



## Chapter IX

# The Socio-Pragmatics of IT Artefacts: Reconciling the Pragmatic, Social, Semiotic, and Technical

Göran Goldkuhl

Linköping University & Jönköping International Business School, Sweden

Pär J. Ågerfalk

University of Limerick, Ireland, & Örebro University, Sweden

---

### Abstract

---

*There are many attempts to explain success and failure in information systems. Many of these refer to a purported sociotechnical gap. In this chapter, we develop an alternative approach that does not impose such a strong dichotomy, but regards social and technical rather as dimensions along which to study work practices. The developed theory involves not only the “social” and “technical” constructs but also other generic ones, namely “instrumental,” “semiotic,” and “pragmatic.” We call this theory “socio-instrumental pragmatism.” To illustrate the theoretical concepts introduced, we use an example brought from an extensive action research study, including the development of an information system in eldercare, developed through a participatory design approach.*

## Introduction

---

Development and implementation of an information system (IS) is a very demanding task, and many times the expectations from such endeavours are not met. Unexpected negative effects often arise while anticipated positive effects fail to appear. There are many attempts to explain IS failure (and, indeed, success) in general terms. Some of them refer to a sociotechnical gap—a gap between what is socially required and what is technically feasible (e.g., Ackerman, 2000). Such explanations tend to make a sharp differentiation between the social and the technical. For example in the sociotechnical tradition represented by Mumford and Weir (1979), there are discussions about balancing the technical system and the social system. This is built upon a view that computerised information systems are technical systems with social and organisational effects—a view that seems almost entirely to permeate mainstream IS research (see, for example, DeLone & McLean, 1992, 2003; Benbasat & Zmud, 2003). This is also in-line with the soft systems' view that there is a “serving system” to support a “system to be served” (Champion & Stowell, 2002). There are criticisms towards such a conceptualisation. For example, Nurminen (1988, p. 82) writes “by removing the social dimension from the systems entity, we imply that the technical system is basically non-social.” In the same spirit, Goldkuhl and Lyytinen (1982) suggest that the traditional view of information systems as “technical systems with social implications” should be inverted to “social systems, only technically implemented.” What are the grounds for such a view? An IS is not only a technical object; it is a technical object carrying information. Information—in order to be externalised and technically mediated through an IS—must be expressed in a language. From this follows that an IS, besides being technical, is also a kind of linguistic system (ibid; Winograd & Flores, 1986). Language is not only used for describing the world, it is also a part in constituting parts of the world, as pointed out by Mead (1934): “Language does not simply symbolise a situation or object which is already there in advance—it makes possible the existence or appearance of that situation or object, for it is part of the mechanism whereby that situation or object is created.” Since every IS uses language for purposes of communication and understanding, what Mead claims about language also counts for information systems.

Instead of a separation into a social realm (humans acting in the IS environment) and technical realm (the IS), another approach is proposed here—using “social” and “technical” as dimensions along which to study work practices. The theoretical way to proceed is to articulate a common theory for both the IS and its organisational context. The concepts of social and technical are however not found to be sufficient. The purpose of this chapter is to outline a theory appropriate for interpretation, description, explanation, and evaluation of the interaction between information systems and their organisational context. The developed theory involves not only the “social” and “technical” constructs but also other generic ones, namely “instrumental,” “semiotic,” and “pragmatic.” As we shall see in the following text, these constructs are

17 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: [www.igi-global.com/chapter/socio-pragmatics-artefacts/24719](http://www.igi-global.com/chapter/socio-pragmatics-artefacts/24719)

## Related Content

---

### Living Lab: An Open and User-Centric Design Approach1

Birgitta Bergvall-Kårebornand Anna Ståhlbröst (2011). *Information and Communication Technologies, Society and Human Beings: Theory and Framework (Festschrift in honor of Gunilla Bradley)* (pp. 190-208).

[www.irma-international.org/chapter/living-lab-open-user-centric/45292](http://www.irma-international.org/chapter/living-lab-open-user-centric/45292)

### The Emerging Future

(2019). *Blockchain Technology for Global Social Change* (pp. 229-239).

[www.irma-international.org/chapter/the-emerging-future/233389](http://www.irma-international.org/chapter/the-emerging-future/233389)

### Assessment of A Mobile Educational Coaching App: Exploring Adoption Patterns and Barriers in France

Niousha Shahidi, Vesselina Tossanand Silvia Cacho-Elizondo (2018). *International Journal of Technology and Human Interaction* (pp. 22-43).

[www.irma-international.org/article/assessment-of-a-mobile-educational-coaching-app/190900](http://www.irma-international.org/article/assessment-of-a-mobile-educational-coaching-app/190900)

### Impact of the Mobile Phone on Classical Radio

Brenda Barnes (2015). *Encyclopedia of Mobile Phone Behavior* (pp. 1174-1184).

[www.irma-international.org/chapter/impact-of-the-mobile-phone-on-classical-radio/130227](http://www.irma-international.org/chapter/impact-of-the-mobile-phone-on-classical-radio/130227)

### Does Anybody Read SMS-Advertising?: A Qualitative and Quantitative Study of Mobile Users' Attitudes and Perceived Ad-Clutter

Claire Gauzente (2012). *Human Interaction with Technology for Working, Communicating, and Learning: Advancements* (pp. 13-30).

[www.irma-international.org/chapter/does-anybody-read-sms-advertising/61479](http://www.irma-international.org/chapter/does-anybody-read-sms-advertising/61479)