

Patterns, Process and Systems-Thinking:

Putting Social Pattern Languages to Work

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ABSTRACT

Following a 2006 study aimed at evaluating the validity of pattern languages within the context of civic communication and social change, a number of insights emerged connected to the field of system dynamics and the practice of process monitoring. The study revealed that both system dynamics and process monitoring provide a number of opportunities for further grounding pattern thinking, as well as in supporting adaptive approaches to pattern based capacity building among community networks. Based upon these initial findings it would appear that further investigation is necessary to better understand how patterns, systems and process can be integrated for ever more effective planning and capacity building among civil society, community networks and social change advocates.

KEYWORDS: Pattern Languages, System Dynamics, Process Monitoring, Community Networks

Patterns and Systems

In 2006 a study of the Liberating Voices project was carried out, which aimed at evaluating the validity of pattern languages within the context of civic communication and social change. Following from Christopher Alexander's conception of design patterns (1977; 1979), the Liberating Voices project has been an attempt to utilize Alexander's model for constructing effective civic communicative systems (Schuler, 2002). And just as Alexander envisioned multiple applications for designing buildings and towns, the Liberating Voices project perceives patterns as useful constructs for community empowerment, as well as supportive for an overall re-conceptualization of the ways in which communities and a networked civil society think and engage in social change (Schuler, 2001; Smith, 2007). The study reiterated past research on advocacy networks, showing that these networks possess a very real potential for influencing social policies within local, as well as in global contexts. Similarly, the study also showed that these successes are often mitigated by any number of internal and external forces that can be difficult to perceive and address (Keck and Sikkink, 1998; Rodrigues, 2004; Smith, 2007). This of course has led to some serious problems in the capacity of networks to achieve intended outcomes, and points to the need to perceive the shifting socio-political landscape these networks function within (Keck & Sikkink, 1998; Rodrigues, 2003).

With the dynamic nature of social landscapes in mind, the Liberating Voices patterns represent yet another approach to the ways networks can construct dynamic solutions to the internal and external forces that act as blockages to success. However, before such pattern configurations can occur, it is often appropriate to understand the interaction among forces within a system. Based upon this need for effective models to perceive complex environments it is suggested that the use of system dynamics represents a useful addition to perceiving dynamic environments common among shifting social landscapes. Fortunately, there are already numerous parallels between the literature of system dynamics and pattern languages. Though Alexander emphasized the use of patterns as elements of design (1979), the structure of patterns and their parallel to "system archetypes" (Senge, 1990) suggests the opportunity to use patterns as a structured model connected to the methodologies within systems thinking for better understanding a social environment and the various forces influencing a system.

Similarly, critical systems theory proposes an alternative to traditional social planning. Rather than reducing problems into manageable pieces seeking solutions to each, and thereby solving the problem piece-by-piece to address larger issues, systems designers argue that getting rid of the pieces does not necessarily produce what is desired (Banathy, 2000). In sharp contrast with this traditional model, systems thinking proposes that people seek to understand the problem situation as a system of interconnected, interdependent and interacting problems, and therefore construct a response as a system of interconnected, interdependent, and interacting solutions (ibid, 2000). This is not unlike the conceptions of use for patterns put forth by Alexander in describing the process of constructing ‘living buildings and towns’ (1977).

Further more, both Jay W. Forrester (noted as the father of system dynamics) and Christopher Alexander (the father of pattern languages) place a great deal of emphasis upon the ideal of structure. For Alexander, the pattern language possesses a structure that enables good design across multiple dimensions of abstraction, from high-level patterns to more specific patterns. The idea behind this structure is the ability to more readily share knowledge within the domain of architecture and environmental planning. Tignor (2001) also recognizes the linkage between system dynamics and pattern languages through the common emphasis on structure. For example, he highlights several points made by Forrester, where Forrester argues that, “without an organizing structure, knowledge is a mere collection of observations, practices and conflicting incidents” (Forrester, 1990). At the core of the pattern language Alexander and his colleagues attempt to produce a structured collection of knowledge pieces moving along a hierarchical path. For instance, the beginning patterns in *A Pattern Language* (1977) start out as large elements such as *The Distribution of Towns* (2). Now as one moves down through the hierarchy, patterns such as *Pedestrian Street* (100) and *Columns at the Corners* (212) appear. By integrating both fields it is thought that each paradigm can be enhanced, and together provide an effective extension into the domain of analysis and action for enabling civic communication, networked advocacy and ameliorative social change in general.

This idea of an inherent linkage between both fields was advanced within the study of an advocacy network in South Asia, where the information obtained was visually configured in order to represent the interactions and influences between forces effecting a community and subsequent network. These visual representations closely followed the model and method for qualitative systems modeling represented by influence diagrams, which are popular among scholars working in qualitative system dynamics (Coyle, 1999). Through this modeling process and the linking of central elements present within a particular socio-political context, a conceptual window emerged into the shortcomings, highlighting areas where the network could strengthen its capacity to engage, as well as where specific patterns might be effectively applied (Kummer & Schlange, 1997; Smith, 2000; Smith, 2007). Overall, this processes of highlighting relationships enabled a clearer understanding of how the issues within the case were interdependent, thus creating a complex and difficult environment for political representation, responsive governance and empowering vs. debilitating social policies.

However, this study was not specifically focused on the integration of system dynamics and pattern languages, and therefore necessitates further more focused engagement in order understand the potential implications and opportunities afforded by such a marriage. For instance, linked to the process of modeling community context, there is a need to focus on similar approaches to visually representing patterns and the ways in which they are configured to solve specific community problems. In keeping with the spirit of *Liberating Voices* it would be interesting to see collaborative modeling applications connected to pattern language configuration become a part of the project’s application suite. Together with conducting a more extensive literature review to better perceive where both strains of thought might intersect, providing a collaborative application to model influences of forces and patterns could support

further empirical examples of the potential possibilities associated with linking system dynamics and pattern languages.

Patterns, Systems and Process

Along with the ability of system dynamics to support processes of modeling complex social environments, the practice of process monitoring provides yet another layer that enables feedback from peoples experiences to be used to adapt these models over time as networked interventions influence these systems. Recalling the adaptive nature of social systems that can produce any number of outcomes based upon these internal and external problems requires a way in which groups can respond rapidly to feedback that is distributed through information channels maintained by members of these networks. Similarly, the Liberating Voices pattern language is attempting to serve as a transformative construct within an inherently dynamic and responsive social system that necessitates an ongoing process of evaluation and adaptation to meet the changing context as the social dynamics of power, resources and thinking shift (Smith, 2007).

As a result, pattern development and approaches to systems-thinking in general could be strengthened through an adoption of process monitoring as an iterative, structured and multi-source exercise for gauging and increasing the effectiveness of a pattern language. This might be an important piece in furthering the power of qualitative system dynamics, as well as in pattern language usage. This process could also provide a useful mechanism for enabling the development of adaptive pattern constructs designed to fit these transformative social realities. The features of the process monitoring methodology include an open communicative processes aimed at supporting participatory evaluations and enable collaborative responses based upon the related characteristics between the patterns and the actual problems or responses identified by the group. Together with providing methods for evaluation and consistent interaction for further refinement these constructs could be made more applicable in the context of structured organizational ventures that seek to address a range of socio-political and economic issues.

Though process monitoring has been primarily applied within businesses and more recently within the field of international development, the idea of providing timely feedback to enable group adaptation fits appropriately with the continued constructing and refinement of relevant patterns and pattern languages. Fortunately, there are a range of methods associated with process monitoring that emphasizes participatory and collaborative methods (similar to what is found within the pattern language) such as field reports, diaries, online reflection among participants, blogs, open-flows for research development and feedback, as well as continuous practices of information development and distribution among community members, stakeholders and facilitators (Mosse, 2001; Schuler, 2007). All of these methods could prove critical to maintaining open and responsive channels of communication.

The orientation towards ongoing exchanges of information feedback refer back to some of the initial assertions of the Liberating Voices project that already recognizes the relevance in developing newer, yet more appropriate and inclusive information systems. In this case these technologies could be designed specifically for channeling feedback and for coordinating rapid responses by groups working on the ground, or those working directly with the policy makers. In this sense, we might not only use patterns for systems based design and analysis, but the Liberating Voices software itself could be infused with a fundamental orientation towards an open dynamic system itself. This could include a versioning system connected to real world case studies linked particular patterns or sets of patterns.

While these sorts of systems exist within the business world, their adoption and development within the context of civil society and for communities in general are still needed. Certainly, community portals such as IndyMedia and OneWorld.net provide an outlet for some of these needs. However, problems of access,

knowledge of technology and the inability of tightly linked organizations to monitor their internal communications within these online systems means that there is still room for more specific and appropriate technologies aimed at supporting individual groups and their associated networks.

Likewise, in acknowledging issues surrounding lack of access to these communicative systems as well as the technological capacity to harness peoples potential, parallel programs must be pursued to successfully develop and enable the types of rapid feedback proposed by a process monitoring exercise. Through coordinated efforts to build relationships with appropriate local facilitators, as well as through links to larger networks and structures, issues of access could be mitigated. Similarly, by addressing technological and organizational know-how these networks can encourage the building of mutual capabilities. The point is inclusion and responsiveness among the groups and individuals seeking to transform non-responsive systems of political and economic power, and a hope that as many people as possible could be active participants in defining the social change they seek, whether that be political, economic, cultural or all of the above.

Liberating Voices contributors, potential pattern users and current civic networks have an opportunity to further their efforts through the application of systems approaches to planning, implementation and monitoring of the work they do. As a result, the merging of these fields to support better responses to complex systems possess a potential value yet to be realized, except through further research and real-world application. Such opportunities suggest greater need for focused investigation into the potential uses and formalization of methodologies that take advantage of the benefits provided by each of these theoretical paradigms.

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