



Network Communities

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Network Communities

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Synonyms

9 Social network; Wireless community network

Definition

10 Network communities as well as social networks sites are
11 special cases of online social interactive environments.
12 According to Rheingold (1993), who chose the term
13 “community” (*Gemeinschaft*) to denote the early experi-
14 ences of online aggregation, De Cindio and Peraboni
15 (2010) suggest to name *Gemeinschaft* the free interactions
16 among people; while the term *Gesellschaft* denotes the
17 corpus of rules that govern the online life, i.e., the norma-
18 tive aspects typical of a society.

19 Network communities differ from social networks
20 sites in the sense that “Social Networks Sites are primarily
21 organized around people, not interests” (Boyd and Ellison
22 2007), while network community/ies members more
23 explicitly recognize a common interest that holds people
24 together for sharing knowledge and experiences
25 (DeCindio and Ripamonti 2010) and goals (Preece
26 2000). Moreover, the rules of behavior of the *Gesellschaft*
27 dimension of any online social interactive environment in
28 network communities identify more explicitly a social
29 structure, as (De Cindio et al. 2003) shown in the case of
30 the Milan Community Network.

Theoretical Background

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

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

45 A theoretical background helps to focus on the essen-
46 tial elements of social knowledge creation and acquisition.
47 In (Nonaka and Takeuchi 1995) we find a distinction
48 between *Socialization*, *Externalization*, *Combination*, and
49 *Internalization* (the SECI model presented in Fig. 1).
50 *Socialization* refers to sharing *implicit* knowledge by
51 means of sharing feelings, emotions, experiences, and
52 mental models. *Externalization* follows in the sense of
53 “making explicit what is implicit”: in a personal context
54 of knowledge construction. *Combination* is the process
55 transforming the private knowledge made explicit by
56 externalization into socially shared knowledge. Finally,
57 *internalization* reshapes the shared, collective knowledge
58 into a personal, tacit one (a kind of knowledge compila-
59 tion) in order to exploit it when needed.

60 Online network communities’ dialogs favor socializa-
61 tion and externalization: both are prerequisites for the full
62 cycle of knowledge acquisition–construction, though they
63 are not exhaustive, i.e., more personal, constructive work
64 is needed in order to build shared knowledge (combina-
65 tion) and compile it internally for exploiting it in generic
66 situations (internalization). In the following we will par-
67 ticularly insist on combination since it seems to us partic-
68 ularly relevant both for learning and with respect to the
69 available Web.

Important Scientific Research and Open 70 Questions

71 In order for these processes to be effective, mutual trust is
72 a necessary precondition (Wenger et al. 2002). One of the
73 factors positively influencing trust is a shared interest or
74 goal or commitment. Let us for the moment call “context”
75 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 context.
84 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 communities
91 have a chance more than social networks to foster the
92 acquisition–construction of knowledge because of the existence
93 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 validity
108 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 continuously
119 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 128
communities do foster learning. 129

Finally, concerning “convergence” toward socially 130
shared meanings, let us note that extracting, abstracting, 131
negotiating concepts and relations are utmost facilitated 132
by the availability of tools such as ontologies and 133
folksonomies that enable to organize and retrieve view- 134
points of the participants as well as arguments and 135
counterarguments during the conversations. 136

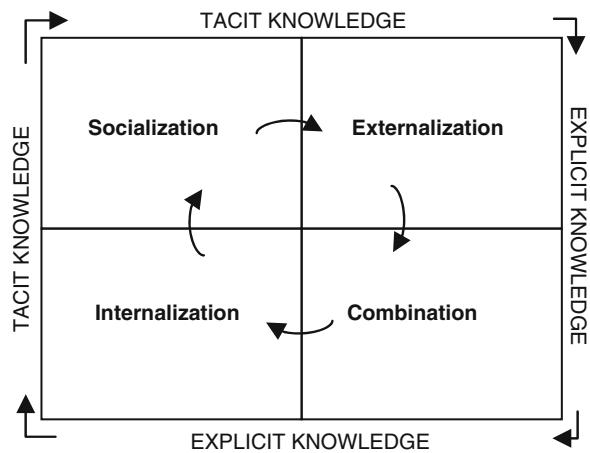
Concerning ontologies, metadata, and classification 137
processes in communities, it is more and more evident 138
from real experiences (Lemoisson and Cerri 2005) that the 139
collaborative construction of shared knowledge (in the 140
case of ontologies, also formal, explicit and suitable for 141
automatic reasoning) enhances awareness and learning, 142
a phenomenon that transforms the Web and its network 143
communities into the most powerful natural laboratory 144
for the construction of knowledge that human history has 145
ever conceived and realized. 146

Cross-References

- Advanced Learning Technologies 148
- Learning as a Side Effect 149
- Social Networks 150
- Theory Construction 151

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Network Communities. Fig. 1 The SECI model