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The “Learning Community" as a Local Development Strategy

Bernard Sévigny
University of Sherbrooke < bernard.sevigny@usherbrooke.ca >

Paul Prévost
University of Sherbrooke < pprevost@adm.usherbrooke.ca >

Abstract

The phenomenon of connected communities shows that the Internet can be a powerful tool in promoting cohesiveness between community players. Since a community's capability to initiate development projects depends to a significant degree on the quality of the relational framework in which the players operate, we maintain that it is possible to go beyond the instrumental character of Internet applications and to give a developmental character to processing for designing and developing a collective portal. A learning community is a completed form of connected community that promotes local players to develop a creative synergy that can yield ideas, collaboration, and development projects.

Introduction

Generally speaking, authors writing about local development acknowledge that a community's capability to initiate development projects depends to a significant degree on the quality of the relational framework in which the players operate (Vachon, 1994; Prévost, 1999, 2000, 2003; Pecqueur, 2000; Joyal, 2002; Greffe, 2002). In fact, this relational framework, which comprises all formal and informal ties linking members of a community, is a complex matrix through which learning flows (information and knowledge). Moreover, empirical models and local development strategies, such as clusters, science parks, local productive systems and new industrial districts, highlight the importance of a community's relational framework as it applies to development. The framework allows players to develop a synergy capable of producing “anchored” knowledge that can yield a collective competitive advantage.

Seen from this standpoint, action enables a community to influence the course of its development from within. The quality and scope of daily occurring local activities relate to the competence, style, personality, and commitment of the people who perform them. However, it is the players, not the programs or structures, that manage the community's assets and who determine who works there. Therefore, they are the people to see about guiding or enhancing community development. Even if the ideas, projects, and visions regarding the community stem from individuals, it is through the political, institutional, professional, and social networks that they are discussed, debated, structured, and implemented.

The development of information technologies has greatly accelerated the dissemination of information. While the Internet is obviously quite effective for conveying information, it has prove less so in disseminating knowledge. In this context it has given rise to the concept of the *learning community*, which aims to strengthen and stimulate the community's relational framework by developing a collective portal. The Internet stands out as a powerful tool for fostering cohesiveness amongst community players, making

it possible to act on the predispositions of local development, which, for the most part, are comprised of intangibles.

This paper presents findings from a research project conducted between 2001 and 2004 within the context of activities of the *Centre francophone d´informatisation des organisations* (CEFRIO or Francophone Center for the Computerization of Organizations) and a doctoral research project at the *Université de Sherbrooke* (Canada). This article comprises three parts. The first deals with the distinction between the phenomenon of the *connected community* and the concept of the *learning community*. The second focuses on the typological model, which is a tool designed to perform diagnoses of communities and position them within the framework represented by the learning community. The third part presents the development model for a learning community. The models therein presented were developed from the analyses of the documentation and collective portals, as well as from the research conducted within the framework of the "Bromont – Connected City" project http://www.bromont.com

Towards a Learning Community

Public and nonpublic initiatives with the aim of networking members of a community through a virtual platform, and attempts to federate existing local initiatives through a collective portal are multiplying in the developed countries. This has given rise to expressions such as "connected city," "intelligent city," and "digital city." However, uses developed from Internet applications have remained primarily instruments limited to information dissemination or service delivery.

Certain communities in Europe and the United States have carried out projects that benefit the general public in terms of service delivery, transparency of public affairs management, territorial marketing and local democracy. It is also true that experimentation with information and communication technologies (ICTs) in local and regional communities as a learning and development vector has not delivered anticipated results. The true impact of the Internet on the wellness of local populations is therefore far from being cut-and-dried. It does, nevertheless, provide a basis for devising new means for modulating the flow of information that would allow citizens to participate in public activities, develop communities of interest or practice, promote the networking of players and decision-makers, and assist the emergence of a true user-culture centered around the development of knowledge, capabilities, and competences. In short, to preside over the emergence of renewed development capability.

Table 1. "Connected Community" VS "Learning Community"

Connected Community	Learning Community
Instrumental approach	Developmental approach
ICT access (computer and Internet access)	Community development strategy (cohesive action)
Development of citizen use capabilities	Development of citizen capabilities (participation)
Information dissemination and community promotion	Redefinition of local governance
Delivery of online services (municipal and others)	Networking of players player (communities of interest or practice pressure groups)

It is therefore important to distinguish between *connected community* and *learning community*. The connected community is instrumental in nature and emerges through practice, whereas the learning community is a more complete form of ICT usage and incorporates a community development strategy. A learning community is a territorial entity in which the population--individuals as well as public/nonpublic organizations--is mobilized to foster a state of permanent alertness. Members of the general public undertake discussions, through ICTs and other means, then try the most productive approaches to development, which as a consequence contributes to collective knowledge. In addition to promoting the use of ICTs, a learning community project can stimulate public participation in community activities, redefine

community governance, and give rise to a relational strategy that can generate the knowledge, distinctive competences, and collective capabilities that influence the direction of community development.

Typological Model: A Categorization Tool

The typological model we are presenting is a conceptual framework elaborated from documentation dealing with the concept of the connected city, analyses of collective portals, field surveys, the action-research conducted in the Town of Bromont (Canada), and research into cyberdemocracy. Consequently, the iterative process characterizing our research led to the identification of six dimensions that constitute the pillars on which a proposed learning community rests: management, the portal, governance, networking, citizen capability, and local development. These dimensions have been grouped together and arranged into a conceptual framework. Each of these dimensions has been transposed onto two axes (vertical and horizontal) that serve to measure the variable intensity, which is then used to analyze connected community experiences. The tool is then used to characterize empirical experiences and identify their development trajectory.

Each of the conceptual framework's dimensions includes a *comfort zone* indicating the ideal position of an experience based on the definition of the learning community. Consequently, the comfort zones provide means for specifying the variables in the learning community model and to position the empirical experiences in respect to the variables. The typological model is designed for three main functions: it is a diagnostic tool since it can be used to sketch a situational portrait of the community in relation to the six identified dimensions; it is a positioning tool as it makes it possible to position empirical experiences along the two axes; and lastly, it is a strategic tool when used to determine a trajectory leading to the identified objective.

The Six Dimensions of a Learning Community

Project Management

The *management* dimension provides the setting for initiating, developing, and implementing a collective portal. It aims at qualifying the portal's degree of integration, strategic choices, development directions, selection of functionalities, managerial flexibility and organizational culture. The *management* dimension rests on two axes that make it possible to determine the position of public powers in developing and managing the project on the one hand, and the degree of manager openness to community expectations on the other.

The vertical axis represents the first distinction between a *public initiative* and a *nonpublic initiative*. Local government or a nonprofit organization can undertake project management. Numerous management models lie between the two extremities of the continuum. To illustrate, most of the virtual cities in France were initiated by local public government (municipalities or *communes*, which are French territorial divisions), whereas *community networks* in the United States have result for the most part from the efforts of institutional and community players. In either case, their start-up required the injection of public funds. The financial assistance either comes from supra-national (such as the European Commission), national, regional or local authorities, with the amount varying depending on the partnership agreements. The same holds true for project management. It is important to determine management type.

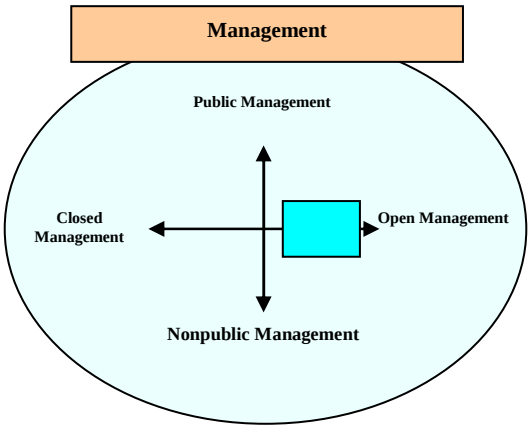

Figure 1. The management dimension

Moreover, such projects can be initiated by public authorities and managed by another type of organization. This is the case of the *Issy-les-Moulineaux* project (France) http://www.issy.com, which was initiated by the municipal government, but managed by a private-sector firm. Likewise, the *Bromont ville branchée* (Bromont—Connected City; Canada) http://www.bromont.com was initiated by the mayor of Bromont, but is being managed by a Not for Profit Organization (NPO) whose board of directors is comprised of local individuals. Lastly, the Ennis Project (Ireland) http://www.ennis.ie was initiated by the country's telephone utility, but is managed by a board of 14 members of the business community. Analysis of experiences at the national and international levels shows that both the instigator and manager of the project need to be identified as these variables inherently influence the development trajectory.

The second axis (horizontal) relates to the degree of transparency in management. Specifically, this axis refers to the work of Van Bastelaer *et al.* (2000) on the directions taken or to be taken during the deployment phase of a *virtual city* project and during its subsequent management. On the one hand, it has been observed that "closed management" does nothing to promote project appropriation by community members, as they feel excluded from the selection process. On the other hand, "open management" is characterized by a lack or near-lack of direction resulting in project direction being subject to the most dynamic or informed elements of the community. Such an intuitive management model fails, however, to promote citizen participation and cohesiveness amongst community players. Once again, the continuum embraces a variety of management methods. Our opinion is that, in this regard, flexible management (see the comfort zone in Figure 1) is the most appropriate for a learning community, since it offers a balance between flexibility and direction.

The Portal

In addition to conveying a local identity, the collective portal showcases the fabric of solidarity woven into the community, and demonstrates the support local government and regional institutions offer community organizations. As a result, the positions occupied by community organizations—whether public, private, community, recreational, or cultural, as well as online functionalities (informational, transactional, and relational), characterize the portal and determine its scope. The portal becomes a veritable community information system and the confluence of informational currents. In this sense, the portal is the hub of the typological model.

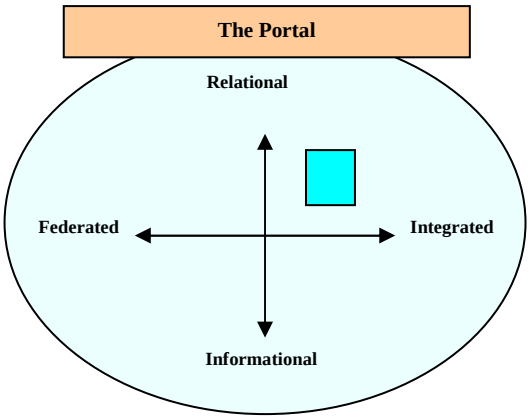

Figure 2. The portal dimension

The horizontal axis illustrates the community's level of integration in the project. For our purposes, a high level of integration means any portal project that offers a variety of content and services that can be useful to citizens (for example the Brisbane – Australia http://www.brisbane.qld.gov.au and Parthenay – France http://portail2005.cc-parthenay.fr/ccparthenay, Web sites). The vertical axis refers to the nature of the information and functionalities integrated into the portal. As a result, the portal information content produced and put online for citizens reveals the unidirectional nature of the relationship. In this case, the

user consults the information yet has no recourse for interacting with the information's manager. This relationship takes in the passive supply of information resulting from citizen requests, as well as the active measures to disseminate information to citizens (OECD, 2001, 23). On the other hand, the inclusion of transactional (the individual uses an online resource) and relational (the individual takes part in online consultation) functionalities indicates the portal provides multidirectional flow. These relationships promote the development of active citizen participation (see Parthenay – France – web site). Consequently, the position of the comfort zone takes into account both the degree of integration of community components and the portal's transactional and relational potential.

Local Governance

For our purposes, governance means the process by which organizations, whether private, public, or civic, choose to govern themselves.1 The nature or type of local governance is reflected in the collective portal, as it illustrates the level of integration of community components, conveys the composition of the board of directors of the organization managing the portal, and presents the mechanisms enabling community members to voice their opinions in the development of policy and decision-making at the local level. It goes without saying that the local government, whose authority is legitimized by community members as a whole, must play a predominant role in ensuring the cohesiveness of actions taken throughout its jurisdiction. The governance dimension is therefore based on two axes: influence on decision-making and influence on policy development (Prévost *et al*. 2004, 153). The notions of decision-making and policy development go significantly beyond those allotted to public authorities. They include directions and decisions relating to all collective projects, whether initiated by local government, a development agency, or any other type of collective body.

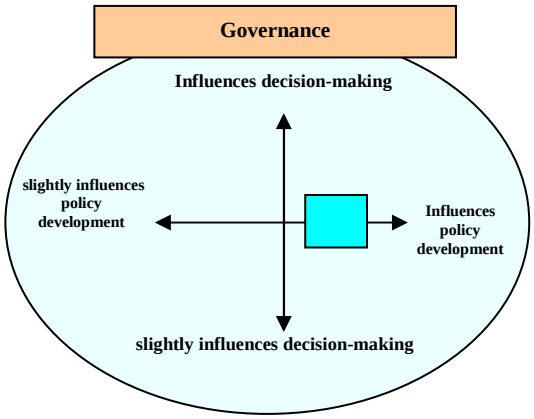

Figure 3. The governance dimension

The information content relating to collaboration, cohesion, and co-management activities accessible through a portal inherently hints at the type and quality of governance in a community, as do the available interactive functionalities (consultation, surveys, forums) (for example, Issy-les-Moulineaux – France – Web site http://www.issy.com). Since it reveals the participation of citizens in the deliberation process of topics of collective interest, the comfort zone embraces participatory and active types of governance.

Citizenship

The fourth dimension, inspired by the work of Longan (2001) and Prévost et *al.* (2004), deals with the issue of developing citizenship in the community. Indeed, it concerns describing the user citizen for whom a learning community project is intended and by whom it is often borne. Citizen capability is expressed along two axes. The vertical axis illustrates the citizen's degree of commitment to community affairs, especially through citizen participation in democratic processes. In this respect, technologies offer citizens additional means for consolidating their position in networks, as well as an opportunity to take part in public debates (for example, Faches-Thumesnil – France – Web site http://www.ville-fachesthumesnil.fr).

1 J. Kooiman, "Findings, Speculations and Recommendations" in J. Kooiman (dir.) *Modern Governance*, London, Sage, 1993, at http://agora.qc.ca/mot.nsf/Dossiers/Gouvernance

The horizontal axis illustrates access and accessibility. The first element recalls the availability of the telecommunications infrastructure and the competences needed to use ICTs (Poland, 2001, 9). It refers to the digital divide that needs to be minimized in order to make exercising citizenship easier through training, the number of public access points throughout the territory, measures to promote the connection of households, and computer purchasing programs). The second item illustrates the ease with which citizens can obtain and understand relevant information about community issues and public policies.

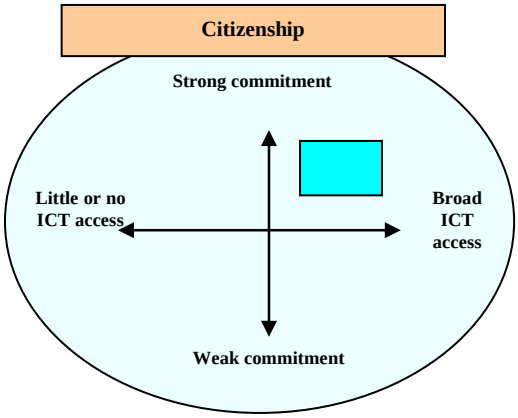

Figure 4. The citizenship dimension

This dimension highlights four types of citizen behavior found in a community (Prévost et *al*., 2004, 156). *Client residents* (lower left quadrant) get information and take advantage of services through traditional channels without committing themselves. In contrast, *active residents* (upper left quadrant) get involved at various levels in the community while staying aloof from new technologies for any number of reasons. *Connected residents* (lower right quadrant) are Internet users who use the Web to stay informed and access services without getting involved in the community's business. *Cybercitizens* (also known as *netizens*) are active, knowledgeable, and connected. In addition to accessing services online, they don't hesitate to take part in online consultations or participate in virtual communities (interest, practice, and pressure groups, and so on). It goes without saying that the comfort zone lies within the cybercitizen space.

Networking

The concept of network refers to the formal and informal links through which information flows between community players (channels, relays, and nodes). It should be clear that networks present variable geometries. According to Vachon, “these structures involved no concentration of power. They tied together players, that is to say, people who have the capability and desire to take initiatives, to strengthen them, and to create amongst themselves a closeness that pushes them to act together” (translated from Vachon, 1994, 205).

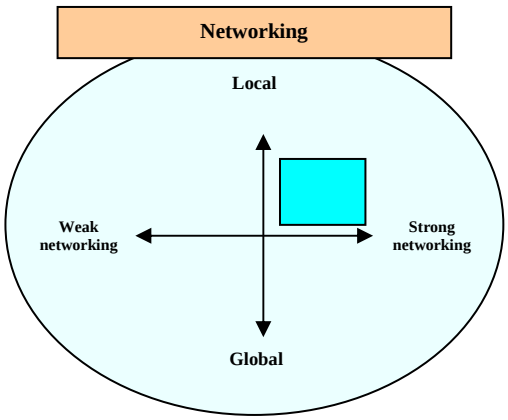

Figure 5. The networking dimension

While institutional and professional networks lend themselves to observation, the opposite is true of personal networks, which are more difficult to define but, undoubtedly, more effective (Pecqueur, 2000, 42). Reality shows us that network quality and intensity are not consistent from one territory to the next. The fifth dimension therefore aims at qualifying networking in the community based on two variables: one dealing with networking intensity (horizontal axis); the other, with network location (vertical axis.)

The latter refers to the types of networks in which community players are active. Local networking means the aggregate of networks in the community that have the objective of promoting community development. This includes players that work on the regional, national, or international level, but are involved locally. On the other hand, players can be active in regional or national (global) networks, while maintaining poor relations with other community players.

Local Development

A learning community project is, first and foremost, a local development strategy based on communication. We assume that this approach can be based on the use of ICTs. The learning community fits into the debate on local development within the perspective of network logic as inspired by Pecqueur (2000). Moreover, Klerk and Peugeot (2002) specified that it is important to stimulate the emergence of local virtual information and proximity exchange communities in order to initiate a scheme of network operation.

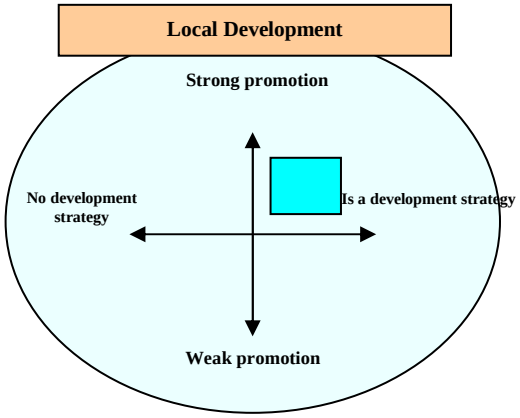

Figure 6. The local development dimension

For a community, the Internet represents both an open window on the world (accessibility) and a storefront on the Web (visibility). The vertical axis depicts the intensity of efforts deployed in community promotion. The collective portal serves, on one hand, as a promotional tool *within the community* that can strengthen the general public's feeling of belonging to the community. On the other hand, it serves as a promotional tool *for and by the community*, since it provides the means for developing the image and message that the community wants to project on the Internet. In practice, some experiences run over into territorial marketing, proposing highly developed canvassing tools (Brisbane – Australia http://www.brisbane.qld.gov.au). Others focus almost exclusively on uses that are local in nature (Bromont – Canada http://www.bromont.com and Parthenay – France http://portail2005.cc-parthenay.fr/ccparthenay).

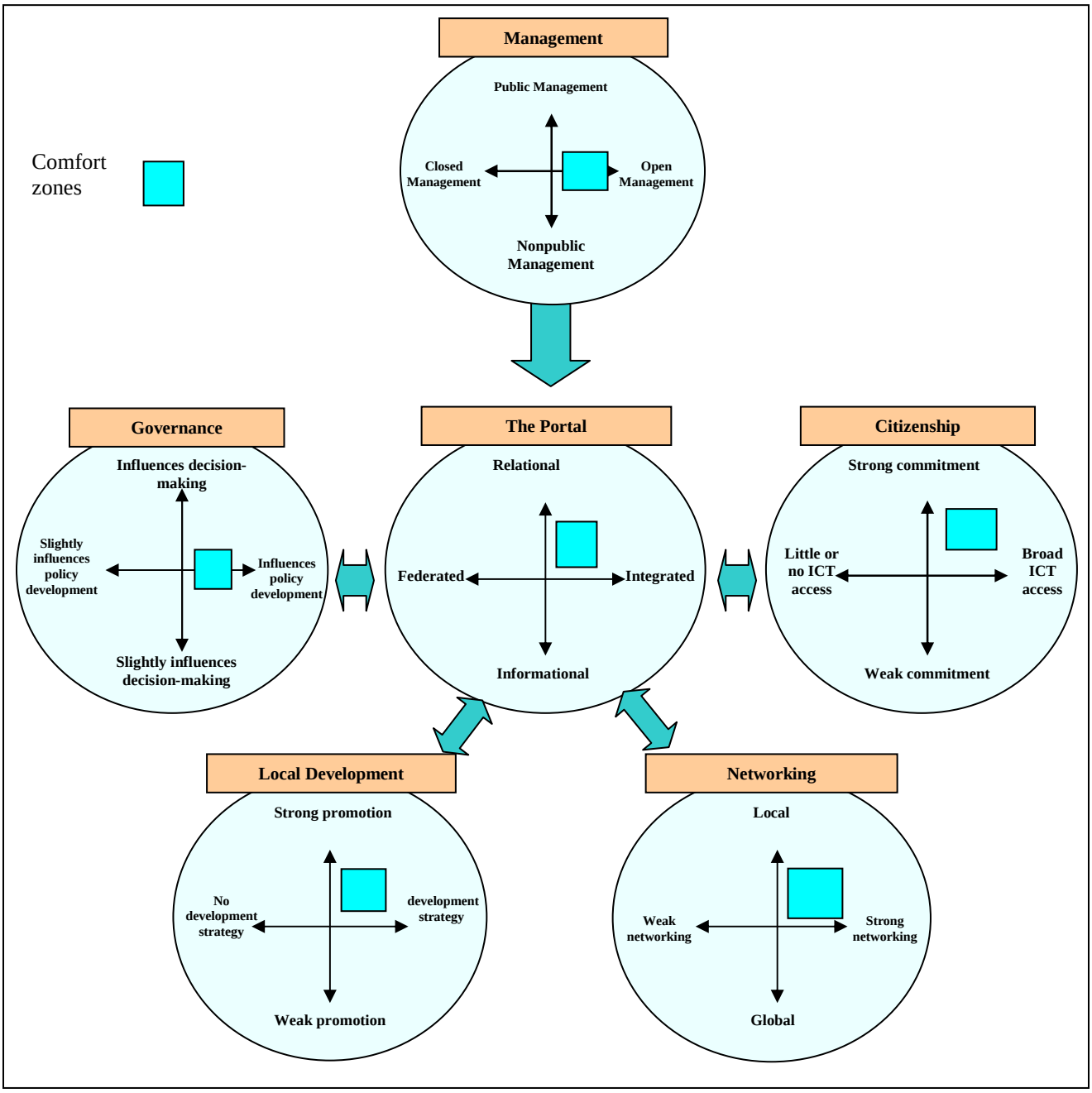

Figure 7. The Typological Model

The horizontal axis positions a project with respect to the level of strategic intent expressed by the players. Positioning at the extreme left indicates that the project does not fall under a particular local development strategy. This does not mean that the project doesn't promote development, only that no development objective has been identified. The strategy is therefore emergent. On the other hand, projects positioned at the far right are inherently local development strategies. Various degrees of strategic intent lie between the two extremities. For example, in practice, putting portals online can be part of supporting a development strategy. The configuration of the six dimensions (see Figure 1) illustrates that the collective portal is the hub of the typological model, since it reveals the presence, level of development, or the absence of the other dimensions arranged peripherally.

The collective portal does not strive to reproduce reality, but rather to foster the emergence of structuring territorial dynamics for the community. To illustrate, the fact that a portal has no online

consultation mechanisms does not necessarily indicate a lack of community consultation. Conversely, the presence of development organizations on the portal does not necessarily indicate their actions are consistent.

Development System of a Learning Community

The development system of a learning community (DSLC) is a learning system that aims at developing player capabilities and distinctive collective competences by implementing conditions that lead to the emergence of projects that can add value to the community's heritage (Prévost, 2000). A system's developmental reach is much greater than the implementation of the collective portal, which remains basically instrumental in functional terms. Consequently, the activities that can directly or indirectly generate networking between community players, especially through the emergence of practice-based communities, as well as the influence these activities can have on territorial dynamics, inherently result in practices (cooperation, partnership, grouping, association), behaviors (player involvement in community affairs), and projects (interest communities, citizen training, and territorial marketing) that serve to develop the community. The effects are manifested as an upward spiral in which collective learning increases the community's heritage, which, due to the added value, has an impact on networking and territorial dynamics.

We define the development system of a learning community as being *"a learning system that takes advantage of the potential generated through the use of ICTs. The network underlying the collective portal drives territorial dynamics by creating conditions that allow development projects to sprout. Implementing a DSLC goes beyond calling on and developing specific capabilities in community players: it promotes the development of distinctive collective competences. Since it aims at achieving sustainable and permanent growth of the community's heritage, the DSLC stands out as a genuine local development strategy based on communication."* The development system of a learning community comprises five components. :

Collective Assets

These form the community's capital. In other words, the set of resources that a community needs in order to develop. This module embraces community attributes and system-generated results. We distinguish five types of collective assets: the community's social capital; human capital; physical capital; economic capital; and the junction between the first four types, which is the community's strategic capital. The community's capability to generate its own development finds its roots in this last notion.

Strategic capital is a community's capability to organize itself in order to implement actions to achieve objectives shared by the community player as a whole. The notion of strategic capital brings out two components: community assets (capital) and the implementation (process) of strategic action. The former precedes the latter in a strategic formulation. The notion of strategic capital can be defined as an intent, an orientation, a direction, a behavior, or process aimed at progressing from the current situation to a future one (desired).

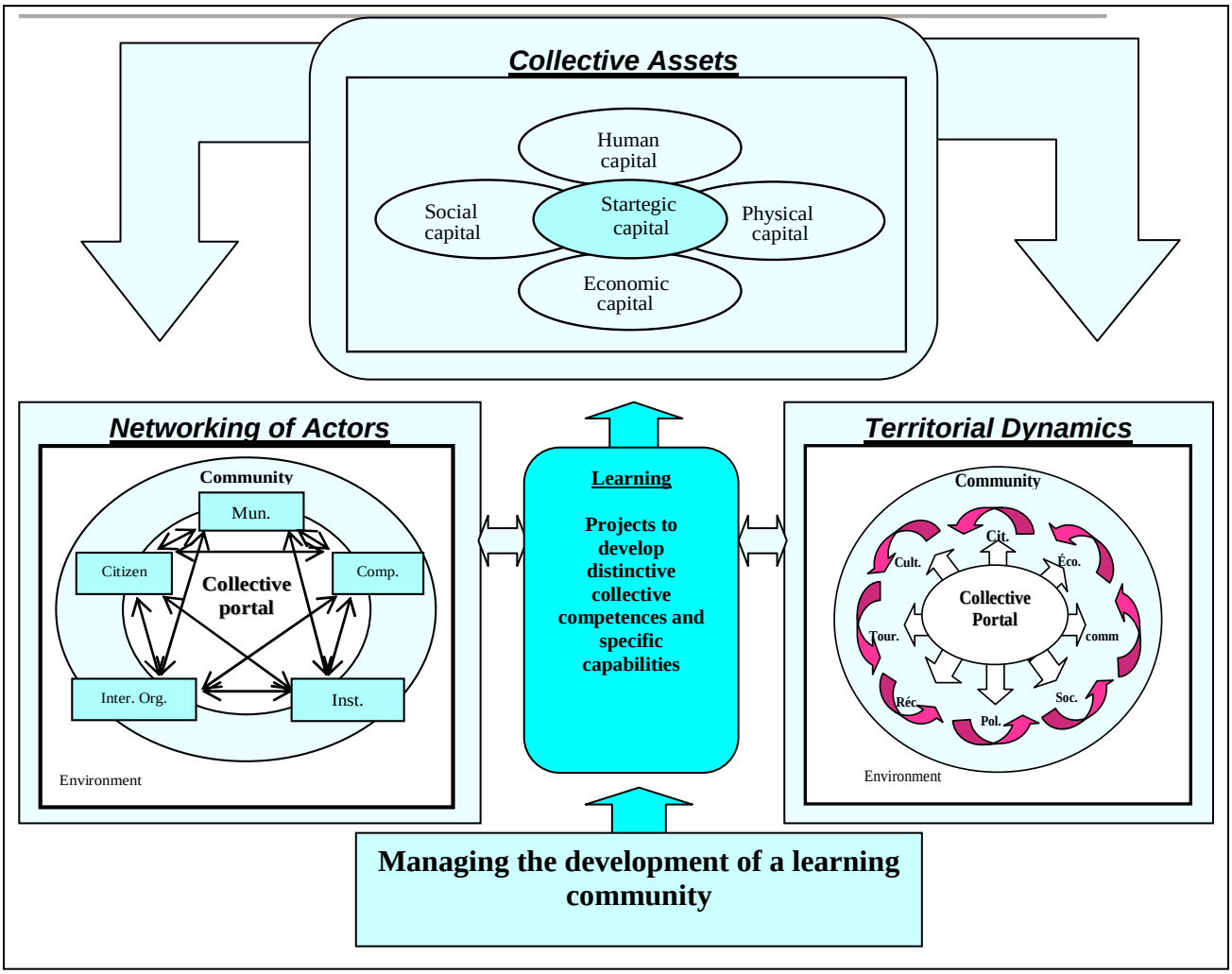

Figure 8. Development system of a learning community

Formulating a collective strategy requires, on the one hand, the capability to collectively generate a consistent intent and, on the other hand, the capability to pool the ingredients necessary for its implementation. These capabilities comprise the strategic capital, regardless of whether or not they are used. Strategic capital is intangible, and the notion sometimes hard to grasp. It is nevertheless possible to detect its presence or absence (leadership, for example, is one of the features constituting the strategic capital of a community). The example of Italian industrial districts or *clusters* appears to be the result of strategic capital that has been judiciously exploited.

Networking of Players

Networking of players illustrates the relational framework for the generic players in a community, namely the municipality, general public, companies, institutions, and intermediate organizations (the left portion of the model). In reality, the composition of players in a community is much more complex. For purposes of illustration, this short list is as restrictive as it is representative of the players in a community. The mere presence of generic players in a system makes it possible to identify many interrelations.

It makes sense to tie the notion of capability to the concept of generic player. Indeed, each generic player is endowed with a capability. Grant's definition (1991, 118) makes it easier to grasp the concept of capability by stating that “capabilities involve those complex patterns of coordination between people and between people and other resources” that are acquired through the repetition of routines. The kernel of Grant's definition resides in what he calls “complex patterns of coordination.” Consequently, the capability of generic players will be proportional to the nature of the local culture (political, citizen, entrepreneurial, institutional, and developmental). How the capability of each generic player is arrayed as a system component will define collective capability.

The design strategy and development strategy for a collective portal impacts the community's relational framework because the networking required to attain a certain level of integration requires genuine links between community players (depending on player location, business lines, interests, etc.). The exercise therefore is supposed to generate formal and informal networks giving rise to reflections, initiatives, and projects that go far beyond the implementation framework of the information system. These networks will likely promote the emergence of the practice-based communities that Wenger, McDermott and Snyder defined as : "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on a ongoing basis" (2002, 4). In fact, implementing a collective portal serves as a catalyst or a starting point for the emergence of a local development strategy.

Territorial Dynamics

The third module, much more tangible, illustrates the process driving the community (the right side of the model). We define dynamics as being "the driving physical, moral, or intellectual forces of any kind or the laws that relate to them."[2] The nature of the territorial dynamics depends on the availability, capability, and arrangement of the community's collective assets. In the portal analyses we have conducted[3], we have identified eight specific territorial dynamics that can be supported by ICTs, namely, political citizen, economic, social, cultural, recreational, community, and tourist dynamics.

Let's take the example of the tourist dynamic. Because some people in the community start up projects here and there to attract the attention of tourists, we can assume that the tourist industry has its own dynamic. This dynamic is driven by the municipality's desire to develop this sector of activity, by the businesses involved in the recreational/tourism sector, by the availability of venture capital, by tourism development agencies, groupings of hotels and restaurants, the local Chamber of Commerce, the warmth and friendliness of citizens, and so on. The presentation of tourist information and available services on the portal must be arranged so that users have an easy time browsing the site. In this regard, the way in which the tourist information is arranged on the portal reflects the level of dynamism and cohesion of the players involved (to illustrate: the various tourist packages offered by different players). The same applies to the other territorial dynamics. As a result of implementing a collective portal, these dynamics reveal patches of individual and collective initiatives.

Territorial dynamics are obviously subject to pressures exerted by exogenous variables. The relations between the system and its surrounding environment are essential to ensuring its development because they constitute its life breath. Moreover, Donnadieu and Karsky (2002, 31) state that, in societal terms, systems with little communication are doomed to repetitive structural fixedness at best or, in the worst-case, to a regression towards a rapid decline or decadence. Obviously, exogenous players are not alone in exerting influence on the system. Indeed, the system constantly remodels itself as a result of endogenous forces.

Integrating the two preceding modules (networking of players and territorial dynamics) into a one produces the *community information system* (CIS). The CIS is a collective portal whose function is to support and sustain the relational framework of community players.

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2 Merriam-Webster's Unabridged Dictionary 2000, electronic version 2.5.

3 Amos (Canada) http://www.ville.amos.qc.ca, Asbestos (Canada) http://ville.asbestos.qc.ca, Arrondissement.com – Montréal (Canada) http://www.arrondissement.com, Baie-Comeau (Canada) http://www.ville.baie-comeau.qc.ca, Bécancour (Canada) http://www.becancour.net, Blacksburg (Unites States) http://www.bev.net, Brisbane (Australia) http://www.brisbane.qld.gov.au, Bromont (Canada) http://www.bromont.com, Ennis (Ireland) http://www.ennis.ie, Faches-Thumesnil (France) http://www.ville-fachesthumesnil.fr, Gatineau (Canada) http://www.ville.gatineau.qc.ca, Hackney - London (United Kingdom) http://www.hackney.gov.uk, Hyderabad (India) http://www.ourmch.com , Issy-les-Moulineaux (France) http://www.issy.com, Joliette (Canada) http://www.ville.joliette.qc.ca, Montreuil (France) http://www.mairie-montreuil93.fr, Namur (Belgium) http://www.ville.namur.be, Ouagadougou (Burkina Faso) http://www.mairie-ouaga.bf, Parthenay (France) http://portail2005.cc-parthenay.fr/ccparthenay, Rivière-du-Loup (Canada) http://www.ville.riviere-du-loup.qc.ca, Rouyn-Noranda (Canada) http://www.ville.rouyn-noranda.qc.ca, Sept-Iles (Canada) http://www.ville.sept-iles.qc.ca, Sherbrooke (Canada) http://www.ville.sherbrooke.qc.ca, Singapore http://www.gov.sg.

Learning

This module illustrates the process by which the networking of players and territorial dynamics generate development projects. It relates to player capacity and promotes the emergence of distinctive collective competences. The concept is similar to managerial approaches such as *core competencies* (Hamel and Prahalad: 1990; Tampoe: 1994), *resource-based theory* (Grant: 1991; Barney: 19914) and *dynamic capabilities* (Teece *et al.:* 1997), which favor a strategic process based on the development of competences, capabilities, and resources within the organization before turning to the market in which the organizations operate.

The notion of core competencies associates the capability of adjusting to market changes to the organization's collective learning. The idea of identifying the community's core competencies and to develop endogenous capabilities in order to engage in local development derives from this managerial approach. That being the case, it is possible to associate the capability of adapting a community's development in the context of market globalization to collective learning. We claim that the impact of implementing a collective portal on the flow of information in a community is to open the door to development of communities of practice and the acquisition of collective competences since it requires players to develop the capability of working within networks. As Castells (1997) put it, "the presence of a network is a dynamic and powerful entity that serves to regulate the transfer of information and knowledge."5

Moreover, the resource-based theory, according to which the competences and capabilities developed within an organization yield a competitive advantage in strategy formulation, is clearly reflected in the discourse on local development. The attractiveness of this theory lies primarily with its five-stage procedure (Grant, 1991), which can be readily transposed to the territorial scale: identifying and classifying the community's resource base; identifying the capabilities underlying these resources; analyzing the profit-earning (developmental) potential of the capabilities; selecting a strategy exploiting these resources and capabilities; and upgrading the pool of resources and capabilities.

As for the dynamic capabilities theory, Teece *et al.* (1997) it states that the competences and capabilities that give a company a competitive advantage in a given market are essentially based on organizational processes (coordination, learning, and transformation), tangible and intangible assets (technological, financial, reputation, formal and informal structures, etc.), and the firm's response to the opportunities that occur. The exclusive character of the dynamic capabilities is based on organizational routines and skills (tacit knowledge) that are difficult, even impossible to replicate. The relevance of the managerial paradigm could also be transposed to the community since these processes (informational in nature: coordination, learning, and transformation) are precisely what the concept of learning community embraces in terms of formulating territorial strategies.

Authors writing about local development have already integrated the development of collective competences into their discourse. Greffe (2002, 14) has expressed its importance to a community's development in the following terms: "The existence of a collective learning process becomes a matter of local development by enabling territories to determine and maintain their position in the overall economy. This process can only be structured and implemented in proximity to the players and through their partnerships so as to sprout the required means of communication and bonds of trust." This learning process lies at the core of the concept of the learning community.

Manage the Development of a Learning Community

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4 In a retrospective dealing with the concept after a decade, Barney (2001) revised his position by stating that if the value of a competency derives from market forces, the resource-based theory is merely an extension of Ricardo's neoclassical theory of microeconomics (1817). The author affirms that the so-called inelasticity of competencies and capabilities in the general model (since they develop over a long period of time and they have a specific character, they cannot be sold or purchased on the market) is therefore debatable and he restates his faith in the theory of equilibrium.

5 Taken from Madon, S. & Sahay, S., (2001) Cities in the developing world: Linking global and local networks, Information Technology & People, 14(3).

Simply providing a community with a portal will not generate collective competences, any more than technologies impose usage. “Like most users of technology, communities come together for a purpose, which is rarely a fascination with technology for its own sake” (Wenger, White, Smith and Rowe, 2005, 10). The resources required to sustain the development and implementation process for collective networking must be present and committed. Analysis of collective portals using the six dimensions described in the typological model illustrates the necessity of having the support of leadership recognized in the community, an inclusive implementation strategy, and sustained guidance throughout the community.

Conclusion

Over the last two decades, information technologies have pervaded the internal processes of public, private, and nonprofit organizations. While the relational potential offered by the Web to these organizations is undeniable, it requires the redefinition of relationships, links, and accessibility with respect to their suppliers, partners, clients, citizens, members, and beneficiaries. This results in a veritable virtual net of new communication channels that constantly grow tighter to the point that ICTs tend to conjure away the concepts of territory and space (Langevin, 1997). It is within the context of this irreversible tide that “connected city” and “community network” projects aimed at federating information and, eventually, windows for delivering services to citizens and receiving their feedback on a collective virtual platform have emerged.

We believe that it is possible to go beyond the instrumental character of Internet applications, despite the fact that this step is an indispensable component of the appropriation process, and to draw more deeply on the process to design and develop a collective portal in order to foster the emergence of a creative synergy between players that would generate ideas, cooperation, and development projects. Local dynamics remain at the core of the development process. It should be remembered that, while ICTs do not create synergy, they nevertheless provide a fertile ground for it and support its development to the extent that appropriate activities are carried out in the community. Under such circumstances, the technology can help create renewed cohesiveness between networks, which stimulates the circulation of knowledge. This remains a process involving proximity on local territory and therefore fosters the development of distinctive territorial competences.

The explosive growth of the Internet within local communities has been occurring at the same time as the barriers to global trade have been dropping, which has created shock waves that have reached local communities. While ICTs can't remove spatial constraints, they do redefine the relationship between local and global geography. What has been referred to as globalization reveals the connection between spaces and different territorial connections. Furthermore, it demonstrates the interweaving of trends in globalization and territorial activity (Deschamps, 2001). If global and local are two sides of the coin, then each technological advance makes the coin that much thinner (Gibbins, 2000). In short, the debate is no longer whether communities have the means to invest in information technologies, but rather whether they can afford not to.

Moreover, information technologies may actually be the target of a specific development strategy in the community. The experience of Blacksburg, Virginia, demonstrates that even if ICTs are not a determining localization, their absence most definitely impedes development. According to Cohill (2001), the emergence of the knowledge economy has resulted in changes to the three main players that companies take into consideration in choosing locations. Factors such as accessibility of raw materials, abundance of labor, and access to road networks have given way to quality of life, availability of qualified labor, and high-speed Internet access. Since Blacksburg acquired broad-band infrastructure, occupancy at its industrial park (new-technology companies for the most part) grew from 15 in 1993 (300 jobs) to 90 in 2001 (2000 jobs).[6] Therefore, a local economic development strategy based on ICTs is also a policy for innovation (Deschamps, 2001).

The so-called exemplary territorial projects appear to have a common denominator with respect to the development of connected communities. ICTs alone are not a sufficient development strategy. Social

6 These figures were given by Andrew M. Cohill during a conference at the University of Sherbrooke in November 2001.

considerations and appropriation of these technologies are equally determinant in project success (Deschamps, 2001). ICTs accompany social change more often than they cause it.

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