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Poster: Social Informatics: Mapping and Visualizing an Emerging Domain

Abstract: Social informatics is an emerging domain within the field of information studies that investigates the interrelationship between society and technology. The objective of this study is to identify whether social informatics' published literature conforms to the assumptions believed about domain coherence.

Résumé: L'informatique sociale est un domaine émergent de la famille des sciences de l'information, qui s'intéresse aux relations entre la société et la technologie L'objectif de cette étude est de déterminer si la littérature publiée en informatique sociale se conforme aux attentes par rapport à un domaine organisé et cohérent.

1.0 Social Informatics and domain coherence

Social informatics (SI) is an area of inquiry within information science that investigates the interrelationship between society and technology. SI represents a potentially powerful development because it lies at the intersection of social and technological developments. Interdisciplinary in nature, SI encompasses elements of many fields, such as sociology, psychology, and computer science. The aim of SI is to understand the consequences that result from the use of information communication technologies within social settings. Although SI research began in the 1970s and evolved in the 1980s and 1990s, the multidisciplinary nature of SI, its appearance in several different journals, and the many different terms used to describe this area of inquiry, made the retrieval of SI literature difficult.

In information science, domains are studied to provide insight into the growth of knowledge, especially on groups of scholars working together, focusing on common problems, utilizing agreed-upon methods of study, and sharing their work with one another. Determining whether SI demonstrates characteristics of domain coherence is an interesting problem for information science.

2.0 Methodology

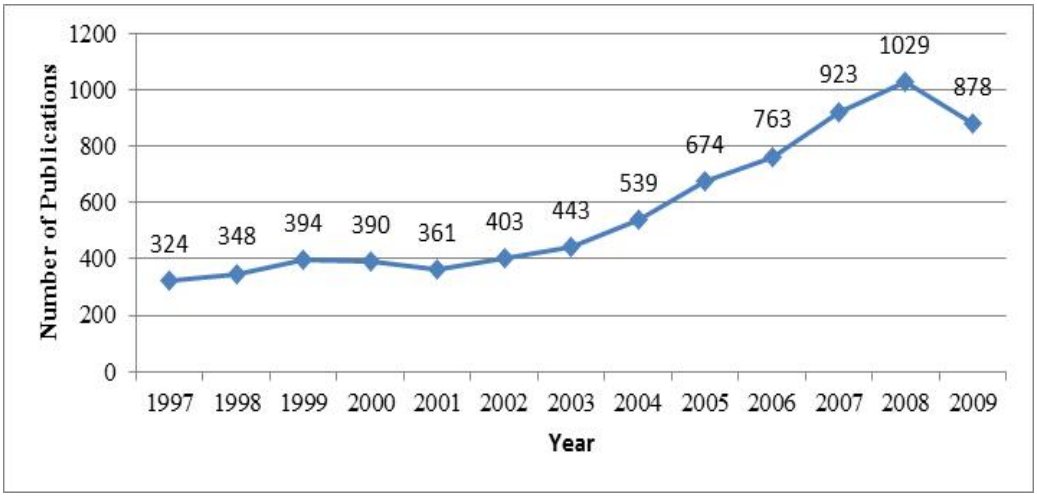
Bibliometric methods of analysis, one of the eleven approaches of domain analysis advanced by Hjørland (2002), were used to conduct this analysis. Citations pertaining to social informatics published between 1997 and 2009 inclusive, were identified and obtained from three library and information sciences databases (*Library and Information Science Abstracts, Library,*

Information Science & Technology Abstracts), the *Institute for Scientific Information (ISI) Web of Knowledge*, and the social informatics' shared bibliography hosted by the University of Ljubljana (Slovenia); 7,469 citations were identified and used in the analysis. The 7,469 citations reflect a variety of document types, such as research articles, conference papers, book chapters, letters to the editor, product evaluations, and annotated bibliographies. Including all types of documents provides a complete view of social informatics' intellectual structure (McCain 1990).

The purpose of this study is to expand our understanding of the evolution of interdisciplinary domains. A specific objective is to identify whether SI conforms to assumptions about domain coherence, which would be evidence of information diffusion through scholarly communication.

3.0 Results

According to Price (1963, 78) healthy fields will double their productivity (i.e., as measured by the number of papers published) every decade. As detailed in the graph below, between 1997 and 2008, the number of published SI articles increased from 324 to 1029, or 217 percent. There was, however, a decline in productivity between 2008 and 2009 (1029 to 878, a decrease of 14.7 percent).



Graph 1. Social Informatics Publication Productivities, 1997-2009

The health of a domain is further evidenced by the number of scholars participating. Collins (1998, 43) stratifies scholars as follows: "scientific stars (small absolute numbers)"; "inner core−top producers (1-2 percent of total floating population)"; "outer core− (20 percent of floating population)"; and "transients−a few publications or one-shot producers (75-80 percent of floating population)." Table 1 details author productivity in social informatics, using the classifications advanced by Collins (1998).

Table 1. Number of Authors Producing "X" Number of Documents

Number of Documents	# Unique First Authors	% Unique First Authors	Classification
One	5,152	86.70%	Transients
Two	498	8.40%	
Three	141	2.40%	
Four	62	1.10%	Outer Core
Five	33	0.50%	Inner Core
Six	20	0.30%	
Seven	12	0.20%	
Eight	8	0.10%	
Nine	2	0.00%	Scientific Stars
Ten	5	0.10%	
More than 10	8	0.10%	
Total Unique First Authors	5,940	100.00%	

We found 15 scientific stars, and 73 inner core scholars; again, scientific stars and those in the inner core are said to be intellectually and socially connected to the community and advance the work of the field. While a small outer core of scholars was evident, the proportion was much lower than what is considered typical (Collins 1998).

According to Bradford's Law of Scattering (1948), journals can be grouped into three tiers: 1. core journals, those that deal with the major focus of the field; 2. second-tiered journals, those that focus on the core and some minor focuses; 3. and third-tiered journals, those that have a major topic that is something other than the core, with some minor focuses pertinent to the field. In terms of journal representation and productivity, ten journals fell within a Bradford-like distribution (Table 2). (The term "Bradford-like" was used by Jank (2010), to reflect a distribution that is similar to, but does not directly emulate, Bradford's formula.) Given a *strict* adherence to Bradford's formula, and the publication productivity of the journals identified in the aforementioned table, *JASIST* is the only journal in the top tier and as such, deals with the major focus of the field, while journals two through nine are the second-tiered journals that focus on the core and some minor subject areas.

Table 2. Top 10 Journals Publishing Social Informatics, 1997-2009

Rank	Journal	N
1	*Journal of the American Society for Information Science and Technology*	789
2	*First Monday*	289
3	*Government Information Quarterly*	211
4	*Behavioral and Social Sciences Librarian*	196
5	*Information Society*	166
6	*Universal Access in the Information Society*	150
7	*Computers and Education*	134
8	*International Information and Library Review*	107
9	*Computers in Human Behavior*	101
10	*The Journal of Academic Librarianship*	97
	Total Articles in Top Ten Journals	2,240

4.0 Conclusion: Loose domain coherence

Results from an analysis of publication productivity, contributing scholars, and journal representation suggest that social informatics does demonstrate evidence of domain cohesion, albeit with only loose affiliation. Publication growth was evident but only through 2008. A core group of scholars, the intellectual stars and inner core, exists, but only a small outer core was evident, and a larger population of transients than expected, given what is known about author productivity. *JASIST* is the overwhelming publisher of SI and as such, is the only journal in the top tier of a Bradford-like distribution. Overall, social informatics is a loosely affiliated domain that relies heavily on transient scholars to produce scholarly literature, and *JASIST* to diffuse information.

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