

ENGLISH SUMMARY

We all are designers of our everyday life. This statement may sound surprising, but it just reminds us that man is the artificer of his own future. In every historical period, humans have creatively designed technology for satisfying their needs. Our time, known also as the information age, is best characterized by PCs and mobile devices, which have rapidly become indispensable for managing our everyday life. Among other things, they are communication devices that let us overcome the physical distance separating us from our family and friends; they allow flexible management of our work and leisure time, as well as readjustments of our personal schedules and meetings; they provide quick and cheap access to knowledge independently of time and space. Without doubt, personal computers and mobile devices make our life easier. However, solutions and improvements to existing problems have brought us new challenges, leading to continuous reformulation of problems and solutions. Indeed, the social effects of information and communication technologies (ICT) are not only positive: the boundaries between public and private space are fading and pose new challenges to personal privacy; the always-on condition brings with it the risk of information overload and a consequent desire for disconnection; identity development is increasingly mediated by virtual communities and online social networks, which have rapidly become teenagers' favorite places for all sorts of social practices. These trends are quite difficult to observe, understand and explain within a single techno-social domain. When analyzed in relation to multiple converged digital networks, their evaluation is even more challenging.

Digital convergence is usually assimilated to technological convergence because the convergence of networks and especially devices is its most visible element. In the last few years, PCs and mobile technologies have progressively converged, enabling ubiquitous access to media content, people and services. Laptop computers have become smaller and more similar to PDAs, while mobile phones have turned into mobile computers. However, digital convergence should not be regarded as synonymous to technological convergence, but rather as a multifaceted concept encompassing the technological, economic, cultural and social dimensions. Indeed, as the technological infrastructure of the converged digital environment is reaching its maturity, its early social and cultural effects are emerging. Thus, the aim of the study was to explore the interplay between the technological and social dimensions of digital convergence from the perspective of mobile social software (MoSoSo).

MoSoSo is a technological product of digital convergence linked to the use of mobile devices in informal social network interactions. Even if phone calls and SMS still remain the most important social functions of mobile devices, a growing number of people use mobiles to send emails, to engage in messenger chats or to access their favorite online social networks. These are the most popular forms of MoSoSo, which also include less known but very important

tools for discovering and interacting with co-located people with similar or compatible interests (i.e. social proximity applications) or for mobilizing large groups of people (i.e. smartmobs/flashmobs). MoSoSo is also about co-creating and sharing media to enhance event experiences or for participating in innovation processes (i.e. mobile social media). These terms, and others like mobile 2.0 and mobile web2.0, are currently used to describe various forms of mobile-mediated social interactions, which all fall in this study under the general notion of MoSoSo. Despite the mature technological infrastructure, so far the potential of MoSoSo has not been realized. The theoretical foundations of MoSoSo are not clear, as both academic and commercial approaches present diverging trends. Studies of MoSoSo are typically exploratory and have not yet produced findings that can be generalized. MoSoSo suffers also from weak user adoption, which is influenced, among other things, by the limited conceptualization of MoSoSo as an urban and exclusive entertainment gadget. Lacking an established common view about its technology and scope, MoSoSo does not possess an own identity.

The current shortcomings of MoSoSo research provided a strong motivation to conduct an investigation to understand the role that MoSoSo should have in the process in digital convergence. The topic was approached by combining two main research methods, namely conceptual analysis (Saariluoma, 1997) and design thinking (Saariluoma, 2004 and 2005a), which allowed deriving an articulated conceptualization and a holistic design model for MoSoSo. To bridge theory and practice, the model of communication capabilities (Viherä, 1999) was used to illustrate the emancipatory function that MoSoSo could have in the transition towards sustainable information societies, assuming appropriate support policies.

During literature review, it was found that the lack of a suitable conceptual framework represents one of the main obstacles preventing the realization of the potential of MoSoSo. Because of the theoretical nature of the problem, a deductive approach grounded on conceptual analysis was chosen to address it.

From a sociological perspective, MoSoSo represents an interesting object for study because it allows observing and understanding the new ways in which people perceive and experience social space. As argued by Taipale (2009), synergic use of mobile and Internet applications has a transformative effect on social space. Several scholars introduced the term *hybrid space* as the new evolutionary form of social space connecting physical and digital space and integrating mobile and online social networks with F2F interactions. As a transformed space of social communication, the hybrid social space also leads to a transformed view of community, referred to in this study as *digital community*. Convergence and integration are the key traits of digital communities, which present new characteristics in relation to more traditional forms of community. The classic *Gemeinschaft* model (Tönnies, 1887|1967) is not suitable to describe digital communities, which are not necessarily grounded on local social solidarity ties generated by family or kin relationships. Digital communities build on the network analytic perspective of community

(Wellman, 1979, 1982, 1988, 2001a; Wellman et al., 1988; Wellman et al., 2002), which focuses on the evolving patterns of social structure. Through the prototypical activity of digital sharing, digital communities extend personal communities by including new types of relations (i.e. latent ties), forms of interaction (i.e. ad-hoc ties) and scales of communication (i.e. many-to-many). By analyzing how digital convergence transforms community, it is possible to adopt a network perspective and conceptualize MoSoSo as a class of mobile applications whose scope is to support informal mobile social networking. By supporting any type of social relation, MoSoSo is conceived as a general purpose social platform for contextual interaction. The network approach allows connecting MoSoSo research to the graph theory, sociometry and complex networks, and to clarify the relationship of MoSoSo to groupware and social software, the other two main paradigms of social computing.

By applying design thinking (Saariluoma, 2004 and 2005a), the conceptualization of MoSoSo served as the basis for developing a holistic three-level design model. The *individual level* deals with the representation of the user as a collection of personal and social resources (i.e. user profile). Resources are digital representations of tangible or intangible goods that assume value in an action context. Digital sharing allows sharing personal resources as social resources, thus interconnecting users. It follows that the *social level* of the mobile social network is all about interconnected user profiles. Social ties are therefore described in terms of access and sharing of social resources. The *interaction level*, which deals with the use of such resources in context, describes how MoSoSo can facilitate contextual interactions through social algorithms, procedures that take as input the combination of user behavioral, social network and context data to return a personalized MoSoSo interface.

The conceptualization and design model of MoSoSo was then connected to the broader theme of digital community design, which needs to address human and social needs before technological and business aspects. This view was adopted to evaluate the suggested design model from the perspective of risks and gains of MoSoSo interaction. To minimize costs and maximize benefits, a set of eight principles of digital community design was introduced: first, MoSoSo should be designed as a general purpose, socially scalable, crossmedia and inclusive social platform. It should also promote self-organization and decentralization, and provide both amplifiers and attenuators of social information. Furthermore, MoSoSo should enforce trust by demanding users to specify their real identity, but it should also allow creating and using multiple virtual identities. Finally, MoSoSo should support an egocentric or communitarian view of the social world according to the needs of the digital community.

The principles of digital community design were then used to evaluate the role of MoSoSo in the shift towards sustainable information societies. Even if MoSoSo contributes in widening the traditional notion of community by several new features, it does not significantly change the traditional function of communities in people's lives and in global societies. Specifically, the primary role of MoSoSo in the process of digital convergence consists in allowing

citizens to freely self-organize in digital communities. It offers powerful means to easily and quickly create, share and mobilize symbolic and material resources, with which one can attain individual and/or collective action goals. MoSoSo assumes also an emancipatory function for digital communities because it represents a flexible social platform for the co-creation and provision of community-generated services (CGS). Thanks to quick, easy and cheap access to shared community resources, this is sustainable and strengthens the resilience of citizens in need to cope with the decreasing reliability and increasing costs of public and private services. At the level of large-scale social structures, MoSoSo may become an effective tool for empowering a network-based civil society that participates more widely in processes of innovation and societal transformation. The study argues also that convergence of policies agreed by all stakeholders is the key condition for realizing such value. *Policy convergence* should be centered on the view of citizens and communities as the key resource for sustainability and implemented through investments in the development of citizens' communication capabilities (Viherä, 1999).

The study extends the current understanding of MoSoSo by offering a comprehensive conceptual framework that can be used by academics to develop MoSoSo research and by public and private organizations to implement sustainable solutions relying on CGS. This contribution underlines that MoSoSo can no longer be regarded only as a set of entertainment gadgets, but rather as a technological platform for social change. Much of this potential is connected to the use of mobile social networks in contextual interaction; hence, integrating the science of networks with interaction design is one of the key challenges of MoSoSo research. The findings of the study suggest new directions for future research; these are illustrated as an agenda for MoSoSo research. Among the various issues, the challenge of designing MoSoSo for social capital seems the most promising theoretical extension because it would allow framing the contextual value of MoSoSo interaction within the social capital theory (Bourdieu, 1986; Coleman, 1988; Putnam, 1993 and 2000; Portes, 1998; Burt, 2000; Lin, 2001). This extension would also provide material for developing a sociological theory of digital communities. From a design viewpoint, the empirical evaluation of the suggested design model in a specific context would represent the most natural continuation for this study.

Once users are able to easily interconnect and self-organize in digital communities to exploit converged digital networks for the attainment of individual and/or collective goals, they will become even more creative and responsible as "designers" of their own future.