Policy analytical capacity: The supply and demand for policy analysis in government

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Abstract

"Policy analytical capacity" is an important component of overall policy capacity, bringing together individual level analytical skills (competencies) and resources (capabilities) needed for the systematic evaluation of policy alternatives and practices. Despite the existence of a large body of literature on policy analysis, a more complete picture of the roles played by policy analysts in policy appraisal is needed if the nature of contemporary policy work and formulation activities and the impact and influence of higher and lower levels of capacity of governments in this area are to be better understood.
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1. Introduction: the concept of policy analytical capacity within the general framework of policy capacity

Gill and Saunders (1992, 6–7) characterize policy analysis as "a method for structuring information and providing opportunities for the development of alternative choices for the policymaker." As part of the policy formulation process, this activity involves policy appraisal, that is, providing information or advice to policy makers concerning the relative advantages and disadvantages of alternative policy choices (Howlett, Ramesh, & Perl, 2009; Mushkin, 1977; Sidney, 2007; Wildavsky, 1979).

Undertaking such activity requires "*policy capacity*" (Peters, 1996) and relates to both the competences and skills of policy-makers and the capabilities or resources they require to exercize them. In general terms it has been defined as:

> "a loose concept which covers the whole gamut of issues associated with the government's arrangements to review, formulate and implement policies within its jurisdiction. It obviously includes the nature and quality of the resources available for these purposes—whether in the public service or beyond—and the practices and procedures by which these resources are mobilized and used" (Fellegi, 1996).

However, while '*policy capacity*' can be thought of as extending beyond analysis to include the administrative or organizational capacity of a government to undertake the day-to-day activities involved in policy implementation and system level competences and capabilities such as effective institutions and legitimacy (Painter & Pierre, 2005; Peters,

1996; Woo, Ramesh, & Howlett 2015), an important area of study of policy capacity in the policy sciences focuses more precisely on the individual level and specifically on the ability of individuals working in public policy organizations to produce sound analysis to inform their policy-making activities (Parrado, 2014; Dobuzinskis, Howlett, & Laycock, 2007, 4–5).[1] This can be thought of as constituting a distinct subset of policy capacity: "policy analytical capacity".

This capacity for policy analysis is a more focussed concept than overall policy capacity and involves competences and capabilities involved in effective knowledge acquisition and utilization in the policy process (Adams, 2004; Leeuw, 1991; Lynn, 1978; MacRae, 1991; Radaelli, 1995). While these competences and capabilities are nested in larger managerial and political ones (Wu, Howlett, & Ramesh, 2015), which allow effective individual work at this level to take place, these analytical skills and resources are ultimately deployed by individuals. Their skills and capabilities are an important determinant, for example, of the amount of basic research a government can conduct or access, its ability to apply statistical methods, applied research methods, and advanced modelling techniques to this data and to employ sophisticated analytical techniques such as environmental scanning, trends analysis, and forecasting methods in order to gauge broad public opinion and attitudes. Their abilities, or lack of them, affects overall governmental capacity and its ability to anticipate future policy impacts and react to them in a timely fashion (O'Connor, Goran, & Vickers-Willis, 2007; Preskill & Boyle, 2008). These skills also extend to the ability to communicate policy related messages to interested parties and stakeholders (Fellegi, 1996) and to aid the efforts of governments to integrate information and evidence into the decision-making stage of the policy process (Howlett, 2009; Tiernan, 2011).

The term '*policy analytical capacity*' thus describes the ability of individuals in a policy-relevant organization to produce valuable policy-relevant research and analysis on topics asked of them or of their own choosing (Howlett, 2009). It is important to recognize that this capacity is a function of the individual skills or competences of analysts and other policy workers (Colebatch, 2006a, 2006b; Colebatch, Hoppe, & Noordegraaf, 2011) as well as the analytical capabilities or resources at their disposal. This kind of policy capacity is not limited to governments as other kinds of policy research and advice organizations also require it, from independent government inquiries to non-governmental organizations (NGOs) and lobbyists. However, given space limitations, in this article only the state-level aspects of policy analytical capacity are discussed.

The general relationship between policy analytical capacity and the other components of policy capacity are set out in Fig. 1 below which is developed in the introductory overview to this special issue (Wu et al., 2015). Policy analytical capacity exists in the upper left quadrant of this matrix and is related in a nested fashion to other competences and capabilities of government, ranging from the organizational to the systemic level and dealing with managerial and political skills and resources in addition to analytical ones. Each of these other categories or types of capacity is discussed in other articles in this special issue. The discussion contained herein deals with some of the inter-relationships found between these different capacities, but its focus is on the contents and dynamics of the specific type of capacity found at the individual-analytical level.

2. The relevance of policy analytical capacity: supply and demand considerations

In general, observers of policy research organizations have argued that an organization's analytical capacity is composed of its ability to "articulate its medium and long term priorities, test the robustness of its policy options by building alternative scenarios, attach both qualitative and quantitative assessments to different policy options...communicate and defend policy thrusts to its operational arms as well as to its major stakeholders and to the public, [and] formulate policies that can withstand rigorous professional challenge" (Fellegi, 1996, 14–15).

All other things being equal, having more individuals with higher levels of policy analytical capacity is expected to lead to organizations more likely to be successful in impacting policy not only in the short-term, but also in the longer-term (Aucoin & Bakvis, 2005). Organizations with stronger policy analytical capacities are thus more likely, *ceteris paribus*, to have a greater impact on outcomes than those lacking the principle components of such a capacity (State Services Commission, 1999).

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[1] Some of the earliest work done in this area can be traced back to scholars from New Zealand and Australia. Waller's article, *Evaluating Policy Advice* (1992), is particularly helpful in laying the foundation of the importance of policy advice and the difficulties of assessing its quality.

Resource Level / Skill Dimension	INDIVIDUAL CAPABILITIES	ORGANIZATIONAL CAPABILITIES	SYSTEM CAPABILITIES
Analytical Competences	*Policy Analytical Capacity* *Knowledge of policy substance and analytical techniques and communication skills at the individual level*	**Organizational Information Capacities** Storing and Disseminating Information on client need; service utilization; Budgeting, Human Resource management. E-services.	**Knowledge System Capacity** Presence of high quality educational and training institutions and opportunities for knowledge generation, mobilization and use.
Managerial Competences	**Managerial Expertise Capacity** strategic management, leadership, communication, negotiation and conflict resolution, financial management and budgeting	**Administrative Resource Capacity** Funding, staffing, levels of Intra- and inter-agency communication, consultation, and coordination.	**Accountability and Responsibility System Capacity** Presence of rule of law and transparent adjudicative and career systems
Political Competences	**Political Acumen Capacity** Understanding of the needs and positions of different stakeholders; judgement of political feasibility; Communication skills	**Organizational Political Capacity** Effective Civil Service bargain. Politicians' support for the agency programmes and projects. Levels of Inter-organisational trust and communication	**Political-Economic System Capacity** Presence of Public Legitimacy and Trust; Adequate fiscal system to fund programs and projects; Access to information

Fig. 1. Dimensions and levels of policy capacity.

But the capacity equation in this area is not all supply-driven. Attaining a high level of policy analytical capacity requires not just ''a supply of qualified researchers, (and the) ready availability of quality data'' but also ''a recognized requirement or demand for research'' and ''policies and procedures to facilitate productive interactions with other researchers'' creating ''a culture in which openness is encouraged and risk taking is acceptable'' (Riddell, 1998, 5).

2.1. Previous studies of policy analytical capacity

Although policy analysis is not a subject that has suffered from a dearth of attention, empirical works examining the actual ''supply and demand'' for policy analysis at the individual level in government are uncommon (Nutley, Walter, & Davies, 2007; Uhr, 1996). Work on the behaviour and behavioural characteristics of in-house policy analysts in supplying advice to government, let alone those working outside it, are exceedingly rare (Aberbach & Rockman, 1989; Binz-Scharf, Lazer, & Mergel, 2008; Boston et al., 1996; Bushnell, 1991; Nelson, 1989; Radin, 2000; Thompson, Yessian, & Weiss, 1992; Wollmann, 1989). While some data exist in these older studies, they covered only a relatively small number of countries, mainly the U.S. (1976; Durning & Osama, 1994; Radin, 2000). Until recently, in most countries empirical data on just about every aspect of actual policy analytical practices in government has been lacking.

Moreover where studies do exist they almost always focus on the ''demand'' side of the policy advice market, examining the strengths, weaknesses, and other characteristics of the knowledge utilization process in government (Beyer & Trice, 1982; Innvaer, Vist, Trommald, & Oxman, 2002; Pollard, 1987; Rich, 1997; Weiss & Bucuvalas, 1980; Weiss, 1992) and have tended to employ partial or unsystematic surveys (Page & Jenkins, 2005) or anecdotal case studies and interview research (Hoppe & Jeliazkova, 2006; Radin, 2000), leading to concerns about their accuracy and the robustness or generalizability of their conclusions and observations.

In many cases observers have continued to rely on only one or two quite dated works in justifying their observations and conclusions, especially the early work of Meltsner (1976, 1972) and Durning and Osama (1994). This work was path-breaking but is badly dated. Although Meltsner's observations remain astute over 40 years later, they were based on 116 interviews he conducted in the U.S. in 1970–1971 (Howlett & Wellstead, 2011; Meltsner, 1975, 14).

More recent studies on ''policy supply'' have looked at the U.K. (Page & Jenkins, 2005), Australia (Weller & Stevens, 1998); New Zealand (Boston, Martin, Pallot, & Walsh, 1996); the Netherlands (Hoppe & Jeliazkova, 2006),

France (Rochet, 2004), and Germany (Fleischer, 2009), but in most jurisdictions the answers to basic questions, including how many people are in these positions or what they do, remain unknown. Comparative and synthetic studies of the supply and suppliers of policy advice are even rarer (Gregory & Lonti, 2008; Halligan, 1995; Hawke, 1993; Malloy & James, 1989; Mayer, Bots, & van, 2004; Thissen & Twaalfhoven, 2001; Wagner and Wollman 1986; Weible, 2008).

This situation has led many scholars concerned with measuring and understanding policy analytical capacity both inside and outside government to decry this lack of basic data (Bakvis, 1997; Behm, Bennington, & Cummane, 2000; Hunn, 1994; State Services Commission, 1999; Uhr & Mackay, 1996; Waller, 1992; Weller & Stevens, 1998). The existing data in most cases were so poor that in many cases it is not clear even if the job classifications and titles typically used by public service commissions to categorize professional policy analysts in government for staffing purposes are accurate or reflect a true sense of what policy analysts actually do on a day-to-day basis (Colebatch, 2006a, 2006b; State Services Commission, 2010). This is a significant concern since stronger policy analytical capacity, in general, is thought to be associated with the ability of governments to articulate achievable medium to long term goals and put together policies that can withstand rigorous professional and empirical challenge (Howlett, 2009). How to go about this is a subject which requires accurate data on the status quo in order to determine what exactly needs to be improved or augmented in terms of capabilities and competences (State Services Commission, 2010).

2.2. Operationalizing policy analytical capacity: demand and supply issues

Despite this paucity of data, several hypotheses are often cited in the literature pertaining to the relationship existing between higher and lower levels of policy capacity and the role played by factors such as organizational structures and management practices in encouraging or discouraging individual level analytical skills and practices.

As Riddell (1998) argued "a recognized requirement or demand for research (a market)" (1998, 5) is an important part of policy analytical capacity. This suggests that organizations and individuals that do not have a high demand for their research will have lower capacity, as this lack of demand is likely to negatively impact the final product and/or its use. This, in turn emphasizes the issue of the *quality* of the research demanded and not just its quantity. An individual's ability to combine the use of different styles of analysis, for example, has been cited as a good indicator of analysis that is capable of being strong and versatile, adding to the organization's overall capacity. Policy analytical capacity is strengthened when an organization's research and analysis can "attach both qualitative and quantitative assessments to different policy options" (Fellegi, 1996, 14–15). Individuals that "formulate policies that can withstand rigorous professional challenge" (Fellegi, 1996, 14–15) can be said to enjoy a higher level of policy analytical capacity, not simply because there is a demand for *any* research, but because those who are interested in the research and analysis are seeking a strong final product. And this aspect of policy analytical capacity reflects the significance of training and recruitment procedures since the educational background of an organization's employees affects their ability to carry out sophisticated analyses of complex subjects in a timely and comprehensive way. However it also underlines the significance of career and other personnel matters which assure that individuals capable of high quality work are in the position to do it when it is requested.

Riddell (1998), for example, has argued managers should create "a culture in which openness is encouraged and risk taking is acceptable". Research suggests that policy analytical capacity is strengthened when individual analysts have the freedom to take risks and create new and innovative programs or policies (Fellegi, 1996, 14–15). That is, organizations that encourage analysts to think about problems in new and innovative ways, and allow individual analysts the freedom to make suggestions on new and existing problems are likely to have stronger capacity. This, Riddell argued, strengthens the capacity of an organization's policy research and analysis beyond trouble-shooting or second-guessing managers' preferences Similarly Riddell has argued that creating rigidly hierarchical decision making structures that require analysts to conform to specific behaviours or intellectual methods leads to lower overall and individual level capacity.

Furthermore, on the demand-side, as Voyer (2007) observed, not all departments need the same kinds of data and information to inform their advice and appraisals. Hence, different units can also be expected to exhibit different patterns in the use of specific analytical techniques. Some agencies like Finance or Treasury Board, for example, typically deal with issues that are relatively easy to quantify or monetize (budgets, revenues and expenditures respectively); usually relying on plentiful historical and contemporary data which is assumed to be very accurate and

precise (Howlett, Tan, Migone, Wellstead, & Evans, 2014a). These units are often also well resourced and able to hire staff or consultants who are interested in and can utilize this kind of evidence. Hence it can be expected that these kinds of agencies are more likely to employ technical forms of analysis and to continue to do so into the future. Other agencies, however, like those dealing with social or environmental policy often deal with less quantifiable or with contested data, have fewer resources and may not be as interested in or able to use the kinds of information that financial agencies utilize. Still others fall in between – for example, many education or housing or transport agencies – who may have high quality data available but may only use it at some times but not others. Finally, others such as health or mental health agencies may not have access to the data they need even if they are willing and are potentially or actually capable of using it (Craft & Howlett, 2012a; Howlett & Joshi-Koop, 2011).

On the supply-side, agencies that undertake sophisticated analyses require both access to high quality quantifiable data or information (Vining & Boardman, 2007) as well as the managerial and human resource capabilities necessary to both ask for and supply this form of analysis and advice (Howlett, 2009). Again, however, not every agency meets these criteria or has not done so at all times and in all circumstances. There are various ways that information can be collected, ranging from internal collecting to external (contracting the collecting of information out to consultants or purchasing already collected information from sources such as a national or state-level statistics agency). An important aspect of policy analytical capacity which has concerned governments desiring to enhance their policy work is whether or not innovative thinking is or should be encouraged at all levels of the organization or just some (Howlett, Tan, et al., 2014a). This is important because studies which have examined the use of sophisticated policy analytical or appraisal techniques and tools in government have noted the frequency and purposes of use hinges on several pre-conditions being met such as the presence of easily accessible and accurate data as well as a supportive work environment for highly trained and qualified employees. But not all government agencies or actors meet these criteria at all times and circumstances. Rather the distribution of skills and demand for them varies by department and agency as well as by issue or task (Howlett & Wellstead, 2012; Howlett, Tan, et al., 2014a). In some cases it may be better to create a more free-floating set of highly skilled analysts able to operate across units than attempt to staff every agency with a large number of highly trained individual analysts. This can be done both internally or externally using consultants, for example, to augment internal capacity as needed (Howlett, Migone, & Tan, 2014b).

Existing work on this subject has also identified some significant differences such as the areas or subjects of training among analysts in these locations. This is important, as specialized subject knowledge may make up for gaps in formal training in more general analytical techniques and practices. As Howlett et al. (2009) found in their study of Canadian policy analysts inside and outside of government for policy consultants the top five specializations for university degree were Economics, Business Management, Engineering, Political Science and Public Administration. These five fields (allowing for multiple degrees) accounted for about 85 per cent of degrees conferred. By comparison, the five leading degree areas for internal policy analysts were Political Science, Business Management, Economics, Public Administration and Sociology, in that order. These accounted for about 60 per cent of degrees (allowing for multiple degrees) conferred, with a broad range of other social science, law and humanities degree accounting for the remaining 40 per cent of credentials (Howlett & Newman, 2010). The top five fields for NGO-based policy professionals were General Social Sciences, Business Management, Arts and Humanities, Political Science and Public Administration (Evans & Wellstead, 2013). This variation in training was found to be reflected in the kinds of roles or tasks policy workers in these different venues were most likely to undertake with the top three policy-related tasks undertaken by external consultants comprising research and analysis (83 per cent), providing advice (77 per cent), and providing options on issues (61 per cent). However, along with policy development, these actors also have to fulfil functions of project management (48 per cent), communications (41 per cent), and program delivery (36 per cent). Policy analysts working in government were more focused and higher percentages of analysts undertook research and analysis (93 per cent), provided advice (92 per cent), and prepared briefing notes or position papers (91 per cent). By comparison, the tasks in which NGO-based analysts most commonly engaged were found to be consulting with stakeholders (96 per cent), identifying policy issues (94 per cent), and consulting with decision-makers (91 per cent) (Evans & Wellstead, 2013).

Regardless of how this is done, however, the presence of timely and appropriate information on a subject under consideration enhances the quality of the policy analysis provided.

In all Riddell (1998) identified eight fundamental elements or operationalizable components of policy analytical capacity whose fulfilment is expected to lead to superior results. These are set out in Fig. 2 below.

Components
Ability to utilize environmental scanning, trends analysis and forecasting methods
Ability to undertake theoretical research
Ability to utilize statistics, applied research and modelling
Ability to undertake evaluation of the means of meeting targets/goals
Ability to undertake consultation and managing relations
Ability to undertake Program design, implementation monitoring and evaluation
Department's capacity to articulate its medium and long term priorities
Policy analytical resources - Quantity and quality of employees; budgets; access to external sources of expertise

Fig. 2. Components of policy analytical capacity.

3. The future research agenda: different uses for policy analysis and the appropriate nature and design of policy advisory systems

This is a good start but it must be recognized that factors such as the willingness of policy-makers to use the information generated in the way it was intended to be used may not always be present and this raises another range of questions about the role of policy analysis in government with which capacity studies must, but have not yet, incorporated (Craft & Howlett, 2012b; Newman, 2014; Nutley et al., 2007). Research and knowledge can be used in an 'argumentative' way to help develop and choose among options, in an 'evaluative' way to help clarify the strengths and weaknesses of alternatives, or in a 'strategic' way to bolster positions already adopted (Landry, Lamari and Amara 2003; Whiteman, 1985). Capacities for each of these types are different and the extent to which any individual or unit should focus and prepare for one rather than another use is a subject which has not been investigated in studies to date.

A second issue is one which flows from the fact that most existing studies examine policy analytical capacity only on an intra-governmental level. But, while achieving each of the policy functions or abilities cited by Riddell could require a highly trained, and hence expensive, workforce with far-seeing and future-oriented management and excellent information collection and data processing capacities as well as the opportunity for employees to strengthen their skills and expertise inside government (O'Connor et al., 2007) it could also be raised externally (Howlett, Migone, et al., 2014b). That is, a significant factor in policy analytical capacity centres on the ability of governments to outsource policy research to similarly qualified personnel in private or semi-public organizations such as universities, think tanks, research institutes and consultancies (Boston, 1994; Evans & Wellstead, 2013).

Assessing the actual and proper overall distribution of capacity between governmental and non-governmental actors and the differences between governmental and non-governmental analysts and policy advisory system members, including outside consultants, is a key question and central focus in contemporary research into policy analytical capacity. As Anderson (1996) noted, ''a healthy policy-research community outside government can play a vital role in enriching public understanding and debate of policy issues, and it serves as a natural complement to policy capacity within government.'' This also requires sufficient vertical and horizontal coordination between participating organizations to ensure that research being undertaken is relevant and timely (Alexander, Lewis, & Considine, 2011). The existence of appropriate 'boundary-spanning' links between governmental and non-governmental organizations are critical in this regard (Weible, 2008).

Here we are dealing with a larger, extended, version of the Voyer observation cited above: extending the analysis of the distribution of techniques of policy appraisal to venues of policy formulation located beyond different units of government. Most of the very limited amount of work done to date examining the situation with respect to policy advice, policy formulation and the utilization of analytical techniques in countries like Australia (Weller & Stevens, 1998), the Netherlands (Hoppe & Jeliazkova, 2006) New Zealand (Boston et al., 1996), the UK (Page & Jenkins, 2005) and the US (Hird, 2005a, 2005b) have found evidence of the existence of very sophisticated divisions of policy labour among the various parts of the policy advisory systems found in those jurisdictions. Whether or not, and to what degree, government and non-governmental policy actors in a policy analytical community have the capacity to actually fulfil these tasks, for example, is an ongoing area of research (Turnpenny et al., 2008; Turnpenny, Radaelli, Jordan, & Jacob, 2009). This requires examining internal–external differences and similarities as well as addressing

differences in policy work and techniques across different venues outside governments comparing and contrasting professional analysts inside government, professional consultants who worked on a temporary contract basis for governments, and analysts located in the NGOs with whom government officials, and consultants, interact (Howlett, Tan, et al., 2014a).

How these different arrangements affect the skills and resources employed in policy analysis and in the process of policy formulation is not well understood but exists as an important subject for future research in this area of policy analytical capacity studies and studies of policy capacity more generally. Additional cross-national studies in particular are needed to determine how common is any particular pattern of advice and what are the consequences and impact of having one arrangement versus another.

4. Conclusion: advancing the understanding of policy analytical capacity on policy outcomes

Overall the literature reviewed here suggests governments, as a whole, exhibit an uneven distribution of capacities, technical capabilities, and utilization practices across different organizational and thematic venues. The data available to date show that some departments and agencies – such as finance – enjoy favourable circumstances, which allow them to practice sophisticated analytical techniques while others may only seldom undertake such techniques depending on various factors such as their task environments and the skills and training levels and types among their individual analysts and analytical communities (Howlett & Joshi-Koop, 2011; Howlett et al 2014). Differences exist in different governmental and non-governmental venues with respect to the nature of the internal and external training analysts receive, their job expectations and work descriptions, the nature of the issues they commonly face and the tasks they undertake in their work. The techniques of analysis practiced by analysts in government consulting and in non-government venues are also different from those found internally and formal education levels, disciplinary background and policy related training are not the same in venues outside of government – between NGO-based analysts and those employed as consultants – and are not the same as the distribution found internally (Howlett & Migone, 2013; Howlett et al., 2014).

These findings have revealed a pattern of increasing sophistication in analysis and policy work as one moves from the non-governmental sector to the governmental one and within government from more socially involved agencies to more economically-oriented ones, with policy consultants capable of augmenting and extending internal activities if requested to do so (Howlett et al., 2014). There is some indication of a complementary relationship between internal analysts and consultants, as in general the consultants are more highly educated and trained relative to analysts and therefore can bring a different skill set to formulation processes (Howlett, Migone, et al., 2014b; Lindquist, 2009; Lindquist & Desveaux, 2007). On the other hand, the NGO sector is very under-developed by comparison with either of the other groups and is unlikely to either replace or supplement them (Evans & Wellstead, 2013).

While the work done on policy analytical capacity to date cited here is intriguing and suggestive, however, not enough empirical research currently exists to allow us to trace out and test the impact of each factor on the quality of policy outputs and outcomes (Gregory & Lonti, 2008; Waller, 1992). Advancing the understanding of policy analytical capacity and the role played by supply and demand considerations in its creation thus requires assembling more and better, and especially additional comparative data, on its quantity, and quality and the impacts and effects higher and lower levels of policy analytical capacity have on the quality of policy outputs and outcomes (Hunn, 1994; Waller, 1992).

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