An integrated planning, learning and innovation system in the decentralized public sector; a Norwegian perspective

Roar Amdam

Professor in Planning and Leadership
Volda University College
P.O. Box 500, 6101 Volda
Norway

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ABSTRACT

Innovation is doing things in new ways. Innovation involves changes in thinking, products, processes and organization. Many innovations in the public sector occur randomly as a reaction to crises or scandals, or when new leaders desire to show that they are capable. The problem with these innovations is that the public sector does not increase capacity to engage in continuous innovation. Therefore, there is a need to develop a system of innovation in the public sector. In this paper we set out three hypotheses: (1) the public sector does not build capacity to engage in continuous innovation; (2) the main cause of this is lack of accountability for outcomes; (3) reforms inspired by New Public Management (NPM) make it possible and necessary to create an integrated planning, learning and innovation system. In literature about planning systems, planning, evaluation and learning are connected, and the design of functional systems that contribute to connect planning and evaluation are regarded as essential to stimulate learning and innovation in both organizations and societies. Municipalities in Norway have implemented a planning system with institutional, strategic, tactical and operational planning and learning that has a potential to stimulate learning and innovation. We find that this system can be innovative if the practice becomes more communicative and network-based. Communicative innovation demands focus on the outcome of public sector production, and public sector units need to collaborate in order to fulfill societal needs and public sector values and missions. However, the influence of New Public Management reforms in the public sector is still very strong and public sector units are very output focused and self-centered. Lack of outcome accountability is a system failure and an obstacle in the process of stimulating innovative capacity in the public sector.

Keywords: Planning, innovation, learning, public sector

Public sector innovation

Inventions are not innovation, but to exploit inventions in a successful way in practice is innovation. Innovation involves changes in thinking, products, processes and organization. Changes count as innovations when they are new for the implementer, but not necessarily new to other businesses (Nelson and Rosenberg, 1993). Innovation in the public sector has two purposes. The first is to contribute to changes in thinking, products, processes and organization in the public sector and the second purpose is to contribute to innovation in the private and voluntary sectors. Innovation in the public sector is, according to Teigen (2007: 15), about three main themes: (1) the production of goods and services, (2) the organization of the sector and (3) policy process and government. Thus, innovation in a municipality is about production of goods and services within their area of responsibility. The municipalities in Norway are strongly involved in the welfare state production. Their responsibility for schools, kindergartens, and health care consumes a large portion of their budgets and is in need of systematic innovation. In addition, a municipality is a member of a region and is expected to contribute, together with

other organizations, to innovations in society in terms of production, organization and policy. Consequently, the concept of learning organizations and learning regions becomes important in understanding municipal innovation.

Many innovations in the public sector occur randomly as a reaction to crises or scandals, or when new leaders desire to show that they are capable. The problem with these changes is that the public sector does not build up a capacity to engage in continuous innovation. There is therefore a need to develop a system for innovation in the public sector. This systematic innovation work needs a management and control system where one learns from one's own experience and thus can be better able to meet new challenges. Learning and innovation can thus be viewed as a process in which actors try to find new ways to better realize their values, fulfill their interests and satisfy their needs.

There are two main models of how innovation occurs (Asheim and Isaksen, 2002). The linear or economic model describes innovation as an incremental process in which agencies gather ideas and concepts from research, use this knowledge to develop new products and production processes, and produce and market products. Specialization and division of labour characterize the linear innovation model. Research and development takes place separated from production and there is little two-way communication between persons in the two work areas. Innovation is seen as an instrumental rational process. The entrepreneur is the driving force and is crucial to the outcome of the innovation process. This model emphasizes the logical connections between cause and effect and between ends and means. Entrepreneurs and others involved are regarded as rational utility maximizing players, and the manager's task is to get the subordinate workers to implement his/her goals and vision.

While this instrumental innovation model assumes specialization and differentiation, the interactive or social model of innovation emphasises the learning process between manufacturers, customers, public authorities, etc., where design and trial production is included as an integrated part of the production. This model also includes informal and localized so-called tacit knowledge as an essential part of the innovation process. Many equal and interdependent actors are involved in communication processes, and innovations are driven forward through common understanding and interaction (Fonseca, 2001). The social or collective entrepreneurs are one of the driving forces in the innovation process (Teigen, 2004). In this model, innovation is not something that can be controlled from the outside and from the top down, but something that develops in a situation characterized by mutual dependency, trust, communication and learning. In this model, the manager's task is to ensure the exchange of knowledge, common understanding and interaction between those involved (Rønhovde, 2012).

System of innovation

The two models are sometimes described as mutually exclusive, but we agree with Storper (1995) when he emphasizes that it is an important task for regional innovation systems to integrate local tacit knowledge with scientific knowledge to promote more self-based development. In this way, a learning region becomes a framework for the integration of the linear and interactive modes of innovation. In this perspective, it becomes important for learning regions to increase their innovative and collective action capacity (Asheim and Isaksen, 1997).

Oinas and Virkkala (1997) regard the interactive model as an alternative to the linear model. Asheim and Isaksen (1997) believe that the interactive model characterises the innovative activity of small- and medium-sized enterprises in local and regional networks of

enterprises in a far better way than the linear model. However, at the same time, they point out that there has emerged an increased acknowledgment that the linear model of innovation must be supplemented by the interactive model. They write that, in the end, companies and the business environment need to supplement the local, informal and tacit knowledge with generally accessible research and development knowledge. This means tying the regional interactive innovation system to the national linear innovation system.

Tura and Harmaakorpi (2005) maintain that innovation is now as much a social as a technical process, and they understand innovation as a locally rooted process that takes place in the regional innovation system, which consists of an innovative network of actors working together promoting the innovative capability of the system. The innovative capacity of the system is understood as the network's ability to capture changes in the surroundings and to mobilize resources and expertise in innovative processes in order to increase the region's competitive advantage.

In Norway and many other countries, the understanding of innovation has been dominated by a theoretical approach requiring strong interaction between private and public actors, and by an innovation policy and politics focused on how to reduce system failures. Lack of innovation is explained by inadequate technological understanding by management, weaknesses in research and development (R & D), lack of cooperation and failure of the regulatory framework. The concept of a national innovation system has been central; later there has been more talk about regional innovation systems and a more territorially adapted innovation policy (Langeland and Vatne, 2010). Nevertheless, perhaps none of the concepts captures the reality because many businesses are now heavily involved in global innovation systems, at which point it becomes especially important to study how the public sector facilitates innovation in such systems.

Many contributions to the systems theoretical approach to learning in regions have also developed gradually. First the concept of a learning region emphasizes that knowledge is a fundamental resource and learning the most important process in the global business environment that exists. It is further expected that learning regions should have a far better opportunity than traditional industrial districts to compete in the global economy because, through interactive learning and their own ability to innovate, they can make themselves more independent of external actors and the application of knowledge from outside (Lundvall and Johnson, 1994).

Argyris and Schön (1978) contributed early to the understanding of the learning process with their terms single loop and double loop learning in learning organizations. Single loop learning is to adapt actions so that the errors and blunders are corrected. Double loop learning involves changing the governing values of actions. Later, Senge (1990) contributed to what he calls the fifth discipline. He emphasizes the need for individuals in organizations to reconstruct themselves, and for organizations continually to stimulate individuals to use their understanding of reality to create the future of the organization. Senge looks at learning as a process that grows from the bottom up and that starts with personal mastery, enters the sharing of vision with others, reflecting on mental models, enabling teams and ultimately makes the process an active way of thinking and acting in the organization. Such a practical interpretation of Senge and the fifth discipline contributes to understanding how systems thinking can stimulate both individual and collective learning and contribute to innovation.

In our opinion, systematic innovation needs to have a management and control system where one learns from one's own experience and thus becomes more able to meet new challenges.

Learning and innovation can thus be viewed as a process in which players try to find ways to better realize their values, fulfil their interests and satisfy their needs. However, learning will not just be about learning new ways to realize the old values, interests and needs; learning may also be a change to the old values, interests and needs. Therefore, it may be desirable to distinguish between learning at different levels (Bateson, 1985a and b):

- Learning at 0-level, when given the same information that led to a certain action at one time, leads to the exact same action later (thermostats, manuals, regulations and other permanent action models).

- Learning at I-level, when facing the same situation, we are able to learn from experiences and change our actions from one situation to another. This means that we we have alternatives available and we are able to choose an alternative different from our first action.

- Learning at the II-level occurs when the situation is the same, but the alternatives we choose from are taken from new sets of options, different from the set of actions we use at I-level. Here, we must be able to consider other value-based sets of alternative actions and replace the set we have used so far. In other words, a type of deep learning occurs, which means that we emphasize other values for our actions. For instance, we base our action on collective benefits rather than maximizing our interest.

In this model, when we have achieved learning at levels I or II, we, for a period, will fall back to learning at 0-level. This means that new actions are taken from the same set of actions as before, or from the action set based on the new values. This means that the learning process can be seen as a process of crucial turning points when we learn at I-level or II-level. In this model, a computer is programmed to perform actions at 0-level, but the learning at levels I and II presupposes interaction between individuals. With this perspective on learning, it is easy to understand why many highlight that learning requires active participation and broad democratic discourses (Arendt, 1958; Dryzek, 1990; Habermas, 1995 etc.).

User surveys are important tools in both the private and public sectors to gain knowledge about how customers / users consider services and products, and the public sector will also obtain a lot of critical and constructive feedback from political debates, users on boards, public meetings, open hearings, mass media, etc. This is in addition to all of the feedback in the form of reports that employees in the public sector are now required to prepare. The problem seems not to be a lack of information, but rather the capacity to collect, analyse and utilize information in a systematic manner that promotes learning and innovation.

Therefore, to these three learning levels is also added a fourth meta-level. This implies establishing a system for learning. The purpose of this meta-learning is to learn how such a system can be formulated to promote learning at all learning levels, or as it also can be expressed, how one can learn to learn. The purpose of learning is to adapt to threats and exploit opportunities, which is also a core purpose of planning. This insight implies a need for an integrated system of planning, learning and innovation.

Planning can be perceived as an activity in which individuals, groups, organizations and political institutions are using knowledge and actions that promote development they themselves want, and which restrain development they do not want. The action may either occur by passive and conscious small adjustments to a natural process of selection, or active, targeted actions in response to situations that are perceived as problematic (Offerdal, 1992). When it comes to political institutions, such as a municipality, this relationship is often portrayed as either/or. Either institutions must develop the ability for logical adaption, or they will fall victim to a

natural process of selection. When political institutions lack a logical ability to adapt, they do not manage to maintain a trade-off with their surroundings. They do not achieve the necessary legitimacy and acceptance, and they do not receive the necessary resources placed at their disposal. Olsen (1988: 142) believes that a developed ability to logical adaptation involves:

- ability to observe and interpret changes in the surroundings

- ability to innovate and formulate responses to new challenges

- ability to make decisions that involve real changes

- ability to develop an information system that brings the required information (including bad news) to the decision makers

Olsen (1988) further believes that there is no reason to exaggerate the difference of logical adaption between, for example, a large enterprise and a government ministry. He writes that large corporations in the private sector often have more degrees of freedom in relation to the market than the theories of natural selection indicate. Furthermore, ministries, like any other government agency, are dependent on support and demand from elected politicians, interest groups, the media, citizens and other parts of the public sector. In a study conducted by Teigen, Skjeggedal and Skålholt (2010), the degree of innovation in the public and the private sectors in Norway is compared, and they find that municipalities probably innovate more than firms in the private sector do when they are asked if they have introduced any new or significantly improved changes. This innovation can be new services, products, processes, reorganization or a new communication and information system. Especially when it comes to process and organizational innovation, municipalities show a high rate of innovation.

Wilkinson (2011) argues that at a time when planning theorists are calling for more attention to matters of substance alongside matters of process, social-ecological resilience provides a timely contribution. Planning for resilience is essentially a capacity-building process whose ultimate goal is to sustain a process of individual, organizational and social change (UNEP, 2006). Dos Santos and Partidario (2011: 1519) argue that resilience reflecting the capacity of a system to absorb disturbance and reorganize without collapsing or considerably changing its identity, appears to have the potential to play a critical role in our context of crisis, instability, interdependency, uncertainty and complexity. According to Davoudi (2012: 304), an evolutionary perspective broadens the engineering and ecological descriptions of resilience and incorporates the dynamic interplay of persistence, adaptability and transformability across multiple scales and timeframes. This has brought the role of the policy process with its institutions, leadership, social capital and social learning into the scope of resilience. Moreover, we will add, it has made resilience relevant for innovation and planning.

## The policy process and the need for deep learning in innovation

For a long time, the modernization of the public sector has had New Public Management (NPM) as a reform ideal. What evaluation shows is that the reform wave has a hybrid character that draws both from the direction of centralization and decentralization, resulting in fragmentation of power and responsibility and little comprehensive thinking (Christensen and Lægreid, 2004: 13; Pollitt and Bouckaert, 2000). An obvious consequence of these opposing processes is an increased horizontal and vertical specialization and fragmentation. Power is passed further down in the public management system to old or new public organizations, and power is brought out of the public government system to private sector organizations. The hybrid character of the reform is also evident in the management tool. Christensen et al. (2002:

100) do not hesitate to characterize the performance management system in the public sector as a large and complex control-oriented system. They write that the system has been marked by a relatively strong detail orientation when it comes to describing the objectives, indicators and measures, and the requirement of formal written reporting between administrative units has increased greatly. They write further that goal and performance systems work better as administrative control over subordinate bodies than as a tool for political control. In addition, the tools that are used and available are developed more to measure output than to measure outcome, which means that the system focuses more on each individual organization's production, than on the overall outcome (results and impacts) for society (Christensen and Lægreid, 2004; Christensen, 2004).

About the different types of result in the model in Figure 1, one could say this:

- Result one (Outputs): Result as increased productivity/efficiency, i.e., more products and services for the same amount of resources. Easy to measure and clear causality.
- Result two (Intermediate outcomes): Result as improved effectiveness, i.e., improving goal achievement by changing the decision process, coordination, reorganization. Measurable, but fuzzy causality.
- Result three (Final outcomes): Result as better satisfying of needs, i.e., reduced sectoral thinking, more flexible and responsive public sector, increased capacity. Difficult to measure and fuzzy causality.
- Result four (Final outcomes): Result as better "ideal state", i.e., the contribution to the realization of values we want (democracy, autonomy, sustainability, etc.). Difficult to measure and fuzzy causality.

Figure 1: The policy process
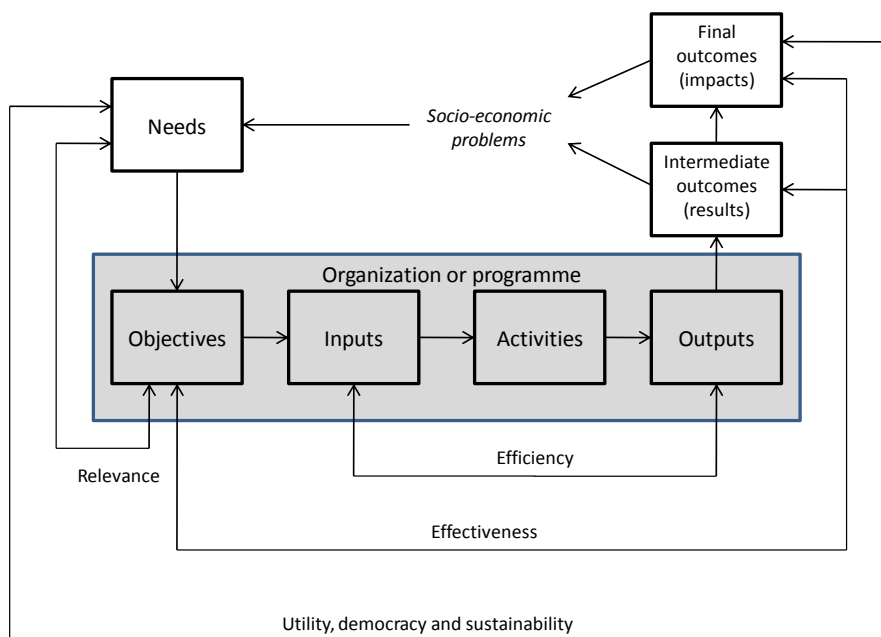
Source: Based on Pollitt and Bouckaert (2000: 106)

Regarding what above is called final outcomes, it may be mentioned that in 1974, the Main Committee for reforms in local administration in Norway formulated core values for continuous reform: decentralization, democratization and efficiency (NOU 1974). This was the frontrunner of the New Public Management reform based on the logic of decentralizing decision-making, power and accountability downwards in the government, and even giving the private sector responsibility for some of the decision-making. The reform envisioned that employees would be motivated to save, be creative and act responsibly. However, the difficult balance between control and freedom have, in municipalities as elsewhere in the government, led to the development of time-consuming and detailed reporting. Experience shows that such figures and facts are easily given great weight in the municipal political debate, and that room for local policy making and for discretion is reduced (Fimreite et al., 2008). Furthermore, they have found that instead of getting an expected difference between politics and administration, municipalities have got political A- and B-teams. The elected leading people who have the necessary time to put into the policy work, gain insight into the production and management reports and becomes a powerful A-team at the expense of the less powerful B-team.

Even the ministry in charge emphasizes that quantitative data should be followed up with a dialogue around the results. Nevertheless, at the same time as the need for a dialogue is regarded as very important, the ministry admits that it is a challenge to combine quantitative data with dialogues (KRD, 2007). Municipalities conduct such dialogues in different ways, and Gjerde (2012: 121) has found that meetings are often used to discuss possible cuts rather than new initiatives and improvements. Furthermore, the debate is detailed and often removed from the broader organizational context. In addition, there are sectors and units in the municipalities that might not be able to recognize their understanding of the situation in the aggregated data that are presented to them. This is problematic. It is a prerequisite that holding sectors and units accountable for goal achievement be able to see the connections between cause and effect, and between goals and performance. Performance measurement is relatively easy as long as productivity and single loop learning are involved. However, in double loop learning, the connections between input, output and outcome become unclear and the indicators are controversial because they are evaluated against the values, beliefs, expectations and objectives that guide the actions. Consequently, measuring results is focused on output and productivity because they are easiest to measure, while the measurement of outcomes, effectiveness and quality is difficult, and is given lower priority.

Gjerde (2012) has found that in municipalities, quantitative data create little discussion in the leadership and networking groups, and when the results are not being discussed and evaluated at this level, much of the potential for learning vanishes. This phenomenon is well known in organizational theory. The responsibility still tends to be fragmented and the actual sector, unit and leader are not held accountable, even in systems with clearly demarcated roles and defined rights and obligations (Offerdal, 1992). This leads to a situation where the collective level is not interested in tracing the consequences, and where subordinates only provide information they are asked to send. This also means that organizations tend to evaluate themselves by documenting how many resources they use (input-activities) and how much they produce (output-activities). Public sector units seem to be less concerned with what type of impact their activities have on the outside world (outcome-activities), and less interested in stimulating their employees to cooperate in networks and partnerships across units inside and outside the organization. The consequence of such behaviour is that citizens do not receive services of quality that meet their needs, values and expectations.

The NPM reform has undoubtedly had a major impact on the public sector. In summary, one could say that the public sector has become more divided and entities have become more focused on achieving their production targets. As a result, the overall impact or summation effect of the various entitites' actions on individuals and society have, to a large extent. been overlooked. New Zealand, which was one of the first countries to introduce NPM, has for some time had a stronger focus on these summation effects, and steps have been taken that has called for more comprehensive planning and coordination (Norman, 2006).

Torsteinsen (2012: 256-9) has studied municipalities in Norway and has found that the leaders of units in the municipalities are positive toward the NPM-model that many municipalities have adopted. The leaders of units are finding that they have great freedom, and the work has become more interesting and challenging. However, they also share the perception with elected politicians when they say that there has developed a greater distance between politics and administration, and that the politicians now have far less operative knowledge. Furthermore, the municipal leaders believe they have succeeded well with user orientation and user participation. Another important part of the reform has been to stimulate innovation and change. The former bureaucratic sector model was criticized for being rigid and maladaptive, but the new resulting unit model is also relatively rigid, with an emphasis on pre-defined goals, quantifiable data, vertical reporting and control. Yet, Torsteinsen (2012) has found that there is communication between and learning across the result units. Ideas are exchanged, experiences are collected and spread, and change happens. This applies to both the community as an organization, and where the municipality interacts with other organizations.

Torsteinsen (2012: 254-5) writes that their data show that unit leaders, from the middle ranks to the administrative top leader, feel a strong attachment to their own entity, their own employees and users but weakest attachment to elected politicians. However, at the same time, unit managers seem to have become more results-oriented and user-oriented. This can be interpreted that if a municipality manages to build a common leadership, then unit leaders are able to carry out the leadership role more in line with the municipality's fundamental values, goals and expectations. This suggests that systematic work on leadership development increases a municipality's capacity for learning and innovation. However, values seem to direct actions and filter knowledge of what is regarded as valid. For example, when the value of keeping small communities alive is strong among elected politicians, they will perceive well-argued and proposed changes and innovations as irrelevant if they cause the local school to be closed down (Haraldseide, 2011). The above-referenced findings, to some extent, indicate that a well-functioning leadership can help to promote innovation that meets the basic values for municipalities (Torfing, 2013).

The rise of the New Public Governance (NPG) can be considered as a response to the NPM (Osborne, 2010). In NPG complexity, fragmentation, silo thinking and selfishness are considered parts of the problem, and the solution is multi-actor cooperation with emphasis on the process and the final outcome. Sørensen and Torfing (2012) estimate that NPG will be able to promote more cooperation on innovation (collaborative innovation). In Norway, this form of interaction between municipalities on regional development has gone on for some time (Røiseland and Vabo, 2012). One can see the emergence of cooperation in service production between municipalities and others, and then often as an alternative to an amalgamation of municipalities (Bukve, 2012). The latest addition here is the interaction that involves collaboration between municipalities and specialist health services (hospitals). This construction can be an innovation if implemented successfully, but the challenges are many, not least when it comes to trust and continuous learning among entities with completely different purposes and

reasons for existence. The specialist health community is organized as health companies and works within an established quasi-market, with elected politicians at an "arm's length" distance, while in municipalities, elected politicians still have strong control of the production even though the NPM reform has contributed to undermining the elected politicians' ability to manage. The meeting between the company logic and the municipality logic may be very demanding in terms of interaction, learning and innovation (Amdam, 2013).

However, Torfing (2013: 314) maintains that the emerging shift from New Public Management to New Public Governance makes possible a new strategy of public innovation that highlights the role of multi-actor collaboration. This collaborative innovation is based on insight from economic innovation theory, learning theory, theories of collaborative innovation management and collaborative planning.

An integrated system of planning, learning and innovation

The discussion so far can be summarised in four requirements regarding an integrated system of planning, learning and innovation:

1. The system needs the ability to develop information systems that bring the required information (including bad news) to the decision makers. The system needs to be functionally or geographically framed and the system needs a supporting regulatory economic, political and legal framework. The system needs to increase its collective capacity to act through learning in order to utilise its comparative advantages.
2. The system needs the ability to observe and interpret changes in the surroundings, to adapt to threats and explore opportunities, and to challenge established technology. The system needs to further develop one's own knowledge, skills and values and these need to be locally rooted, globally integrated and collectively shared.
3. The system needs the ability to innovate and formulate responses to new challenges and needs networks and cooperation between public, private and voluntary sectors. The system needs a research and development process with interacting players that combine tacit and scientific knowledge and collectively accepted action programs. The system's innovation process and how entrepreneurs and organisations can be innovative in the actual context need to be cognitively understood and accepted.
4. Changes in 1, 2 and 3 over time can be regarded as innovation, but in addition, the system has to produce innovation in the form of products/outputs. Thus, the system must have the ability to implement decisions that involve real changes.

Institutional, strategic, tactical and operational planning is a planning model and a management and control system, where the planning forms are different with regard to timing, focus, level, purpose, etc. As far as we have experienced, this planning system is well suited to fulfil the four requirements above (Amdam, 2010; Amdam, 2011). In Figure 2, we have outlined the elements and relationships between the elements in a planning system based on this planning model. This overall planning system has been implemented for many years in Norwegian municipalities, in the laws and regulations, and in daily practice. The system integrates different forms of rationality as described and discussed by Alexander (2000), and thus the system can incorporate techniques such as Total Quality Management, LEAN and business process reengineering.

Institutional Planning and Learning

By institutional planning, we mean the existing planning framework and the limits that institutional planning itself formulates. Institutional planning is what Alexander (2000) calls "planning as frame setting". These frames can be values, purposes, reasons of existence, etc., as they are formulated in laws and regulations, requirements for goal achievement and performance reporting, and allocation of appropriate resources. In many contexts, regional and local development is part of national and international programs and the actual application form makes a framework for how the planning and development work can be implemented. Furthermore, the system's own plans and guidelines serve as frameworks for development. One can call this a type of meta-planning or planning of planning. A similar meta-level for learning can be found, i.e., how to facilitate learning processes and how to learn to learn. Here, we talk about measuring result four: Final outcomes found in Figure 1 in the form of an improved "ideal state." This means measuring quality performance relative to fundamental values of public governance. For municipalities, it can be decentralization, democratization, sustainability, and even innovation. Institutional planning and learning in a municipal planning system can mean how to design a system to promote learning and innovation at the institutional, strategic, tactical and operational levels.

Figure 2: Planning system
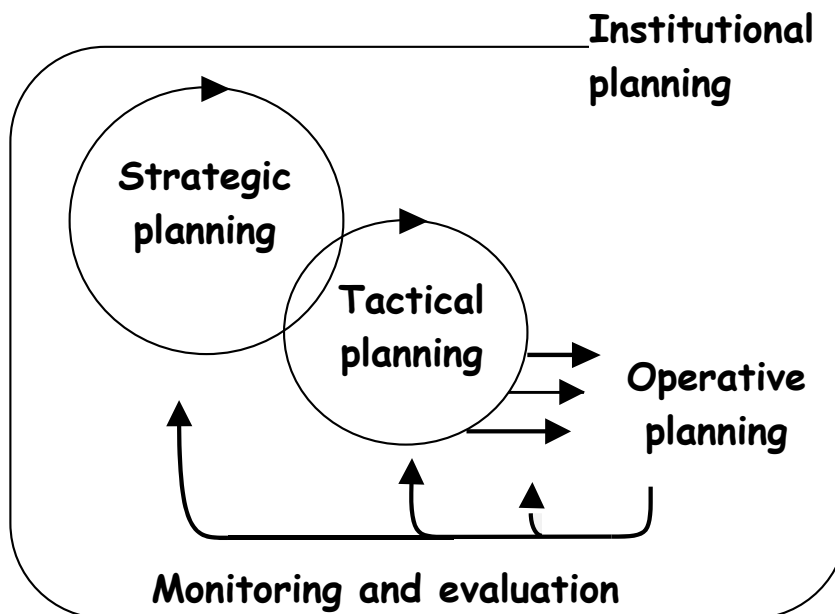
Source: Roar Amdam

Strategic planning and learning

The purpose of planning at the strategic level is for systems to orient themselves in relation to their own situation, surroundings and the future, and on this basis decide the vision and designate priority areas and strategies to achieve this desired state. Strategic planning can be regarded as what Alexander (2000) calls "communicative planning". The strategic planning is about interpretation, discussion and recognition of the important trends and challenges. It is important for strategic planning that both knowledge and actions are understood and supported by the largest possible number of actors. The perspective is long term, and the content should ideally be able to stand unchanged for some time. In the municipalities, a strategic plan as a document will be a guideline containing strategies and development patterns. Measuring results at the strategic level is about result three: Final outcomes in Figure 1, i.e., satisfying needs through better quality including increased capacity, reduced sectoral thinking, more flexible public sector, etc.

Tactical planning and learning

Unlike planning at the strategic level, planning at the tactical level is focused on the short-term resource commitment to achieve the strategic objectives and is more detailed and implementation-oriented, and it is not only guiding but is more or less binding. Tactical planning is what Alexander (2000) calls "coordinative planning". Tactical planning is comprehensive in the sense that it intends to coordinate the activities in the planning system or unit. Tactical planning is about alternative actions based on the ranking and formulation of the core values as expressed during strategic planning. The tactical planning is mainly about organization of resources. Tactical planning focuses on allocation of resources and the distribution between different subareas, sectors, communities, programs, etc. Measuring results at the tactical level is mainly about result two: Intermediate outcomes in Figure 1, i.e., improved efficiency by measuring intermediate outcome against approved objectives. Improved effectiveness can be gained through reorganization, reformed decision-making processes, and improved coordination, etc. A binding land use plan and the annual economy plan (normally including the annual budget) are very central tactical plan documents in municipalities.

Operational planning and learning

Planning at the operational level is the most limited in terms of time frame and theme. The purpose of operational planning is to control production and to promote productivity so that resources are well utilized. Operational planning sets specific objectives for activities based on strategic and tactical planning. Operational planning is what Alexander (2000) calls rational or more precisely instrumental rational planning. Operational planning includes implementation planning of projects and actions that have been given priority in the tactical planning, i.e., planning of specific projects and the daily implementation of work. The operational planning requires a commitment to the actual implementation of the actions, and it presupposes therefore a legally binding form of cooperation, certainly in terms of detailed agreements and contracts between the parties for each individual partnership action. Documents such as annual budgets, development plans, building contracts, etc., are part of municipal operational planning. Measuring results and learning at this level are mainly about inputs and outputs (result one in Figure 1). Such efficiency measurements have gradually become well developed in municipalities in contrast to quality measurements at strategic and institutional levels. In learning theory, ensuring communication (redundancy) between the operational and strategic levels is important, which means that operational experiences are drawn into the strategic processes and strategic goals are included in the operational activities.

Conclusions

Innovation policy is dominated by a system theoretical approach both in research and practice, and central terms are regional, national and even global innovation systems. Much of the innovation literature discusses factors in these systems that can stimulate the innovation process. One essential factor is collaboration between the actors and collaboration between the public, private and voluntary sectors. At the same time, there is in planning practice and theory a growing understanding that planning, learning and innovation are connected. In this paper, we have used system theoretical models developed for planning and learning in the discussion on innovation. We have found that these models are able to categorise and systematise much of the findings in innovation studies, and we have argued that the models can be used to design an integrated system of planning, learning and innovation.

However, the discussion shows that the modernization reforms in the public sector, despite good intentions, tend to take into account only what is measurable and what has a clear logic between cause and results. The evaluation process, therefore, tends to be very instrumental, measuring only product and achievement (outputs) against the concrete operational and tactical objectives, and contributes little to the learning process where effects are seen in relation to the strategic objectives and the institutional purposes for the actions (outcomes). Finding good indicators that measure the impact of these efforts on learning at different levels is demanding. Objectives at institutional and strategic levels in municipalities and elsewhere in the public sector may be unclear and in conflict with each other, and they are so because it is not politically regarded as desirable to clarify and rank them, which makes quantitative measurement and instrumental evaluation difficult, but not impossible.

With different starting points, we see that research on innovation, learning and planning argues for combining instrumental and communicative logic. The message seems to be that innovation requires a common understanding and interaction, and that there is a need for systematic work over time where measurable and perceived results are discussed and considered against the values, norms and goals for the desired development. Such communicative processes require that the involved actors and organisations have confidence in each other and that they recognize that they are dependent on each other. The paradox is that actors in the public sector are expected to participate in innovation systems, and that necessary planning and learning systems in municipalities are implemented, but the public sector including municipalities are still highly influenced by New Public Management inspired public sector reforms, which must be regarded as an obstacle to collaborative innovation. Planning can be an adequate process in order to give the actors the needed stimulus to develop common understanding, interaction across their entity, and foster innovation, but the public sector structure and culture need to be influenced more by New Public Governance before we can expect substantial increased innovative capacity in the municipalities.

About the author:

Roar Amdam has a Doctor of Agriculture degree and is a professor at Volda University College, Norway. He teaches planning and leadership at the college and has participated as a planning expert in domestic and international projects. His main field of research regards how planning can be used as a tool in local and regional development, including public sector innovation. Email: ram@hivolda.no

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