

## Social Information Systems and Platforms: Designing Complexity

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### 1. Introduction

Social information systems (SIS) combine social media technologies and principles of open collaboration [1] [2]. They comprise various applications, including social networking platforms, online/content communities, collaborative project management tools, collaborative technologies, blogs, wikis, and crowdsourcing sites, among the well-known [3]. Based on prior research [4] [5] [6] [7] [8], SIS are defined as information systems [9] that support emergent interactions. In contrast to other application systems (e.g., in the transaction setting), interactions emerge in run-time between two or more participants based on mechanisms that make SIS more difficult to design. Among these mechanisms are social production [10], weak ties [11], egalitarianism [12], mutual service provisioning [3] and shared values.

In addition, the past years have shown that SIS are often related with digital platforms and ecosystems, which feature characteristics such as attracting users, matching users with complementary interests, and facilitating user interaction [13]. These features and the associated direct and indirect network effects are key for understanding and designing social platforms and ecosystems [14] [15]. Direct network effects are linked with the number of users of a particular type and indirect network effects represent the impact on the value for a user group by the growth of other user groups. In this respect, platform business models [13] such as Airbnb or crowdsourcing platforms require SIS to evaluate and integrate resources while social platform such as Facebook are increasingly linked with e-commerce transaction functionalities. From this perspective, SIS and platforms may be regarded as "glue" in distributed business processes.

The support of emergent interactions and the need for enabling network effects increase the complexity of SIS systems and platforms significantly. In this way, the design of SIS complicates radically the prevailing

information systems design using a management-defined plan following Taylorism [16, 17]. In particular, designing SIS and platforms [1] [3] comprises not only technical aspects and requirements (e.g., Web 2.0 techniques, semantic interoperability, data analysis and fusion, social analytics), but also needs to consider the organizational, social and political context.

Various forms of SIS have emerged with online communities, collaborative technologies, blogs, wikis, and sites for crowdsourcing being among the most well-known [18]. They can be differentiated on whether they support publishing (e.g., Twitter), sharing (e.g., SlideShare), discussing (e.g., Disqus), locating (e.g., Google Places), networking (e.g., LinkedIn) or gaming (e.g., Playfish) [19]. Their impact is profound on the way individuals communicate, be it in private or professional interactions, as well as the way economic processes are organized. For example, the so-called "Gig-economy" posits that crowdsourcing platforms have the power to change hierarchical coordination towards more market-like and fluid forms where individuals bring in their competencies for specific projects, i.e., "gigs". SIS may be seen as the new "glue" among individuals outside as well as inside organizations.

There is increasing research on social information systems and related subjects. For example, metatopics in Enterprise Social Network Research are identified in [20], and a literature review on enterprise social networks [21] and social collaboration analytics for enterprise social networks [22] also contribute towards fundamentals and future research topics. In [23] the authors provide a comparative analysis of the acquisition and assimilation of knowledge through social information and communication systems (SICS). Besides, an extensive review of the information systems research on online social networks is given in [24]. The increasing interest in SIS motivated the creation of the Social Information Systems minitrack as part of the HICSS conference, which has been organized for the fifth time.

## 2. Objective and Papers of the Minitrack

The advances in research make it promising to further improve the exchange of ideas, concepts, technologies, empirical results and the like on SIS. The objective of the minitrack “Social Information Systems” is to promote the scientific exchange in this field. The minitrack shall explore how SIS and the respective platforms are designed, implemented, operated and improved. It shall also contribute to the understanding regarding the interaction with their environment and the impact on economic coordination structures. Among the minitrack topics were the following:

- How can organizations leverage social information systems and platforms to create business value (e.g., in productivity or cost efficiencies)?
- How may emergent interactions be assessed and measured (quantitatively, qualitatively)?
- How are social information systems and platforms designed and what are suitable methodologies in particular for strategic alignment?
- How can network effects be fostered on social information systems and platforms?
- What approaches exist to cope with the complexity of social information systems and platforms?
- Which actions could be used to foster emergent interactions if a certain dimension of the business value should be strengthened?
- How may social information systems improve business processes and workflows beyond increasing business value (e.g., by including meaning and engagement for users or stakeholders)?
- How can actors be motivated to participate in social information systems and platforms?
- How does the use of a specific social information system influence the organization and its strategy?
- Is it possible to contain and prevent potential negative developments via organizational learning?
- Which types of emerging interactions are used in which applications?
- Which (new) business models are enabled by social information systems and how is this accomplished?

- How are social information systems used to create platforms and exchanges?
- What is the relationship between social networking and transaction platforms?
- How does the context (technological, organizational, political, cultural, situational...) of social information systems influence them?
- Which social impacts are created by social information systems and which societal influences impact information systems?
- How are information systems helpful and/or harmful in societal crisis (pandemics etc.)?

In sum, three papers were submitted to the minitrack and two of them were accepted after a rigorous review process with two phases. Since the second paper was authored from one minitrack chair, the review was organized outside of the minitrack.

The first minitrack paper is titled “Mechanisms to foster Self-Determination on Engagement Platforms - An Online Experiment” and authored by Lisa Lohrenz, Simon Michalke, Susanne Robra-Bissantz and Christoph Lattemann. They investigate design mechanisms that positively influence the three constructs of Self-Determination Theory, autonomy, competence, and relatedness, and thus well-being on engagement platforms. The authors show that autonomy as well as the intention to use increase significantly through mechanisms that foster self-determination.

The second paper was authored by Rainer Schmidt, Kathrin Kirchner, Liana Razmerita, who focus on the topic of “Leveraging Emergent Social Interactions for Value Co-Creation on Transaction Platforms”. They show how emergent social interactions contribute to value co-creation mechanisms on transaction platforms. Applying a Service-Dominant Logic (S-D logic), they create a framework that describes the impact of emergent social interactions on value co-creation. The framework integrates the moderation of ESI-based value-co-creation by market properties.

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