

**Governance Challenges of Regional Innovation:  
Intellectual Capital and Social Technologies**

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## Introduction

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Regional innovation increasingly requires collective intelligence and collaborative governance arrangements underpinned by intellectual, financial and in-kind investments. The coordination challenges of distributed governance tax the stakeholders' ability to construct effective systems of social learning. Those systems are built on the social technologies that arise from regional investments from a variety of private, public and civic sources in the region's intellectual and social capital.

'Collective intelligence' refers to the creative capacities of a group, organization, or community. Along with social learning it is among two important families of mechanisms through which an organization or a community effectively mobilizes its intellectual, physical and human capital, marshalling them in ways that continuously produce innovation and add to the community's stock of capital assets. This intelligence-*cum*-learning task creates a geo-centric governance challenge: the challenge of optimizing geo-technical-communities of practice so that they can make the best use of collective intelligence and ensure effective social learning when resources, power and knowledge are widely distributed.

An innovative region is first and foremost a *community* – i.e., a fuzzy geo-political entity that has a soul, a collective intelligence, a capacity to learn – and since for learning implies new perspectives and creative capabilities – and a capacity to transform. An innovative region is fundamentally a community that learns fast and well. To do so, it makes the highest and best use of all its collective intelligence and resources (intellectual, social, physical, financial, personal, etc.) through the use of both physical technologies, including communication and information technologies (CIT's) and social technologies, such as collaborative techniques, culture, networking and governance styles.

Just as organizational learning is important for firm competitiveness, social learning permits ongoing innovation in regional processes and institutions that contribute to firm adaptation. This paper explains why innovative regions are important, how they work, and how, through a variety of means some communities are more innovative and more successful than others in a knowledge- based economy. It also presents a framework for regionally based 'civic governance' based on the results of the first year of a three-year comparative study to examine how three different communities – Ottawa, Canada; Glasgow, Scotland; and Silicon Valley, California – have addressed this issue of regional innovation in the new economy through the use of 'civic collaboratives'.

## An Analytical Framework

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What's new about the new economy is its emphasis on the human dimensions. The emphasis on knowledge workers, knowledge capital, and knowledge management puts people front and centre in any discussion of corporate strategy or economic policy. Instead of physical and financial capital being 'top of mind' issues among private and public sector managers, increasingly concerns are turning to developing, attracting, and retaining workers. To facilitate the development of knowledge capital, senior managers are increasingly putting attention on non-traditional, external concerns that help build effective "business ecosystems"(Moore, 1996).

While part of this shift has resulted in a range of corporate networks and alliances, part has also resulted in an increased focus on issues of regional attractiveness, community resources and, and quality of life to ensure the firm has adequate access to talent resources.

Cayer and Welch (1999) prepared a short list of new economy attributes that private and public organizations must align with in order to be successful in this knowledge-based economy. They include:

- Technology is given
- Globalism is here to stay
- Knowledge builds wealth
- People are the most important raw material
- Competition is relentless
- There's no such thing as a smooth ride
- Alliances are the way to get things done
- Place still matters – but for different reasons

To which we would add two more attributes that reflect the more distributed reality of the new economy. They are that “sharing knowledge builds wealth faster”, as evidenced by the move to open-source software, and that “everybody wins or everybody loses”, as evidenced by co-operative industry efforts around competing standards and the growth of broad community collaboration to deal with cross sector issues (Chrislip & Larson, 1994).

In a knowledge-based economy, *extensive growth* (through additional human and physical capital) does not suffice to ensure socio-economic progress. Much depends on the capacity to ensure that the different capital inputs work well together, and therefore on the development of forms of collaborative organization designed to fully tap the collective intelligence and to generate effective learning. The lack of *intensive growth* – growth based on a capacity for continuous technical and organizational innovation – is at the source of the productivity slowdown and of the relative decline in our standard of living.

Silo-like activities and turf wars, not only within organizations but also between them, are fundamentally disconcerting particularly in areas requiring government/ business/ society cooperation. Consequently, at the core of an effective learning economy and of any significant improvement in our standard of living are collaborative mechanisms in which partners and sectors may learn to effectively co-operate and co-evolve (Paquet, 1998).

The extent of the disconcertion and dysfunction in an organization, a community or a socio-economy has much to do with the inadequacy of what Alfred Marshall called “organizational capital”. As he put it, “capital consists in a great part of knowledge and organization; and, of this, some part is private property and other part is not” (Marshall, 1920: 138). Organizational capital refers to:

- the internal organization of the units,
- the network of relationships (within the region, district, etc. in which it is embedded),
- the set of capabilities these relationships embody,
- the ways in which they are synchronized, and
- the socio-technical infrastructure required for all this to work (Loasby, 1991).

Collaboration and innovation demand the sort of organizational capital that is capable of generating and supporting the effective co-ordination of economic activity - but not overly so. Too much co-ordination reduces the degrees of freedom and discretion for discovery and learning among those co-ordinated. A lacklustre organizational performance is therefore *prima facie* evidence that the current organizational capital is not capable of generating either the requisite coherence that ensures collaboration, or the right balance between creative looseness and efficient tension likely to trigger innovation (Granovetter, 1973).

While organizational capital is not the only input necessary for organizational effectiveness, community success, and national productivity, it is a key input. It is most certainly one of the key enabling factors. Yet it is also one of the most difficult ingredients to inject into any organization or community. This is because any re-organization tends to modify an institution's balance of power, often expropriating many power-holders of their leverage. However, to solve the sort of problems faced by many disconcerted communities and socio-economies requires nothing less than a massive investment in new organizational capital. This inevitably entails a transformation of governance and accountability structures to ensure a more decentralized, more participative, less technocratic system -- one that draws more on the effective collaboration of private, public and civic actors (Hock, 1995; Paquet and Roy, 1998).

### **Distributed governance and multiple accountabilities**

In times of rapid change, organizations and communities can only govern themselves effectively by developing the capacity to learn both their goals and the means to achieve them *as they proceed*. This learning is accomplished by tapping the knowledge of partners and collaborators within a group and getting them to collectively invent ways out of the predicaments they are in. This leads to a much more distributed governance model that tends to deprive the traditional 'heroic leader' of his or her monopoly on organizational governance. For the organization or community to learn quickly and to avoid the many ways to say 'no', everyone must take part in the *conversation*, bringing forward their knowledge that has a bearing on the issue. This calls for a dispersion of power and for a more negotiated governance process (Paquet, 1999).

Distributed governance does not only mean dispersing decision-making power within sectors. It also entails a dispersion of power across sectors, over a wide variety of actors and groups. Because of the rapid change inherent in the new economy, the best learning experience for these variegated actors and groups is effected through flexible multi-sectoral teams that are woven together by moral contracts and reciprocal obligations negotiated in the context of evolving partnerships (Paquet and Roy, 1998).

Under ideal circumstances, a multifunctional *esprit de corps* materializes and provides a most fertile ground for collective learning. It is based on the gradual development of trust, social capital networks, reasonableness, and a mutual understanding that facilitates a *multilogue*, or multi-directional conversations, and generates a pragmatic ethic likely to promote interaction and synergies among the many potential partner organizations (Thuderoz, Mangematin and Harrisson, 1999). Unfortunately, the circumstances for creating this multilogue are not always ideal.

This *multilogue* entails explicit efforts to mobilize participants through a wide array of mechanisms, coordination maps and institutions. In practice this proves much more difficult to realize than one might presume, for the conditions and constraints imposed by ‘collective intelligence’ on such efforts do not necessarily represent *feed-forward* social learning (i.e., promoting the advancement of social learning). Consequently, the designed organizational arrangements may not effectively catalyze ‘collective intelligence’, or may mark out only a portion of the learning terrain, or may link the different issues too loosely, and therefore may generate slow learning, confusion or even unlearning.

In a distributed governance world, power must be shared even as knowledge is. It must be shared because among the multiple players there are many with pieces of authority or pieces of the solution. Consequently, each person is an official, and has a burden of office. Each member of the community has ruling work to do: each participant is not simply a consumer of governance, but a producer of governance (Tussman, 1989). Indeed, it is only because citizens *qua* citizens have duties and obligations that they are entitled to civil rights that ensure that they are fully equipped with the power to meet their obligations.

But there is not much meaningful debate about the nature of this burden of office, because of the fact that duties and obligations (i.e. the burden of office) are often rather ill defined in our complex world. This vagueness is unfortunately unavoidable. Attached to the burden of office is a commensurate accountability obligation. Accountability refers to the requirement to "answer for the discharge of a duty or for conduct". This presupposes an agreement on (i) what constitutes an acceptable performance and (ii) what constitutes an acceptable language of justification for the actors in defending their conduct (Paquet, 1997).

In today’s world, leaders have a complex burden of office and are confronted with

- (a) many interfaces with different stakeholders with different claims to authority (hierarchical superior, professional colleagues, clients, etc.),
- (b) many types of accounts demanded (political, managerial, legal, professional, etc.), and
- (c) much complexity, heterogeneity, and uncertainty in the circumstances surrounding the activities for which one is accountable. The very complexity of the burden of office results in much fuzziness in the definition of accountability.

Defining accountability in a single direction, or with reference to only one stakeholder, or with reference to one dimension only of the burden of office, or without taking account an issue’s context, is extremely dangerous. It amounts to assuming that only one dimension is of consequence, and presuming that all other forms of accountabilities can be regarded as irrelevant or secondary in some sense. If someone were to define his/her burden of office entirely in terms of the dictates of the financial services department in their organization, it could only lead to abusive, dangerous and truncated notions of one’s burden of office, accountability and ethics.

In the face of such multiple accountabilities – many of them leading to conflicting or even contradictory demands – there is no easy way out for a community. There must be a form of exchange, *multilogue* and deliberation that leads to a fuller use of the collective intelligence and to social learning -- and ultimately to a reconciliation of these different dimensions -- even though it be imperfect, incomplete or temporary (Juillet, Paquet et Scala 2000).

Social learning will occur if (i) the conversation is conducted within a context that allows a meaningful exchange to be carried out -- meaning that participants are willing to listen while putting their own predispositions on hold (Senge, 1990), and (ii) the conversation, deliberation, and accumulation of judgements are conducted with tact and civility, with an openness to multiple logics (Paquet 1999b).

The sort of learning generated by *multilogue* may not necessarily congeal into formalized decision-making or actions. It tends to remain with participants as *tacit knowledge* or as a capacity to deal effectively with matters in a local and particular context in a timely manner. Often, this tacit knowing materializes as a by-product, as a result of subsidiary or peripheral attention being given to some matters while addressing other issues in a more focused way. Indeed, as we shall see later, such tacit knowing is at the very basis of explicit learning, and much of the effectiveness of social learning depends therefore on the accumulation of tacit knowledge in a community (Gill, 2000).

The effective use of collective intelligence and social learning is predicated on the fact there is accumulated tacit knowledge, derived from experience. Since not all tacit knowing gets translated into explicit knowing, it means that at any given time, a community knows more than it can tell. This is the way knowledge evolves in common law: case by case, and often in a tacit way. But such tacit knowledge and its ‘sociality’ – the capacity of tacit knowledge to build networks, trust and social capital – cannot easily develop without some proximity.

### **Discovery and milieu**

To cope with a technology-driven and dynamically evolving environment, organizations and communities must use the environment strategically, in much the same way as the surfer uses the wave: to learn faster, to adapt more quickly. This calls for non-centralization, for an expropriation of the power to steer away from the top managers in an organization or from any one organization in a network or a community. To be successful ‘surfers’, decision-makers must have the capacity to mobilize the imagination, resources, and commitments of all the relevant stakeholders. They must be actively engaged, willing to get their hands dirty in dealing with problems. They must also become team leaders in task force-type projects, like quasi-entrepreneurs capable of cautiously sub-optimizing and accepting errors in the face of uncertainty, and of engaging others to join voluntarily in such ventures (Wilson, 2000).

This sort of strategy calls for lighter, more horizontal and modular structures, for the creation of networks. These new modularized private, public, and civic organizations cannot impose their views on their clients or citizens. But these structural features are not sufficient: mechanisms are required to ensure the requisite degree of consultation, deliberation and negotiation everywhere.

Leaders have to become brokers, negotiators, and *animateurs*, developing a consultative and participative mode that assures buy-in among firms, state organizations, and community groups. They must find the right balance in this learning process between exploration for new knowledge and exploitation of the new acquired knowledge (March, 1991). While discovery is centrally

important, it is equally important to apply new knowledge to benefit competitiveness or public legitimacy or civic coherence.

Moreover, it must be understood that the discovery process is but one blade of the innovation scissors. The other blade is the interactive process that links the community with its environmental context. The context is shaped by market and non-market components, conventions, socio-cultural factors, and by the broader institutional structure. It is this ensemble of components, conventions and structures that constitutes the relevant milieu. Whether the unit of analysis is technology or the firm or the community of practice, these interactive mechanisms are driven by their contextual fitness, and the community selection processes "provide the source of differential fitness - firms whose R&D turn up more profitable processes of production or products will grow relative to their competitors - and also tend to bind them together as a community" (Dosi and Nelson, 1994:162).

One may define the notion of milieu as "un ensemble territorial formé de réseaux intégrés de ressources matérielles et immatérielles, dominé par une culture historiquement constituée, vecteur de savoirs et savoir-faire, et reposant sur un système relationnel de type coopération/concurrence des acteurs localisés" (Lecoq, 1989). Consequently, the notion of milieu connotes three forces:

- 1) the contours of a particular spatial set vested with a certain unity and tonus;
- 2) the organizational logic of a network of interdependent actors engaged in cooperative innovative activity; and
- 3) organizational learning based on the dialectics between adapting actors and the adopting milieu (Maillat, 1992).

In these search/discovery-cum-selection processes, social proximity plays a fundamental role. Both on the organization side and on the forum/environment side, proximity breeds interaction, 'intelligence' and socio-economic learning (Boswell, 1990). In addition, these interactive mechanisms are fuelled by dynamic increasing returns to agglomeration. In most cases, these agglomeration economies are bounded, and therefore do not give rise to monopolies in a single region or location, but they generate increasing returns that tend to snowball (Arthur, 1990).

At its core, the dynamic milieu has a number of intermingled dimensions (economic, historical, cognitive and normative) but they all tend to depend on the prevalence of social trust and confidence, and therefore on a host of cultural and sociological factors that have may be found in localized networks where backgrounds of shared experiences, regional loyalties, and common attitudes are more likely to have an influence.

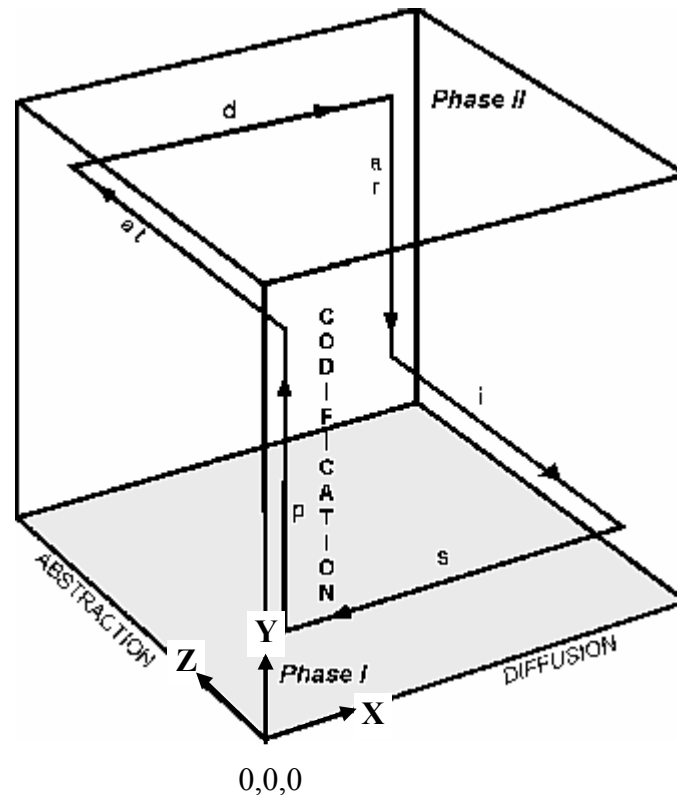
This is 'social capital' in Coleman's sense, and such social and cultural capital plays a central role in both the dynamics and the capacity to learn and to transform meso-level innovation systems (Coleman, 1988; Saxenian, 1994). Thus the milieu is likely to have a prominent role in shaping or constraining collective decision making and innovative choices, particularly in collaborative activities where 'shared experiences, regional loyalties, and common attitudes' are essential in establishing consensus.



## Social Learning

Making knowledge explicit does make communication and learning easier but it does not guarantee that a community of actors will collectively learn faster and become more innovative. While the social learning processes are connected to ‘collective intelligence’, they can only be usefully examined when done so separately. They are best analyzed as information codification and dissemination problems that complement the Polanyi scheme.

Max Boisot has suggested that in order to analyze the different types of information transaction structures, understanding a three-dimensional space – *the information space* – formed from the dimensions of *abstraction*, *codification* and *diffusion* which describe the information flows within it. This space defines three continua: the farther away from the origin on the vertical Y axis, the more information is codified (categorized, stylized and simplified); the farther away from the origin along the X axis, the more information is diffused and shared; and the farther away from the origin along the Z axis, the greater the information’s abstractness (i.e., the more general it becomes) (Boisot, 1995).



**Figure 2: Boisot's Social Learning Process**

Within the cube, Boisot attempted to stylize the social learning process in two different phases -- the processes of production and diffusion of information – each with three different steps. In Phase I, social learning begins with a scanning of the environment for concrete information that is widely diffused in order to detect anomalies and paradoxes. Following this scanning step (s), step 2 stylizes the problem (p) posed by the anomalies and paradoxes in a language of problem

solution. The third step of phase I generalizes the specific issue solution to a broader family of problems through a process of abstraction (**at**).

In Phase II's step 4, new knowledge is diffused (**d**) into a broader community and then, through a process of absorption (**ar**) new knowledge is assimilated by the population so as to become part of its stock of tacit knowledge in step 5. In step 6, new knowledge begins to have an impact (**i**) on community practices and artifacts.

From **Figure 2** above, one may identify blockages which may inhibit the social learning cycle. In Phase I, cognitive dissonance in (**s**) may prevent anomalies from being noted, epistemic inhibitions of all sorts in (**p**) may stop the translation process into problem solution. Blockages due to a lack of problem definition being encapsulated within the *hic et nunc* (**at**) may prevent the generalization of innovation. In Phase II, the new knowledge may not receive sufficient diffusion because of property rights or because of certain values (**d**) or the presence of strong conservatism may result in a refusal to listen by stakeholders (**ar**) or because of an absence of mechanisms to incorporate the knowledge into existing frameworks and paradigms (**i**).

The mechanical blockages described in this Boisot model must not be regarded as the greatest blockages in the development of 'collective intelligence' and social learning. The central blockages in an innovative region have to do with the reconciliation of frames of reference. A region may commonly have collaborators from any of the private, public or civic sectors interacting with one another. Hence, it is probable that the same data can be interpreted in widely differing ways. What is efficient for businesses may be callous for the community or politically threatening for the public sector. Therefore, expanding Boisot's model to a regional level requires a bridging of the fundamental worldviews among the various players. This can only be achieved when stakeholders transcend their individual frames of reference and engage in learning-generating conversations. Importantly they must avoid an 'advocacy war' or war of solutions and begin learning about each other. Generating a common language of problem solution and the co-design of solutions presupposes mutual understanding.

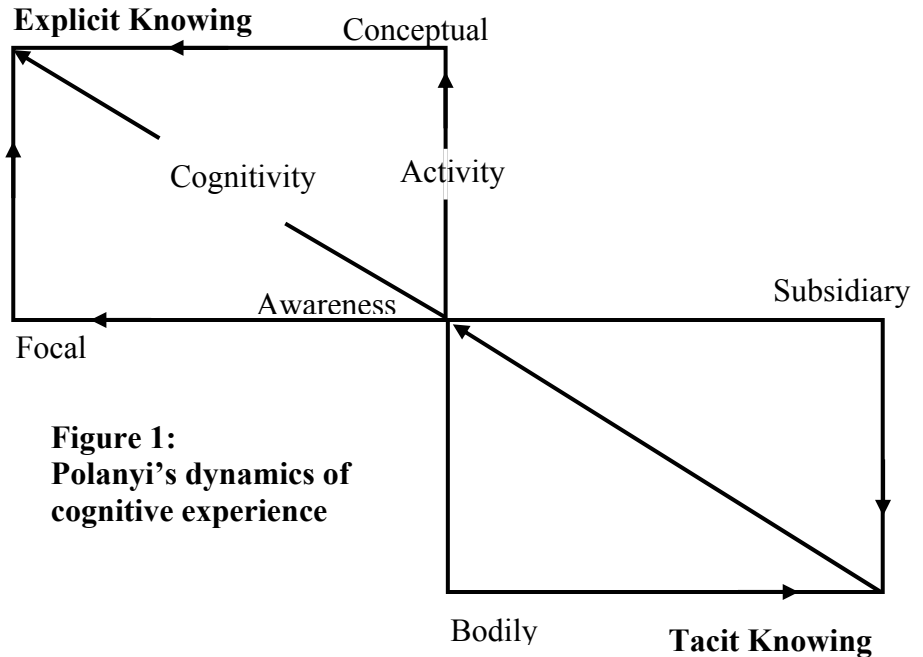
This 'frame resolution' is the sort of governance challenge that most communities face. The central question in this context becomes how to generate those learning conversations? How can one effectively use neutral instruments, like for instance the production of a collective report, to trigger the requisite modification of existing frames of reference that leads to a useful elimination of the blockages to social learning?

### **Collective intelligence**

It has been established that:

- 1) distributed governance and multiple accountabilities are the defining characteristics of the new economy organizations and communities,
- 2) the environment is defined by an ensemble of social mechanisms, network relations, and 'social capital' that provides "causal texture" (Emery and Trist, 1965) for innovation and collective decision making, and
- 3) the adaptation/adoption dynamics between collective environments, play themselves out pragmatically much better *in situ* (Schön and Rein, 1994),

However, these are not sufficient to ensure that effective co-ordination and learning will indeed prevail. In essence, the sum of the parts does not equal the whole. A basic coalescence of all these factors is required to ensure that the community has a capacity to mobilize effectively its competencies, and a capacity to probe and learn, to go beyond its limits (Lévy, 1994).



**Figure 1:**  
**Polanyi's dynamics of cognitive experience**

Learning entails "the mutually consistent interpretation of information that is not fully codified, and hence not fully capable of being transmitted, understood, and utilized independently of the actual agents who are developing and using it" (Storper, 1996). Knowledge is dispersed and exists in a form that is not fully codified.

A central challenge is the determination of how such knowledge can be made explicit. Michael Polanyi (1964, 1966) creatively explored this and Gill (2000) has synthesized his approach in a simple diagram that explains how cognition proceeds from *tacit knowing*<sup>1</sup> toward an *explicit knowing* through processes that improve the awareness of tacit knowledge by bringing it into focus, and helping to formulate it in a conceptual form that is likely to facilitate its dissemination. Gill's graph below of Polanyi's dynamics of knowledge maps this process in a simple way.

This process of objectifying knowledge calls for instruments, conventions or relational transactions to define mutually coherent expectations and common guideposts for partners having quite different paradigms and frames of references. The challenge of 'collective intelligence' is to find useful ways to effect agreements on common guideposts in oblique ways that are unlikely to trigger defence mechanisms among different stakeholders and are likely to resist efforts to reframe problems in ways that may not favour individual organizations, thus avoiding the fundamentalist turf wars that often accompany this sort of collective discussion. When these oblique strategies are successful, they often go through some innocuous reporting procedure that requires much dialogue that inevitably results in some significant problem reframing and joint learning because of the non-threatening nature of the process (Juillet, Paquet, Scala, 2000).

<sup>1</sup> *Tacit knowing* refers to the bodily and subsidiary absorption of knowledge that is drawn upon while the awareness of a person or community is involved in another more focused activities. It is a subsidiary focus of attention.

The instruments and conventions used to establish agreement differ from sector to sector. However, they do provide the requisite coherence for a common context of interpretation and for some "cognitive routinization of relations between firms (and one might add 'communities'), their environments, and employees" (Storper, 1996:259). Indeed, such coherence is a major source of nimbleness in the network economy. Yet, as we mentioned earlier, a good learning network must not be too cohesive: the nodes should not be too similar, nor the ties too strong or too routinized. Heterogeneity and social distance do foster a higher potentiality of innovation because the different parties bring to the "conversation" a more complementary body of knowledge and experience.

## **Collaborative Governance**

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In the context of this discussion it is interesting to note the growth in some regions of civic organizations that are cooperative hybrids of business, government and social organizations. Though civic in form, usually non-profit, these new 'civic collaboratives' act as neutral vehicles for achieving 'learning conversations' among diverse members of their communities. How do they achieve this? Through the application of social technologies, in particular the use of locally tailored governance styles. In the past year we have been exploring this idea through a comparison of partnership organizations in Ottawa, Canada; Silicon Valley, California and Glasgow, Scotland.

### **Governance as a Social Technology**

As a governance form, hierarchy is most commonly utilized (the others being market, clan and association) and requires the members of a social organization to align themselves with a single body or individual at the 'top' of the system. Hierarchy strongly depends on the top leadership quality and the leader's ability to achieve compliance within his or her organization. Should the leaders' legitimacy be challenged or coercive power weakened, a hierarchical organization will fail to engage diverse elements of the organization in these 'learning conversations'.

In the case of a hierarchically organized society, its learning capacity is typically embodied in the leadership of private and public organizations and who then impose it upon the community. In this context, traditional 'command and control' governance tends to discourage individual and collective learning in favour of deferential obedience. Social co-ordination of this type is ill matched to periods of rapid social change, to the resolution of complex social problems or to situations of distributed power and authority such as are characteristic of the knowledge economy. Most importantly, there are simply too few learners at the 'top' with significant knowledge and leadership authority to remain ahead of the curve on a broad range of issues.

For instance, governments are widely believed to be the upholders of the 'public interest', yet their hierarchical organizations are also widely perceived to be excessively slow learners and overly controlling, a combination that has contributed to low levels of confidence in public sector organizations (EKOS, 1996). The impacts of both of universal education and the widespread use of CIT's, such as the Internet, have greatly reduced the knowledge gap between

citizens and their public representatives, leading to a continual erosion of public confidence in the legitimacy of government in all democratic societies. Further, while businesses and markets are viewed as quick learners and resourceful, they are often perceived as being too motivated by self-interest. They are therefore viewed with suspicion when they participate in co-operative compacts involving the public and civic sectors.

The paradigmatic divide of business and government (Jacobs, 1992; Stanbury, 1993) vividly illustrates the aforementioned challenge of ‘frame resolution’. As Stanbury’s “policy arena” metaphor suggests, they are contestants in a win-lose battle either to constrain the other or to acquire each other’s assets. In contrast to both government and business, the third element of community governance, the civic sector, is generally viewed as being too fragmented to be any sort of a threat to business or government, or too deficient in resources to have assets worth contesting.

The unique hybrid nature of the new ‘civic collaboratives’ allows them to act as private, public or civic organizations. They can seek profit, enhance public interest and further community development all at the same time, because their members do not give up their characteristic attributes while participating in a partnership. These organizations are often entrusted with the role of fostering social co-ordination in environments of conflicting authorities, sometimes to the extent of assuming traditional public or private sector roles. However, unlike most civic organizations, they can achieve access to significant resources. Their legitimacy is not in doubt -- unlike some public organizations -- and unlike private enterprises there is no question about their contribution to the public good.

These ‘civic collaboratives’ are perceived as friendly and non-threatening for governmental and market organizations alike and can provide symbiotic support in areas where direct relations between business and government actors are ineffectual or have broken down. The inability of civic collaboratives to exert any kind of collective control makes them natural partners of government. In their exchange of ideas, services and resources, the inherently bazaar-like of these organizations make them quick social innovators and natural complements to the alliance modalities of business organizations.

### **Template for Regional Learning**

From our preliminary research with the Ottawa Centre for Research and Innovation, the Joint Venture Silicon Valley Network and the Glasgow Education Business Partnership, it was clear that in each case the governance alignment transcended traditional sectoral and organizational boundaries, and was guided considerably by dimensions stemming from proximity. In fact the relative differences between the collaboratives seemed grounded in milieu. A variety of local economic, social, political and technological realities seem to have influenced the collective learning within the local partnerships, and the overall effect has been to shape the nature of a shared governance system contributing to the ‘collective intelligence’ of their respective regions. For example, Ottawa’s preoccupation with start-ups and spin-offs has encouraged partnerships around business networking, professional development and education. This has led to a more community-oriented flavour to their collaborative governance. In Silicon Valley, its more mature

technology economy encouraged partnerships that would create a more business friendly environment. Hence the Valley's closer orientation to the private sector. Glasgow's high unemployment has meant that local partnerships were focused on ensuring basic skills and promoting entrepreneurship, functions that inevitably had closer ties with the public sector.

In trying to better understand this idea of collective intelligence, we put forward the following template as a preliminary mapping of the main actors and flows that shape the learning region:

**Figure 4: A Template of Regional Learning**



The central component of the organizational apparatus in civic collaboratives is *Initiatives*. By initiatives, we mean the specific set of projects, programs and processes undertaken and managed by the regional entity under study, as well as the scope of their influence. This set of activities determines the organizational apparatus of the regional entity. The initiatives attract investment and provide both explicit and tacit learning. They provide the neutral instrument upon which stakeholders can build learning conversations. In our comparative research, projects ranged from education to employment to basic research to industry advocacy to regional development. Yet from a preliminary survey conducted in each region, initiative participants believed that the value added from collaboration was almost or equally as valuable as the specific results of the initiative.

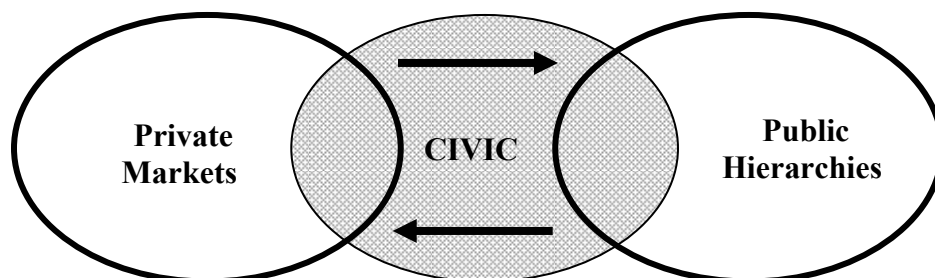
The top component is *Investments*. By investments, we mean the source and types of inputs that drive the regional entity. Our expectation was that the nature of the investments in the collaborative would shape the type of initiatives undertaken by the partnership organization. We observed that the initiatives themselves could also shape investments. The relationship between investment and initiative was forged from not only the nature of the investment and the personalities involved, but also by the motivations of those participating in the collaborative processes.

Finally, collective learning is also influenced by the outcomes of collaboration, reflected in the *Impacts*. By impacts, we mean the specific and general results of the partnership activities undertaken by a collaborative -- in essence the change in the capacities of community players that reflects their ability to learn and work together. Given that in many cases collaboration is an action of last resort (Chrislip and Larson, 1994) frequent, positive and credible feedback seems essential for sustaining commitments. Collaboration is sustainable if its initiatives can be deemed successful by the target audience, by the community and by the decision-makers themselves. A successful initiative is in essence a proxy for successful social learning. However, accurate and detailed feedback does not seem as important as frequent and positive feedback. Two of the partnerships we observed had little in the way of objective evaluation and relied almost entirely on anecdotal evidence. Demonstrable in their cases has meant having empirical evidence. The other uses ‘rule of thumb’ measures not as a scientific indicator but as a catalyst for encouraging dialogue among its stakeholders.

So where does that leave us? These partnership organizations provide a core of initiatives that are targeted towards common problems, that attract investment, and that provide cross-sector feedback on the community to the partners. In the process they generate tri-sector learning which symbiotically enriches the community’s business, governmental and civic organizations, that does not threaten them, and that produces broad community leadership. Like any good partnership there is a *quid* for the *quo* for participation in these collaboratives. The public sector invests financial resources and gives up the element of control and in return finds the risks associated with complex social problems are mitigated by broad community participation. It also gains access to private resources. The private sector invests time and financial resources and receives access to public and civic policy levers along with public resources to leverage its own. The civic sector partners invest their intangible assets -- their community based legitimacy and credibility -- in return for access to both private and public resources.

The success that these collaboratives have in generating social learning may best be viewed in regards to their accumulation of intangible assets. These “soft” assets grow through a process of simultaneously transforming market assets into public goods and public goods into market assets. The actions of these collaborations differ from the process of philanthropy, which converts private assets into public goods or of privatization, which converts public goods into private goods. The results is a tight social coupling because of the more efficient use of community resources and more effective direction of win-win community strategies. As catalysts for public – private exchanges, the civic collaboratives increase their stock of intangible assets and enhance their future capacity to again act as a catalyst. The win-win strategies that the partnership modality imposes provide the basis for this bi-directional conversion.

**Figure 3: Community Exchanges with Tight Coupling**



What results is a governance model that puts the ‘civic collaborative’ at its core.

This collaborative governance acts neither through coercive or resource power, but through referent power. Whereas the power of the public sector is based primarily upon what can be imposed and the power of markets is essentially based upon what can be taken away, the power of ‘civic collaboratives’ is based upon what is bestowed upon them by business, government and community partners. Collaborative governance governs without mandated authority through the use of networks, trust and consensus. In the chart below the five types of organizational power depicted by Daft (1995), are put in context of the three sectors. From this it’s easy to see that the power of these ‘civic collaboratives’ does not clash with either power of business or government and is very often complementary.

**Table 1: Power Comparisons of Public, Private and Civic Sectors**

<b>Power</b>	<b>Business</b>		<b>Civic</b>		<b>Government</b>
Legitimate By virtue of formal relationship in society	Exchange	↔	Bestowed	↔	Mandated
Reward By virtue of being able to give or not give ‘rewards’ (resources, jobs, etc.)	Philanthropy	↔	Recipient	↔	Subsidy
Coercive By virtue of being able to punish	Withdrawal	↔	Reputation	↔	Regulation
Expert By virtue of greater knowledge or skill	Earned	↔	Nurtured	↔	Legislated
Referent By virtue of respect, admiration, fame	Private arena	↔	Community arena	↔	Public arena

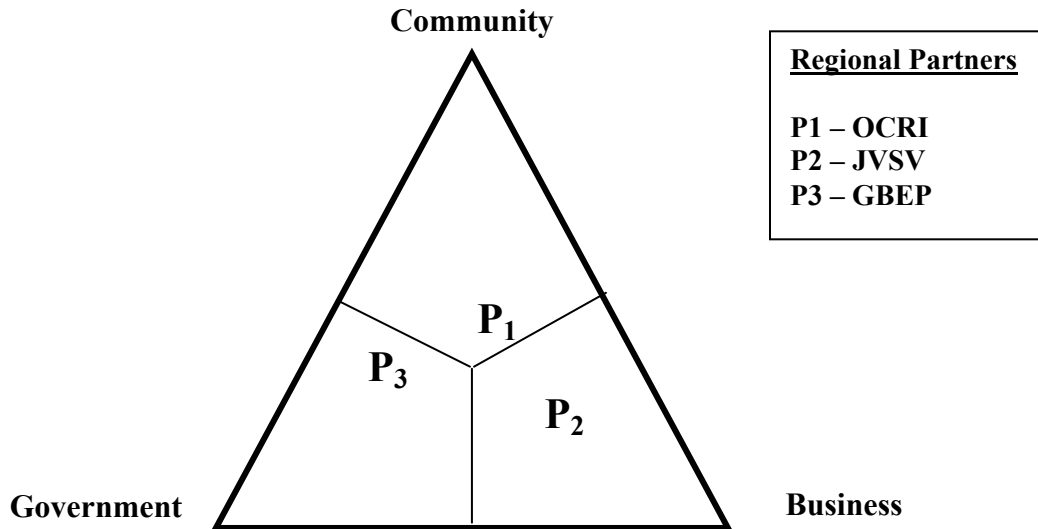
One of the simple truths about government is that it can not appear to fail (Savoie, 1999). Hence by themselves, government organizations tend to be very risk adverse -- an attribute that causes them to be both slow learners and controlling. This tends to disqualify them from leadership of partnerships where experimentation, risk taking and learning are key elements. As mentioned earlier, the suspicion surrounding the motives of businesses makes them ill suited to act as community champions -- even if they are quick to learn. The civic sector by itself is too fragmented and without resources to realistically mount any kind of initiative of regional economic or political significance. As a result networks and collections of ‘civic minded’ regional players would seem by default to be the best option for forging generating dialogue among the three sectors and fostering mutual trust.

### Case Studies

From our recent research and using a modified Boulding triangle (Boulding, 1970), we can attempt to depict the relative governance orientations among the three regions. The positioning



of each regional partnership helps to provide a rough characterization of the governance patterns that have evolved in each area. The typology below is presented as a rough characterization of each regional collaborative:



While all three organizations are non-profits, as partnerships they are examples of multi-sector power sharing and as such are expressions of the region’s underlying governance. The differences in their abilities to engage resources and attention from the three sectors suggested to us what sector seemed to dominate in each area. Initiative targets for each of these collaboratives are remarkably similar and cover a broad range of concerns. However, for Glasgow the overriding issue has been unemployment; for Silicon Valley it has been establishing a business friendly environment and more recently talent pool; and for Ottawa the concern has been business development and again talent pool.

In brief, the governance models of the three civic collaborations can be described thus. OCRI is a *grassroots network* that does not take ownership of its various projects, preferring the project team to do so. Outside organizations figure prominently in public accolades, outsiders often run projects and can even be found as OCRI support staff. Funding for projects is transient, requiring a recommitment by stakeholders on a frequent basis. Because its membership is drawn from across all three sectors of the community, OCRI maintains a portfolio of intangibles, meaning that it is important that its reputation be built in all sectors of the community.

JVSV is a *leadership network* that grew quickly to regional prominence on the strength of the reputations of its private and public leaders, people like David Packard of HP, Jim and Rebecca Morgan, and Ed McCracken of Silicon Graphics. Joint Venture has tended to own the projects they delivered, preferring professional rather than volunteer staff and has been able, more so than the other two, to secure semi-permanent resources to fund their initiatives. Their major source of intangible assets has been the high profile corporate leadership and thus they tend to encourage the development of their private sector reputation most.

GEBP is a *mandated network*. The impetus to collaborate in Glasgow originated in the public sector. While it too has tended to own the projects it delivered, GEBP has relied more like OCRI on transient resources that need continual recommitment. The reputation of the public sector has strengthened the acceptance and the performance of the GEBP.

## Conclusion

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Our experience with the regions of Glasgow, Ottawa, and Silicon Valley support the view that in areas of distributed authority and accountability and in dealing with complex problems, governance too must also become distributed. The nature of that governance will be defined by the nature of the local milieu and the proximate relationships between business, government and civic actors that shape the ‘collective intelligence’. That intelligence is not fixed but is continually being transformed by processes of social learning which engage the community actors in learning conversations. To raise the ‘collective intelligence’ one could bring stakeholders together in collaborative activities and work towards breaking down the obstacles to their collective learning. One such mechanism being used in each of the three areas we studied is the use of ‘civic collaboratives’ as a means of catalyzing community governance.

These ‘civic collaboratives’ provide forums for non-threatening and productive interactions between diverse community players in pursuit of common interests. Civic governance allows market to public and public to market exchanges that are mediated by the third sector that make more efficient use of community resources and collective intelligence. The nature of these civic collaboratives is derived from the initiatives they undertake, the tangible and intangible investments that are made in them, and the impacts that the initiatives have on the community and the players.

Civic collaboratives need to be encouraged. Where governments may be unable to entertain risk or embrace innovation, civic collaboratives can help achieve this for them, while reaping benefits of increased legitimacy and credibility. Where markets may lack the ability to align community infrastructures to the new economy due to a lack of trust as community agents, civic collaboratives can help achieve this for them, effectively enhancing corporate profitability and reputations for corporate social responsibility. For traditional civic organizations, the civic collaboratives help bring together the private and public resources required to fulfill social needs, but also helps value the intangible contributions of the civic actors.

Finally, enhancing the capacity to collaborate is just as important an outcome of cooperation as a successful program or community project. Ultimately, collaboration’s contribute to social learning and collective intelligence. The experience of Ottawa, Glasgow and Silicon Valley suggests equifinality – that there are many ways to get to collaboration and that in the end the reality of successful collaboration does justify the means.

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