers to collaborative innovation inherent to New Public Management. First of all, the emphatic concern for greater efficiency tends to marginalize discussions of the content and quality of public services that are the primary interest of public employees and private stakeholders and the key to involve these actors in collaborative innovation.

Second, the exclusive focus on the role of public managers tends to exclude the contribution of public employees, users and elected politicians to public innovation. Input to the public managers from public employees submitting small notes with good ideas to a letter box, or from the users participating in user panels or user satisfaction surveys, is not enough. Creative learning requires the direct and sustained interaction between managers and employees and the public administrators should not learn from or about the users, but with them through continuous dialogue.

Third, the competitive spirit pervading New Public Management tends to preclude the development of mutual trust among the key actors and trust building is the *sine qua none* for collaborative innovation. Public and private actors that are competing for

public money and contracts find it difficult to share knowledge and collaborate on the development on new methods for service provision.

Finally, New Public Management's excessive demands for standardization of services, documentation of activities and measurement of performance are not only costly in terms of time and resources, but also tend to inhibit innovation since the new practices and results are not easily documented and the former practices and results are no longer delivered. On top of that, the delivery of non-standardizes services may trigger negative sanctions from above.

The identification of these inherent barriers to collaborative innovation does not mean that we should abandon New Public Management altogether. Politically, that would neither be feasible nor desirable. There is broad support for New Public Management's 'more-value-for-the-money' doctrine. However, if we want to spur collaborative innovation in the public sector we need to develop a NPM 2.0 that links the focus on efficiency with a new focus on the quality and content of public service; creates crosscutting arenas for interactive and creative learning; combines competition with cooperation; and scales down the excessive demands for standardization, documentation and performance measurement. What NPM 2.0 will look like in practical terms and how it will operate constitutes a great challenge for future public administration research.

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