Design for social media engagement: Insights from elderly care assistance

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ABSTRACT

This paper explores an alternative view of design as an emergent process of engagement and learning, as opposed to the traditional view of systems design as a problem-solving tool. We focus on digitally enabled elderly support networks as an innovative approach to the design of elderly care assistance through social media. Our research project is conducted in the context of an Italian health-care institution and provides the empirical back-drop illustrating the ensemble artefact, the four design principles and the pragmatic outcomes of personalized elderly care interventions. These contributions add both practical and theoretical guidance and learning regarding social-media engagement in elderly care assistance. Further, we illustrate how the design of personalized services through social-media technologies may challenge traditional organizational boundaries and transform the relationship between internal and external stakeholders. Based on our findings, the conclusion is that personalized elderly care assistance emerges as a socio-technical construction of social media.

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Introduction

Nearly forty years ago Richard Boland published a paper entitled "The Process and Product of System Design" in *Management Science* (Boland, 1978). This ground-breaking study reported the findings of an experiment conducted in the surgical division of a large teaching hospital. A number of teams, each comprising one nurse and one designer, were asked to engage in the design of health-care practices for personalized assistance while following two different interaction protocols. The first protocol was based on the traditional view of design, in which the designer acts as the problem solver who is engaged in interviewing nurses, analyzing data and collecting feedback and suggestions. The second protocol, labelled "alternative rationality", consists of a discovery process in which the designer and the client engage in information sharing, mutual suggestions, and critiques. According to the traditional view, design is performed through an iterative learning process aimed at gaining consensus on data collected to find an appropriate solution for a given problem. In the alternative design, the designer acts as facilitator of a human-centred process; this alternative is characterized by shared leadership and aimed at building mutual consensus on the problem resolution. Drawing on the dichotomy between such different approaches to design, Boland presents a contingency theory of organization design by emphasizing the necessity to select an appropriate interaction protocol for a given design situation.

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More recently, different communities of scholars and designers have advanced the two traditions of design with areas of overlap. For instance, to underline the mix of deliberate effects of design with emergent, unexpected or unintended ones, information systems (IS) scholars refer to concepts like design as "care" (Ciborra, 1996; Lanzara, 2009) and "cultivation" (Aanestad, 2012; Dahlbom and Mathiassen, 1993). By contrast, the traditional problem-solving view of design has gained momentum in the last decade in the mainstreams of both information system (IS) research and practice. The vast majority of approaches to design science research (DSR) views design as a problem-solving process aimed at achieving the internal consistency and coherence of the proposed solution (Hevner et al., 2004).

Although some efforts have been made developing methods addressing the emerging nature of the design artefact (Pries-Heje and Baskerville, 2008; Sein et al., 2011), recent changes in the contextual conditions of workers and institutions draw further attention to the alternative logic of design. The traditional view of design as a problem-solving activity performed in the controlled space of a workplace is challenged by today's digital technologies, increasingly being present in all spheres of users' personal and professional lives (Winter et al., 2014). Multimedia content, mobile connectivity, social networking and other emerging digital capabilities make it difficult to isolate a specific role played by an individual as user.

Focusing on a design problem related to the provision of personalized care to patients of a health-care institution, we recall Boland's background. In our case, the design unfolds in a context in which elderly care assistance is mediated by digital tools, such as social-media technologies used within institutions, professions, and user communities. Considering digital tools apt instruments for personalized assistance when activated and monitored by healthcare organizations, social media is here defined as the emerging outcome of a set of interventions made on a digitally enabled patient-support network.

Digitally enabled patient-support networks provide an ideal setting for exploring the applicability of alternative views of IS design. Since in these settings the design is not straightforward, we focus on such an ill-defined problem to conduct our investigation on personalized assistance through social-media engagement. An inquiry on the design of personalized elderly assistance in the geriatric unit of an Italian hospital provides the basis for a better understanding of design as a socio-technical construction of digitally enabled elderly support networks. The proposed approach originates from the "Help and social interaction for elderly On a multimedia Platform with E-Social best practice" (HOPES[1]) project, which is aimed at providing social e-services to elderly Europeans and their social circles in an attempt to improve the quality of social relations between the elderly and their social environments. An ADR project (Sein et al., 2011) has been undertaken in the final part of the HOPES project with the objective of building and validating a model for personalized elderly care assistance through social media. Our findings demonstrate how this model provides an alternative approach to design personalized assistance. Involving elderly support networks through social media engagement helped to overcome recipients' IT-illiteracy. Our study contributes to build prospective and normative knowledge, as defined by pragmatism, in addition to prescriptive and descriptive knowledge (Gregor and Hevner, 2013). Finally, while addressing the main challenges related to the provision of elderly care services, practical implications for a wider area of interests are discussed, envisaging settings in which lessons learned about elderly care assistance through social media engagement can be applied.

The paper is structured as follows: First, works related to design views in IS research and to the role of social media as an ensemble artefact are discussed to clarify current research knowledge; next, the research approach is introduced, followed by the empirical findings from the ADR project at the Geriatric Campus; then, theoretical contributions and lessons learned are covered; finally, implications for research and practice are explored.

Related works

Design views in IS research

In recent years, design science has attracted much attention as an engaged form of research in IS, organization and management studies (Gregor and Jones, 2007; Hevner et al., 2004; Romme, 2003; van Aken, 2004). Such studies are characterized by a problem-solving orientation and a prescriptive form of inquiry. In the IS field, design science research (DSR) has been recognized as an important stream of research that is aimed at generating knowledge through the development of socio-technical artefacts (Lee, 2010).

A variety of positions regarding theories and their roles in DSR has emerged from the IS discourse. Some authors claim that the ultimate goal of a design research effort must be a combination of prescriptive and descriptive theories (Gregor and Hevner, 2013). Other authors adopt a more pragmatic position by arguing that artefact impact is more important than artefact grounding. In such a view, design theories comprise a special kind of practical theory (Goldkuhl, 2012a, p.140), and design science, like action research, is framed within a pragmatic philosophy as an engaged form of research (Baskerville and Myers, 2004).

Studies conducted under this perspective focus on actions, interventions and experimentations with the final goal of developing knowledge that is useful in action (Goldkuhl, 2012a). Therefore, knowledge is not restricted to explanations and to understanding; instead it also has a constructive character being prescriptive, normative and prospective (Goldkuhl and Agerfalk, 2005; Goldkuhl, 2012b). While prescriptive knowledge deals with giving guidelines and is common to any DSR approach, the normative and prospective values of pragmatic knowledge are unique characteristics of this

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[1] www.hopes-project.org.