

## Social Informatics and Socio-technical systems/theories

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I've put this together by cribbing parts that I've written with colleagues as noted. These parts are noted.

### Social Informatics

"Social informatics is the name I and others use to represent the trans-disciplinary study of the design, deployment, and uses of information and communication technologies (ICT) that accounts for their interaction with institutional and cultural contexts, including organizations and society. This research is done by scholars in fields such as library and information science, education, communications, organizational studies, sociology, information systems and computer science. Social informatics has been characterized by many names including the social analyses of computing, human-centered computing, social studies of information technology, and the sociology of computing. Those pursuing social informatics research do so by engaging a diverse set of topics and employing a variety of approaches." (see Sawyer, 2005; Lamb and Sawyer, 2005)

### Social informatics viz. Socio-Technical Systems/Theories

"Social Informatics arose in large part as a response to an overly rationalistic, deterministic, de-contextualized view of computing technology. (Sawyer note: *this is similar to the motivation in Science and Technology Studies (STS) regarding, more broadly, technology and technological determinism.*) Rob Kling and others were so successful at arguing this view that in many ways "context matters" is now taken as a truism <by those> studying information and communications technologies. This group of early social informatics scholars also fought against those socio-technical theoretical approaches to the social analysis of computing that they saw as not giving the technological artifact appropriate account; and in some ways, they were less successful on this front as assigning agency to the artifact remains very much

a contested view. Yet the conceptualization of ICT as mutually constituted by the interactions of the properties of the technological artifact and the broader social context within which it is engaged is a fundamental tenet of the Social Informatics perspective.” (see Tyworth and Sawyer, 2008).

### **Principles of the SI perspective on socio-technical systems (Sawyer, 2005):**

Principles are those sets of concepts and beliefs that become basic to the perspective. These must be constantly tested and challenged so that their role as principle can be justified...

1. Social informatics research is *problem-oriented*. This work is defined by its interest in particular issues and problems with computerization and not by its adherence to certain theories or particular methods.
2. *Social informatics research frames computing as a web-like arrangement of material artifacts such as computers and software, and the rules, norms, and practices of people.* These webs of computing are ‘configurational’ in that their specific forms change over time and are intimately shaped by the social milieu in which they exist. Webs of computing are, however, path dependent in that previous actions and events guide, but do not predict, the forms and shape of future actions and events.
3. *Context-dependency is a core principle of social informatics scholarship.* The situated nature and uses of computing means that context and use are bound up through practice: to report on use is to report on the situations of that use.
4. *In social informatics research, people are depicted as ‘social actors.’* That is, people are depicted as having individual agency, but acting in ways that reflect both informal social norms and formal rules of action, and perhaps most importantly not primarily users of ICTs
5. *Social informatics work can be normative or analytical, but is often critical.* The critical approach means that social informatics scholars challenge taken-for-granted assumptions about the material value of an ICT, people’s actions toward both computing and the social worlds in which they live, and the nature of the arrangements among these. While critical perspectives are sometimes seen

naively as being negative towards computerization or a particular ICT, a critical approach is more about exploring embedded and implicit assumptions. Social informaticians eschew deterministic statements such as 'digitization is good for all of us' or 'being on the web means unproblematic access for all.'

6. *This critical orientation demands that social informatics research be based on rigorous empirical work.* The strong empirical basis of social informatics work, however, is combined with both methodological and theoretical plurality.

### **Common Findings (Sawyer, 2005)**

There exists more than 30 years of careful empirical research in the social informatics tradition. As noted, this work is found in a range of academic disciplines, reflects a mix of theories and methods, and focus on different issues and problems with computerization. Here I highlight five observations that are so often (re)discovered that they take on the notion of common findings relative to computerization.

**1. Uses of ICT lead to multiple and sometimes paradoxical effects.** Any one ICT's effect is rarely isolatable to a desired task. Instead, effects of using ICT spread out to a much larger number of people through the socio-technical links that comprise context. An examination of this larger context often reveals multiple effects, rather than one all-encompassing outcome, and unexpected as well as planned events. For example, peer-to-peer file sharing may help some musicians and hurt others.

**2. Uses of ICT shape thought and action in ways that benefit some groups more than others.** People live and work together in powered relationships. Thus, the political, economic and technical structures they construct include large-scale social structures of capital exchange, as well as the micro-structures that shape human interaction. An examination of power often shows that a system's implementations can both reinforce the status quo and motivate resistance. That is the design, development and uses of ICT help reshape access in unequal and often ill-considered ways.

**3. The differential effects of the design, implementation and uses of ICT often have moral and ethical consequences.** This finding is so often (re)discovered in studies across the entire spectrum of ICT and across various levels of analysis that ignorance of this point borders on professional naiveté.

**4. The design, implementation, and uses of ICT have reciprocal relationships with the larger social context.** The larger context shapes both the ICT and their uses. Moreover, these artifacts and their uses shape the emergent contexts.

**5. The phenomenon of interest will vary by the level of analysis.** Because networks of influence operate across many different levels of analysis, relevant data on computerization typically span formal and informal work groups; formal organizations; formal and informal social units like communities or professional occupation/associations; groups of organizations and/or industries; nations, cultural groups, and whole societies.

### **Next Steps (Lamb & Sawyer, 2005; Sawyer, 2005; Sawyer & Tapia, 2007)**

1. Showcasing the value of social informatics scholarship relative to older forms of research on computerization. The added insights derived from the rigorous and empirically-grounded research that characterizes social informatics is often best understood when presented in comparison with another approach. ...
2. There is a need for continued methodological innovations regarding both the collection and synthesis of multiple forms of data regarding computerization activities.
3. There is a need to continue developing theories that help to explain computerization (see Dutton, 2005; Hara and Rosenbaum, 2008; Leonardi and Barley, 2008)
4. Important to build a critical mass of SI Scholars!

## Sources:

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