Network Communities

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Network Communities

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Synonyms

Social network; Wireless community network

Definition

Network communities as well as social networks sites are special cases of online social interactive environments. According to Rheingold (1993), who chose the term “community” (*Gemeinschaft*) to denote the early experiences of online aggregation, De Cindio and Peraboni (2010) suggest to name *Gemeinschaft* the free interactions among people; while the term *Gesellschaft* denotes the corpus of rules that govern the online life, i.e., the normative aspects typical of a society.

Network communities differ from social networks sites in the sense that “Social Networks Sites are primarily organized around people, not interests” (Boyd and Ellison 2007), while network community/ies members more explicitly recognize a common interest that holds people together for sharing knowledge and experiences (DeCindio and Ripamonti 2010) and goals (Preece 2000). Moreover, the rules of behavior of the *Gesellschaft* dimension of any online social interactive environment in network communities identify more explicitly a social structure, as (De Cindio et al. 2003) shown in the case of the Milan Community Network.

Theoretical Background

Human learning occurs often in a serendipitous way as a side effect of interaction with knowledge sources, human or artificial (see, e.g., learning as a side effect). Social networks (on the Web) have been developed with a variety of purposes, but the net effect is that people use

them and by using them overcome many of the previous barriers that have to do with isolation and the feeling of being insufficiently equipped in order to be of any value. This self-value effect of social networks is one major reason for their success and may be exploited for human learning: Incidental, informal learning occurs as a side effect of interaction in social networks. However, we may enhance also formal learning by means of the more organized *Gemeinschaft* and *Gesellschaft* dimensions typical of the communities.

A theoretical background helps to focus on the essential elements of social knowledge creation and acquisition. In (Nonaka and Takeuchi 1995) we find a distinction between *Socialization*, *Externalization*, *Combination*, and *Internalization* (the SECI model presented in Fig. 1). *Socialization* refers to sharing *implicit* knowledge by means of sharing feelings, emotions, experiences, and mental models. *Externalization* follows in the sense of “making explicit what is implicit”: in a personal context of knowledge construction. *Combination* is the process transforming the private knowledge made explicit by externalization into socially shared knowledge. Finally, *internalization* reshapes the shared, collective knowledge into a personal, tacit one (a kind of knowledge compilation) in order to exploit it when needed.

Online network communities’ dialogs favor socialization and externalization: both are prerequisites for the full cycle of knowledge acquisition–construction, though they are not exhaustive, i.e., more personal, constructive work is needed in order to build shared knowledge (combination) and compile it internally for exploiting it in generic situations (internalization). In the following we will particularly insist on combination since it seems to us particularly relevant both for learning and with respect to the available Web.

Important Scientific Research and Open Questions

In order for these processes to be effective, mutual trust is a necessary precondition (Wenger et al. 2002). One of the factors positively influencing trust is a shared interest or goal or commitment. Let us for the moment call “context” this interest, goal, or commitment.

81 The context influences significantly the interpretation
82 of messages exchanged by the participants. The meaning
83 of words is not independent from an interpretation con-
84 text. Years of work around the most important human
85 effort in generating standard meanings – the CYC project
86 (<http://en.wikipedia.org/wiki/Cyc>) – has demonstrated
87 that nontrivial meaning (i.e., knowledge for deciding) is
88 heavily context dependent.

89 Since it is the interpretation of messages that enables to
90 converge into shared knowledge, it is clear that communi-
91 ties have a chance more than social networks to foster the
92 acquisition–construction of knowledge because of the exis-
93 tence of some common interest/goal/commitment.

94 One may question whether it is a necessary condition
95 (or not) that knowledge is shared in order it to be effective.
96 Indeed that depends on the context: in science this is
97 certainly the case (Lemoisson and Cerri 2005), in politics
98 it seems to us that we have the “opposite” case as we try
99 hereafter to outline briefly.

100 Science has the ambition to cumulate propositions
101 that represent observable phenomena, generic rules, and
102 forecasted events, using words and symbols that are
103 assumed to have a well-defined meaning. One would
104 wonder every time that scientists do not agree on the
105 interpretation and forecast of natural phenomena, as it
106 the case when different “scientific schools” argue with
107 each other. Any scientific paper assumes the shared valid-
108 ity of the “state of the art” and attempts to show that the
109 authors went beyond.

110 On the opposite side, the basic premise of the parties
111 in a court case is that they do not share the assumptions,
112 thus the conclusions are opposite. Both scientists and
113 jurists argue with the purpose to reach as much as possible
114 a consensus or a shared view of the facts and their inferred
115 abstractions (rules). On the contrary, politicians wish to
116 stress differences in the appreciations of the same facts in
117 order to gain some share of votes that may support
118 a different viewpoint and proposal; they argue continu-
119 ously in a debate concerned with what may be convenient
120 vs. dangerous as a political decision rather than what is
121 true or false (scientists) or where is the reason or the fault
122 (jurists).

123 Actually, in any context, argumentation, negotiation
124 of meaning, and convergence by groups of participants are
125 at the source of any learning. These are processes that we
126 may find (in the previously outlined SECI model) mainly
127 in the phase of combination, but also in the previous

phases. For this reason, we may conclude that network
communities do foster learning.

Finally, concerning “convergence” toward socially
shared meanings, let us note that extracting, abstracting,
negotiating concepts and relations are utmost facilitated
by the availability of tools such as ontologies and
folksonomies that enable to organize and retrieve view-
points of the participants as well as arguments and
counterarguments during the conversations.

Concerning ontologies, metadata, and classification
processes in communities, it is more and more evident
from real experiences (Lemoisson and Cerri 2005) that the
collaborative construction of shared knowledge (in the
case of ontologies, also formal, explicit and suitable for
automatic reasoning) enhances awareness and learning,
a phenomenon that transforms the Web and its network
communities into the most powerful natural laboratory
for the construction of knowledge that human history has
ever conceived and realized.

Cross-References

- [Advanced Learning Technologies](#) 147
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- [Theory Construction](#) 150

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Network Communities. Fig. 1 The SECI model