

Invited Essay

MANAGING CROWD INNOVATION IN PUBLIC ADMINISTRATION

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ABSTRACT

Governments all over the world have discovered the world of social media, for better or for worse. Whereas some of them are making every effort to prevent the unhierarchical and therefore uncontrollable (dissident) opinion-forming process in Web 2.0, others are looking for ways of putting the potentialities of this new opening-up of communication to use. One approach that is increasingly being tried out is opening up innovation processes in government. However, this opening-up of innovation processes is anything but trivial. It requires a thoroughly thought-out strategy and thus confronts government systems with extensive challenges if it is not to suffer the same fate as other unsuccessful attempts at reform in the past. In our essay, we reflect on the consequences of these challenges for public managers.

Keywords - *Crowd Innovation, NPM, Open Government, Web 2.0*

INNOVATION – WHAT FOR?

In the heyday of New Public Management (1980s to the end of the last millennium), reforms were considered to be positive in themselves. Calls for change did not have to be justified in any particular way since the accepted rhetoric of reform created its own semantic structure in which everything new had “good” connotations while everything “old” had “bad” connotations. In the meantime, New Public Management has become long in the tooth. Where it has been implemented and is alive and well, it is no longer regarded as original or new but is taken for granted. NPM, which deinstitutionalized so many previously unquestioned things, is now itself an institution in many quarters and does not even require a label of its own any longer. Why “new”? It is simply Public Management!

However, the big changes which accompanied NPM and could not always be successfully implemented also resulted in a certain reform fatigue. During the NPM wave, a wide range of ideas were discussed and tested, which means that much has already been seen and experienced. The Confederation of British Industry calls for a stronger integra-

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tion of the private sector in the provision of public services? Been there. The Austrian government wants to delegate more budget responsibility to the executive offices? Heard that. Somehow, we have already read it all somewhere.

Yet we have to keep in mind that in practice, many reforms did not actually lead to an improvement of the situation but often only took place at a rhetorical level. Hosts of consultants, project teams, experts and (though rarely) even citizens developed, conceptualized, projected and organized – but frequently to little avail. Pollitt (2002) made this quite clear when he pointed at the different levels of convergence: what has merely been promised need not be adopted, need not be implemented and need not yield any results. If people are tired of the discussion about performance measurement, this does not even begin to mean that performance measurement has in fact been implemented in practice. This clearly indicates that even though reforms have been discussed for years and some concepts are in place, there is still a need for the implementation of reforms.

In this context Borins (2000), for instance, demonstrates with the help of his “good practice” research that reforms do indeed take place in public administrations as disruptive innovations. What is exciting here is the fact that they do not merely occur in response to external changes but also as reactions to internal grievances and opportunities, and that they tend to be the result of planned change rather than of “groping along”. The central issue which, in our opinion, should be debated is a wider view of innovativeness in public administration – i.e. the ability to change and react to new circumstances and challenges in order to continue to provide good services in the future. It may well become increasingly difficult for public administrations of their own accord to develop those innovations which can do justice to today’s challenges. What, then, characterizes present-day public administration, and what characterizes its public managers? As Keupp et al. (2011) show, there is a wealth of literature about the management of innovation in private-sector organizations, but its specific recommendations for executives remain blurred. In our view, this also applies to Public Management.

This short essay is meant to provide an overview of the topics which might be relevant to the introduction and/or exploration of crowd innovation. For this purpose, we will highlight the context and necessity of innovation in government. The current financial crisis mercilessly exposes the deficits of private and public organizations, and this is only the beginning. It will be crucial for public managers to prepare themselves and their administrations for the future and, in doing so, depart from the beaten tracks of the past. The innovativeness of public administration must be increased. Then (and for this purpose) we will describe the possibility for opening up the innovation process with the help of the crowd innovation approach and issues of Public Management which are directly or indirectly related to this.

Preparing for the Future

Besides dealing with day-to-day business, public administrations are also called upon to prepare themselves for coming tasks and to safeguard their performance capacity in the future. Barzelay and Campbell (2008) perceive this as the most important task in strategic management. Yet how can public managers know what will be expected of them and their organizations in the future? How can they know what capacities they must

establish in their organizations now to keep them efficient in the future? And how can a well-practiced (path-dependent) organization open up its way of thinking in order to be prepared for the future? Bommert (2010) rightly points out that the development of new ideas for innovations is only the second step because firstly, an organization must become aware and convinced that there is a necessity for innovations.

What strikes us as central in this question is the fact that public managers cannot take their bearings from the past and the present alone. The pointers and the information that are important for them to set their course today may also lead them astray in the future. As in the private sector, government must also recognize social developments with the help of weak signals. This requires a delicate network of antennae that receive these signals and transmit them into public managers' management and decision-making circuit.

It becomes apparent that strategy and innovation are two issues that are very closely related. Managing strategy and innovation is an endeavor which is like changing wheels on a running train. In other words: while public managers conduct their daily business, while they constantly have to uphold their public administrations' operative capacity to act and make decisions, they are also setting the strategic course and are thus the central actors who influence their organizations' innovativeness. Innovativeness and the implementation of innovation are themselves part of an existing organizational strategy, on the one hand, and provide the basis for the organization's future strategic capacity to act and make decisions, on the other hand.

Taming Complexity

Public administration is exposed to numerous stakeholders, whose requirements it has to satisfy all at the same time. For an administration, each of these stakeholder groups is a reference system with its own values, expectations and logics of action and reasoning. In a modern, completely differentiated society, these reference systems hardly ever gear themselves to each other any longer; rather, they exist for and in themselves alone. For public administration, this means that it cannot take its bearings from one single group (such as politics as its principal) but that in the long run, it will have to satisfy requirements that are partially contradictory. Denis et al. (2008) speak of a pluralist context, representatives of the neo-institutional organization theory speak of institutional complexity (Greenwood et al., 2011).

Complexity means that a situation is not predictable for public management since it cannot be controlled like a machine by means of adjusting screws and given rules. Typically, complexity arises when a great number of actors who are either unable or unwilling to come to a mutual understanding, impact on a situation. In terms of systems theory, an administration can react to the increasing complexity of its reference systems in a variety of ways. It can try to reduce complexity, by ignoring individual requirements and demands. It can let certain perspectives or logics predominate while suppressing others (Pralhalad and Bettis, 1986). This simplifies the handling of issues within the administration. If it chooses this approach, however, it does so at the expense of a restricted perception of change in those areas that are ignored (Pralhalad, 2004).

However, an administration can also build up additional complexity, for instance by creating specialized units within its own organization for the various reference systems, with these units then working within their stakeholders' language and logic. If it chooses this approach, it does so at the expense of its own internal peace and quiet: latent conflicts between the reference systems are "imported" in this way and can trigger off conflicts within the administration itself. The advantage is, however, that fewer blind spots emerge and even subtle changes in the environment can be perceived more quickly. This high degree of complexity must be tamed by the administration by developing practices for coping with diversity and differing types of logic (Friedland and Alford, 1991). In other words: the administration has to open itself up to different reference systems, which constitutes a completely new challenge for many administrations.

Increasing Innovativeness

In an early article, the then assistants and PhD candidates Rainey, Backoff and Levine (1976) deduced from the literature that public organizations are less innovative than private ones – not least because they can run, and tolerate, fewer risks. An improvement in innovativeness would therefore mean that a public administration is better able to cope with the imponderables of the new. It must open itself up to what is new and face the risk that is related to this.

Government organizations realize innovations in order to be able to solve changing problems or to fulfill tasks. For this purpose, they develop and implement new procedures, services and internal processes. In the past ten years, however, the pressure on public administrations to implement innovations has increased in order to enable them to face the extensive social, economic and environmental challenges, too (Borins, 2001, Eggers and Kumar Singh, 2009, Albury, 2005). This situation is aggravated by the tendency that public administrations have to provide their services in a high quality, with extensive availability and as efficiently as possible but with ever scarcer resources. Combined with the above-mentioned complexity, the main task of public administrations within the framework of an emerging hollow state (Milward and Provan, 2003) is the solution of wicked problems (Roberts, 2000). Increasing demands together with scarce resources and increased complexity make clear that public administrations are confronted by the necessity to find new and innovative approaches (Parker and Parker, 2007, Parker and Heapy, 2006, Sørensen and Torfing, 2011).

THE CONCEPT OF CROWD INNOVATION

Finding new and innovative approaches to the above-mentioned challenges is beyond the realm of the possible owing to the self-referentiality of a closed system (Koppenjan and Klijn, 2004). Public administrations require the ability to generate, introduce and implement innovations more quickly, more creatively and participatively. To be able to deal with *wicked* problems, administrations will have to open their sealed-off borders (Hartley, 2005, Sørensen and Torfing, 2011). Today, the "self-referential system" of public administration is no longer a static construct, and public administrations are beginning to absorb the dynamism of their environment. The trailblazers of such public

administrations of western democracies as already use open innovation processes are cities and municipalities. New ideas are being acquired from the outside for contexts such as citizens' budgets (participative budgets), the configuration of public transport or regional development. However, public administrations have not factored in their environment for the development and implementation of innovations in a very systematic and comprehensive way to date. To the contrary, innovation processes are usually only opened up in a narrowly defined frame. Yet a consistent opening-up of innovation processes and the involvement of third parties does not only result in improved opportunities to discover new, additional ideas through learning about them. Rather, when an innovation process is opened up, a public administration is able to respond to the demand for more openness and transparency and thus imbue its activities with additional legitimacy (Bekkers et al., 2011).

Methods and instruments for the acquisition of external ideas include workshops, mixed teams, internet platforms and Web 2.0 technologies. Whereas the former are suited to providing answers to specific questions with a limited number of people, the use of internet platforms and Web 2.0 technologies allows for another form of participation, which is possible irrespective of opening hours, meeting places, jurisdictional boundaries, places of residence and physical presence. We describe this form of broad participation as "crowd innovation".

The approach of crowd innovation comprises central elements of the two approaches of crowdsourcing (Brabham, 2008) and open innovation (Chesbrough, 2003). Crowdsourcing designates the idea of having an unlimited group of interested people, who are interwoven in a non-hierarchical network, jointly work on the establishment of a solution or the further development of ideas in order to exploit the knowledge of many people (Howe, 2008, Surowiecki, 2004). The approach of open innovation furnished the idea that an organization's innovation processes should not be conducted within the organization but that important external stakeholders should also be integrated in the innovation process (Chesbrough, 2003). This enables the implementation of this integrated perspective, i.e. the participation of a great number of people in the innovation process, through the use of Web 2.0 technologies.

Consequently, a public administration that practices crowd innovation invites its stakeholders to participate in a weakly structured, public process of generating and developing innovations in the administration. All the participants basically have equal rights and are equally legitimized to inject their contributions into the process. In order to allow for quick, transparent and interactive communication, Web 2.0 technologies are used. Web 2.0 technologies are based on the principle of direct and immediate communication. Thus they do not merely constitute a further communication channel but require a different understanding of communication, as well as different communication behavior.

ORGANIZATIONAL CHALLENGES

On the one hand, the opening-up of innovation processes is promising; on the other hand, however, the uncertainty and complexity it engenders is also demanding. Innovation as such means that risks are run since the result of the implementation of innovation is unpredictable; innovation processes are open, dynamic and fuzzy, and, therefore, unpredictable and impossible to control (Thamhain, 2003). Opening up an organization's borders involves a further uncertainty factor, namely the unpredictability of public opinion. Thus public administrations surrender part of their control over internal processes (Sørensen and Torfing, 2011). Accordingly, the complexity of an innovation process that is naturally unpredictable and unplannable is increased for the organization by crowd innovation through the intensive interaction between actors inside and outside the organization and through direct, immediate communication on the basis of Web 2.0 technologies. The impossibility of predicting or planning critical developments which influence the organization but are out of reach for top managers, calls for a different understanding and new ways of managing crowd innovation processes in an organization.

Above and beyond this, local administrations must create and actively configure possibilities of cooperating with external people, the crowd (Nambisan, 2008). The basis for successful cooperation does not only extend to the exploitation of existing internal innovation potential and the acquisition of external ideas for internal organizational development, but primarily the motivation of external people. Thus everyone involved must ensure a continual input of external ideas into the innovation process (West and Gallagher, 2006).

Preparing an administrative organization for crowd innovation is a great challenge. It contains a structural component (the design of innovation processes), various institutional topics (legitimacy, identity), aspects of organizational behavior (reflexivity, dealing with ambiguity, trust), as well as various relational aspects (acknowledgement of the crowd, support diversity, enabling participation, and building trust).

Figure 1: Crowd Innovation and Related Topics



Figure 1 diagrammatically indicates the interconnection and topics which we recognize as organizational challenges for public administrations pursuing the crowd innovation approach. We will briefly discuss these aspects below, then deduce their consequences for public managers, and finally point out the impact of crowd innovation with regard to the interaction between public organizations and the crowd.

Organizing Innovation Processes

Organizing innovation processes means understanding the essence and progressions of innovations in organizations. Drawing on the existing literature, an innovation process can be divided into four phases, with the first phase of detecting the necessity for innovation, followed by idea generation, idea design, and idea implementation (Tushman, 1977, Osborne and Brown, 2005, Roberts and King, 1996). At first sight we assume that the opening-up of innovation processes primarily strengthens the first two phases, i.e. the detection of necessities and the generation of ideas.

Establishing innovation processes means committing a great number of actors in the organization to the idea of innovations. It will not suffice to designate a responsible person (an “innovation manager”), who will then take up a lone fight against the institutions of public administration. Of course an administration needs a process owner for its innovation processes, but the necessary changes in the design and implementation of an innovation must be effected by the “normal” public managers. For this purpose, a public manager must change the behavior patterns that have become standard practice in his or her administration. Among those organizational behavioral patterns that need to be changed are a) breaking rules and conventional management routines, b) becoming accustomed to upside-down thinking to amplify organizational boundaries, c) process facilitation, d) developing sophisticated networking evolution skills, e) establishing an effective stakeholder management system (Hafkesbrink and Scholl, 2010).

Since public administration requires a special legitimacy (cf. immediately below), it is unable to conduct innovation processes in a completely uncontrolled fashion. For the realization of an interactive crowd innovation process the organization has to decide beforehand which processes should be created openly or where internal resources are adequate. Furthermore, for the sustainability of the approach it is beneficial if it is realized in a permanent manner and not for a unique event. In addition, the organization can consider integrating the best spin doctors of the crowd into a closed co-creation process (Slowinski and Sagal, 2010).

INSTITUTIONAL CHALLENGES

Safeguarding Legitimacy

Crowd innovation creates a line of conflict which is typical of the continental European way of thinking. It is a form of participation but cannot and must not replace or displace the democratic decision-making process. Administrative organization and action are legitimized through formal democratic procedures, for example through ballots and referendums. The applicable rules are enshrined in a constitution, acts and ordinances, and

not least to protect citizens against the arbitrariness of government. Monitoring and supervision, the possibility of legal remedy, financial control and audits – they, too, ultimately serve to protect citizens and must not be frivolously circumvented or even abrogated. In other words: crowd innovation, like any other government activity, must take place within the framework of applicable law. It requires legitimacy through law and must not compete with democratic processes.

However, innovation ought not to be prevented by means of references to existing law. The implementation of crowd innovation requires a certain amount of latitude provided by law. The architects of crowd innovation will have to accept that this participative, open approach may be in competition with traditional, formal processes of change and must therefore rein itself in of its own accord. After all, the call for crowd innovation will also be interpreted as a vote of no confidence against existing mechanisms that are deemed to be insufficiently effective or against managers who are deemed to be insufficiently innovative.

The process of crowd innovation requires a legitimacy element that is in conformity with the system. What is necessary is a reduction in the complexity of the crowd and its activities: the systemic opening-up of innovation must also be balanced by a closure since otherwise the further progress of the innovation process would be in jeopardy. Accordingly, ideas that are proposed should be prioritized by the crowd themselves, for instance. On the one hand, this will prevent the introduction of a hierarchical element (which is hostile to innovation) through which the administration or the executive evaluates the ideas. On the other hand, complexity will be reduced for the administration in such a way as to become manageable in further work on the innovation process.

Preserving Identity

Psychologists have described a phenomenon which focuses on membership of a group as an important human element: *social identity* (Tajfel, 1972). It derives from individual people's knowledge of belonging to certain social groups, coupled with an emotional and valued significance which they draw from this group membership. Social identity is based on comparisons between groups, which lead to one group being preferred over others. Turner (1975) terms this *ingroup* and *outgroup*, i.e. "we" and "the others", with membership of the ingroup being capable of satisfying a deep-seated need for self-esteem. This *self-esteem hypothesis* is founded on a positive reinforcement mechanism: membership of a group is apprehended as positive because the ingroup proves to be better in comparison with the outgroup. This can result in a positive reinforcement of one's own self-esteem.

Public managers also have a social identity that develops through the demarcation between "we" and "the others". Here, the feeling of being part of a strong group arises from the public managers' evolved professionalism: through their own language and specialized terms (Suddaby and Greenwood, 2005), through their own rules of professional training and selection (DiMaggio and Powell, 1983), but also by excluding or recognizing the outside world. Meyer and Hammerschmid (2006) therefore describe administrative reform as an identity project by which public managers' professional identities are intended to be lastingly changed. This professional identity, however, is

also a fertile soil for a strong self-confidence that the solutions to the existing problems can be found within one's own organization.

We assume that professional identity has a positive influence on the public managers' self-esteem at their workplace and that their motivation is reinforced at the same time. In this respect, identity is something worth protecting in an administration. By opening up its innovation processes, however, an administration runs the risk of blurring the borderlines between "we" and "the others". Thus the challenge for public managers consists in persuading their own administration to open up toward "the others" without endangering their own identity. We assume that this openness can also be defined as a new element of professional identity provided that the influences from the crowd are sufficiently channeled and classified.

BEHAVIORAL CHALLENGES

Increasing Reflexivity

For public administration, reflexivity first of all means thinking about itself. In management communication, self-reflexivity means that public managers should be aware of their action and of the impact of their action on others. It is "a form of consciousness in which managers became aware of how their contribution to the unfolding conversation created opportunities and constraints for self and other" (Barge, 2004). Both the reflexivity of public administration and public managers' self-reflexivity are prerequisites for crowd innovation. Without the capability of reflexivity, public administration is unable to assess the value of the ideas brought in by the crowd. This is an intellectual challenge but also requires personalities in administration who do not apprehend innovative ideas as criticism or as a danger for themselves. We assume that for this purpose, a certain security at the workplace is also required: the more dynamic innovation projects become, the more important it is for the actors involved to be able to rely on job security.

"Be innovative; then we'll see what will happen to you!" is a challenge that will have a counterproductive impact on any organization that is concerned with security. The way in which public managers communicate their ideas about crowd communication is crucial for the success of the project. Whatever they say to other actors one way or another may accelerate the project but also derail it. Public managers' self-reflexivity is therefore a further central prerequisite for such open processes, which exact a great deal of willingness to run risks from the organization.

The reflexivity of teams in public administrations can be influenced by public managers. Understood as the extent to which the team reflects on and modifies its functioning, reflexivity can be integrated in regular meetings, placed on the agenda of workshops (the team reflecting about the team's reflexivity) and practiced with the help of concrete projects. A crowd innovation project can provide an ideal platform for this since there is a great likelihood that in such a project, the previous *modus operandi* of a team or an administrative unit must be reflected upon.

Living with Ambiguity

Open innovation processes such as are typical of crowd innovation are difficult to predict or control owing to incomplete information and greatly different possibilities of interpretation. In addition to this, innovation emerges in conditions of organized anarchy: information, problems and solutions come and go as they would in a garbage can (Cohen et al., 1972). Ambiguity refers to a confusion created by multiple meanings (Weick, 1995). Consequently, decision-making involves an ambiguity of choice (Ravichandran, 1999).

Public administration will have to learn to live with these imponderables, as Bommert emphasized: "... government cannot completely control the innovation of public value in collaborative innovation and needs to develop norms and methods to decide on the tradeoff between authority and external innovation assets" (Bommert, 2010). This requires public managers who, like entrepreneurs, possess a high level of tolerance that enables them to work in general conditions characterized by ambiguity and uncertainty (Sadler, 2000). It would be erroneous to believe that public administration is incapable of coping with ambiguity even now anyway – in the case of major reform projects, it is able to do so in a rather expert fashion. However, such challenges have so far given the impression that at least the decision-making paths have remained manageable, whereas this is precisely what remains unpredictable with crowd innovation.

Trusting the Crowd's Power of Judgment

Every relationship lives on trust. Opening up is always a risk, no matter whether this is in a personal or organizational sphere. In the long run both sides, public administration and the crowd, will only become involved if the basis of trust is alive and well.

Trust placed by the crowd in the administration: In the administrative sciences, there are countless studies that examine the population's trust in the state, in government and in public administration. These studies are based on the assumption that a state's capacity of action is proportionate to the trust it enjoys among the population. With regard to crowd innovation, this is applicable to an even higher degree. The crowd will only participate, individual people will only commit themselves personally if the administration and the process of crowd innovation enjoy the trust of those involved.

Trust placed by the administration in the crowd: Interestingly, there are very few studies in the administrative sciences about a central issue of open innovation, i.e. the issue of the administration's trust in the population's power of judgment (see however, Yang, 2005). After all, if an administration denies the crowd this power of judgment, then any opening-up of innovation is absurd. This is precisely when it becomes an "organizational myth" which one acts out in order to be in the swim of things but to which one does not accord any concrete practical value. The impact of such a project is likely to be modest.

Yang (2005) made clear that the administration's trust in citizens is primarily strengthened by two factors: a general tendency toward trust, and public managers' previous experience of contact with citizens. What is inhibiting however, is the general public in "government bashing" mode, and a general orientation toward given procedures. We

have noticed in our practical work that the question as to public managers' trust in the crowd is hardly ever a debating point. Involving customers in innovation processes is rarely an option that is put into practice – at least in Switzerland (Schedler and Summermatter, 2007). This is where a new awareness must emerge of the fact that the crowd provides relevant contributions to administrative innovation and that these should be taken seriously.

RELATIONAL CHALLENGES

Acknowledging the Crowd

A crowd is heterogeneous; it is made up of people from different stages in life and with different expectations, backgrounds and mindsets, and thus with differing factors that influence their motivation. In classic research in the social sciences, crowds are considered to be sources of problems. In the wake of the industrial developments of the early 20th century and concomitant social and political protests, the crowd was initially conceived of as a mob characterized by a herd mentality, which had to be controlled in the spirit of legitimacy and governance in order not to jeopardize the social system. Later approaches of the mid-20th century explained the crowd as a phenomenon with rational motives emerging in a context characterized by uncertainty and protest. The crowd is thus understood as a change agent that points toward the problems of the status quo (Wexler, 2011).

In the last few years, the crowd has been regarded less as a problem and more as a problem solver which generates collective intelligence on the basis of technology-supported mass collaboration (Lévy, 1997, Surowiecki, 2004). In the context of crowd innovation, this gives rise to a form of co-creation (Prahalad and Krishnan, 2008): The crowd responds to the public manager's call for collaboration and introduces its ideas into the innovation process. The public manager supports the crowd and provides it with a benefit by means of various incentives, thus retaining an influential position although the relationship between the actors has changed (Wexler, 2011). This new relationship of exchange requires public managers to actively design and support the process while preserving the possibility of conceding spheres of influence to the crowd.

Supporting the Crowd's Diversity

Although the concept of the opening-up of innovation processes and of the active integration of customers in the development of innovative solutions generally has positive connotations, it must not be overlooked that such an integration is also bound up with risks. Gassmann et al. (2009) emphasize in a study in industry that firms do in fact scent danger when it comes to integrating customers in innovation processes. The following points are also relevant for public administration:

Dependence on customers' views or interests: Since crowd innovation takes into account customers' views and requirements in an innovation process, customers are afforded a great deal of influence potential. Their personal views and interests specify the issues in which innovations are looked for. As welcome as this may be for the opening-

up of processes, it can also be dangerous when it results in a one-sided orientation. This can be countered if besides the purely open discussion, various groups are deliberately motivated to participate in the innovation process.

Serving a niche market only: Depending on who participates in a crowd innovation initiative, a selective bias may emerge. Solutions which are produced in such a situation will then not be aimed at everyone's requirements but will be focused on the requirements of those who have actively participated in the innovation process. This means that – to speak the language of the private sector – they only serve a niche market rather than exploiting the full market potential. In government language, it means that they only serve individual groups of citizens instead of keeping the common good in view. To diminish this danger, the make-up of those involved must be carefully analyzed. The greater the number and diversity of actors in a crowd, the better such a “niche effect” can be prevented.

Dependence on customers' experience: The crowd will introduce their concrete experiences into an innovation process. However, there will then be the danger that it is existing solutions with which the crowd is familiar that will be optimized. Radically new solutions will tend to be less frequent than an incremental improvement of what is already in place. Gassmann et al. propose that radical innovations should be specifically thought about together with a “lead user” group. In our case, this would complement the open process with the crowd, and the innovations generated by the lead user process could again be discussed and further developed by the crowd.

Dependence on customers' behavior/personality: With regard to this point, Gassmann et al. refer to demands expressed by customers for an exclusive or at least a high-priority utilization of the ideas introduced into the process and of the innovations arising from them. Such demands have an adverse effect on the open innovation process and should not be granted to participants. If an actor had sufficient power or an exclusive know-how to enforce priorities, then it would have to be considered whether it would not be better to conduct the innovation process bilaterally.

Enabling Participation

It is not without reason that the above-mentioned challenges focus on the diversity of the crowd: When a wide variety of actors, views, opinions and knowledge structure are brought together, this does not only stimulate the generation of really novel approaches and solutions; rather, diversity also arouses the interest of actors with different opinions to join in the creative process. In order to attract the greatest possible number of diverse actors to the crowd innovation process and to be able to cope with the challenges mentioned above, the course for public administration to take is generally the utilization of different communication channels, a general openness toward issues, the consistent implementation of location-independent collaboration, the binding nature of crowd innovation and the establishment of trust already indicated above.

Accordingly, public administration must observe the following central elements when designing its course of action:

- Informing the crowd: The *utilization of different communication channels* enables an administration to inform citizens on a broad basis about the fact that participation in an innovation process of public organizations is possible and desirable.
- Utilization of Web 2.0 technologies: The *decoupling of actual participation and collaboration in physical spaces* admits additional ideas and possible new impulses from interested external parties without legally legitimized ways of participation being up for renegotiation.
- Open-mindedness: The recognition of differing perspectives on issues makes it clear to the crowd that it is not only a certain opinion that is approved of but that *diversity is required*.
- Consistent implementation: The adoption of issues named for reasons of personal concern and their serious integration and implementation communicates the *binding nature of the approach* and supports its acceptance by the crowd.
- Transparency and direct communication: The utilization of Web 2.0 technologies is not only conducive to the dissemination of information and knowledge but also to the development of links between actors of a new type of quality based on *trust*.

Public administration must therefore not only possess trust in the crowd but demonstrate this trust by means of serious collaborative relations with actors in order to win the latter's trust, too. In addition to the generation of new ideas, public administrations thus have the opportunity to create social capital using crowd innovation (Fleming and Waguespack, 2007). Social capital, understood as created by a network of relations that binds individual and collective actors, can promote cooperation and trust (Jackman and Miller, 1998, Putnam, 2001). Cooperation and trust between government and crowd are essential to governmental performance (Putnam, 1993).

This trust also characterizes people's identification with their city, municipality or region. Besides existing local communities of a formal (e.g. sports association) or informal (e.g. neighborhood) type, which shape a certain sphere of local identity, a public administration also has the possibility of fostering social capital through seriously intended collaboration and of making a contribution toward local identity. Through the local identity established in such a way, the public administration in turn fuels the crowd's concern with public issues and thus the crowd's motivation to become actively involved in the innovation processes of the city, municipality or region.

MANAGING CROWD INNOVATION – WHAT CAN WE ACHIEVE?

Public administrations have always realized innovations. In an increasingly complex environment with many-layered problems, public administrations must retain their capacity to act through their innovativeness. An opening-up of the innovation process by means of crowd innovation provides public administrations with an opportunity to enhance their innovativeness and to generate solutions to complex questions which they would have been unable to achieve with their own resources alone.

Innovations support the attainability of strategic objectives and influence an organization's future structure. The necessity of innovation and of opening up the innovation process is not always understood within public organizations, however. Public managers thus face the challenge to create the acceptance of innovation and of the opening-up of the innovation process within the organization and to tackle the necessary organizational challenges.

The implementation of crowd innovation is a break with previous processes and practices; for the establishment of its acceptance, however, it must still be compatible with superordinate structures and values. For this reason, public managers have to strike a balance. The implementation of an open innovation process must therefore go hand in hand with a reduction in complexity in order to guarantee the legitimacy of the process. Reflexivity is necessary when dealing with ambiguity so as not to perceive the open innovation process as a danger. Trust in the crowd is preceded by an altered view of the crowd as a problem solver rather than a problem.

The benefit of crowd innovation is supported in that the crowd's power is reinforced by diversity and that its participation is made possible by the public administration through the observation of central elements in the way the process is implemented. The greatest benefit for the administration generated by its relations with the crowd consists in the building-up of social capital and the extension of local identity on the part of the crowd. Social capital and local identity on the basis of trust enable public administration to gain broad-based support in the implementation of innovations and in the context of social commitment. Since social capital cannot survive on its own, however, but always has to be rebuilt to ensure that it will not deteriorate, public administration has to constantly react to the challenges it faces in the implementation of crowd innovation, and to this end support the crowd's activities.

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