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Virtual Communities in Negotiation: From Discourse to Praxis…and Back

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Abstract

Deliberate corporate attempts to stimulate organizational learning, such as for instance to promote â   knowledge culturesâ   by creating virtual communities, can evoke unforeseen and unintended responses. Moreover, such formal, imposed attempts of stimulating knowledge cultures may run against informal ways of seeking information, establishing bonding relationships, and raising personal market value. This chapter shows how management and moderators as well as employees of a large IT firm have appropriated the language of the organizational change discourse surrounding the virtual community idea. It also illustrates how differences in their patterns of appropriation have prevented the virtual communities to evolve into the intended "collective learning mechanisms.â   First, we present the research framework and methodology used. Subsequently, we discuss the community idea as interpreted by management and moderators of the virtual communities. This is followed by the same procedure for the participants of the communities. In both cases, the arguments put forward for the various interpretations are depicted, which are then generalized into patterns of appropriation. Hereafter, we illustrate the differences in appropriation between the various subcultures and discuss the different factors responsible for their situated and negotiated behaviors. Finally, conclusions and implications are given.

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Biographies: Vanessa Dirksen is a doctoral candidate and lecturer at the Department of Business Studies of the Universiteit van Amsterdam. In her doctoral thesis she explicates the recursive relationship of modern information and communication technologies and human (work) practices and views ICT as both a cultural product as well as a cultural negotiator.

Ard Huizing is Associate Professor at the Department of Business Studies of the Universiteit van Amsterdam. His research is focused on the development of a learning-based theory of the firm bridging economic reasoning and organization theory, which also intends to help managers orient their knowledge policies, decisions, and practices. In particular he is interested in the troublesome relationship between learning individuals and organizations that are not always supportive of learning. He co-authored or edited a number of books, and has published in many refereed journals, including Accounting, Organizations and Society, and Journal of Management Information Systems. Furthermore, he teaches and gives lectures at the university, in post-graduate programs and (in-house) courses for groups of managers.

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Introduction

In this chapter we explore cultural and institutional reasons why organizations fail to learn and fail how to learn. Regarding learning processes employees and management have different responsibilities. Employees are responsible for generating and sharing specialized occupational knowledge and for applying this knowledge creatively within organizational practices. Finding innovative organizational forms and processes supporting and coordinating employees' knowledge and learning is the task of management (Schein, 1996; Brown and Duguid, 2001; Huizing and Bouman, 2002). These organizational learning processes are extensively studied in the management and organization literature (Argyris and Schön, 1978; Senge, 1990; Nonaka and Takeuchi, 1995). In this literature, communities of practice gain in popularity (Wenger, 1998; Werry, 1999). Allegedly, community is the organization principle most effective in producing and sharing knowledge and, hence, in generating and disseminating innovation (Adler, 2001).

Communities of practice are "groups of people informally bound together by shared expertise and passion for a joint enterprise" (Wenger and Snyder, 2000: 139). As such, they express that learning is a complex social process that inevitably reflects the social context in which people learn and in which they put it into practice. From an institutional perspective, communities of practice are organizational forms that are fundamentally different from markets and hierarchies (Ouchi, 1980; Adler, 2001). Applied within organizations, they can be seen as distinct knowledge cultures or parallel learning structures, that is, "structures that exist outside of the formal hierarchy and the role of which are to promote learning and innovation with a view to changing the formal structure in order to improve its effectiveness" (Grant, 2001: 163). Viewed as informal knowledge cultures, communities of practice are a natural part of organizational life. For most organizations, however, formalizing them in a deliberate attempt to promote organizational learning inevitably implies a major change project.

We performed an ethnographic case study to improve our understanding of how communities of practice as an organizational change idea materialize in organizations. What arguments are used by the "relevant social groups" (Bijker *et al.*, 1987), while interpreting, appropriating, and applying the community idea and how do these perceptions interrelate? We see the institutionalization of communities of practice not just as a means for operational employees to improve their learning capabilities. It is also a learning process in itself, in which the community idea as expressed in the literature, the way it is appropriated and used by the social groups, and contingency factors are involved into a dynamic interplay continuously shaping its outcome. What factors play a role in this dynamic interplay and how are they negotiated?

The ethnography was conducted in a large Dutch IT firm, referred to as Dito (an acronym for Dutch IT organization).[i] Dito has its origins as a public body in that it partly stems from the Dutch state-owned computing center. Founded in 1950, the State Center for Mechanical Administration, as it was called, was concerned with salary administration by means of punch cards. In 1990, the

computing center was partly privatized. As a consequence of taking over competitors, Dito no longer only supplied ICT products and services, broadly defined as "infrastructure management services" and "application services," to the government but also to clients in sectors such as industry, banking, insurance, social security and health care. In 2001 Dito is an organization employing around 9000 people and consisting of 15 subsidiaries with about 25 offices scattered all over the Netherlands and abroad.
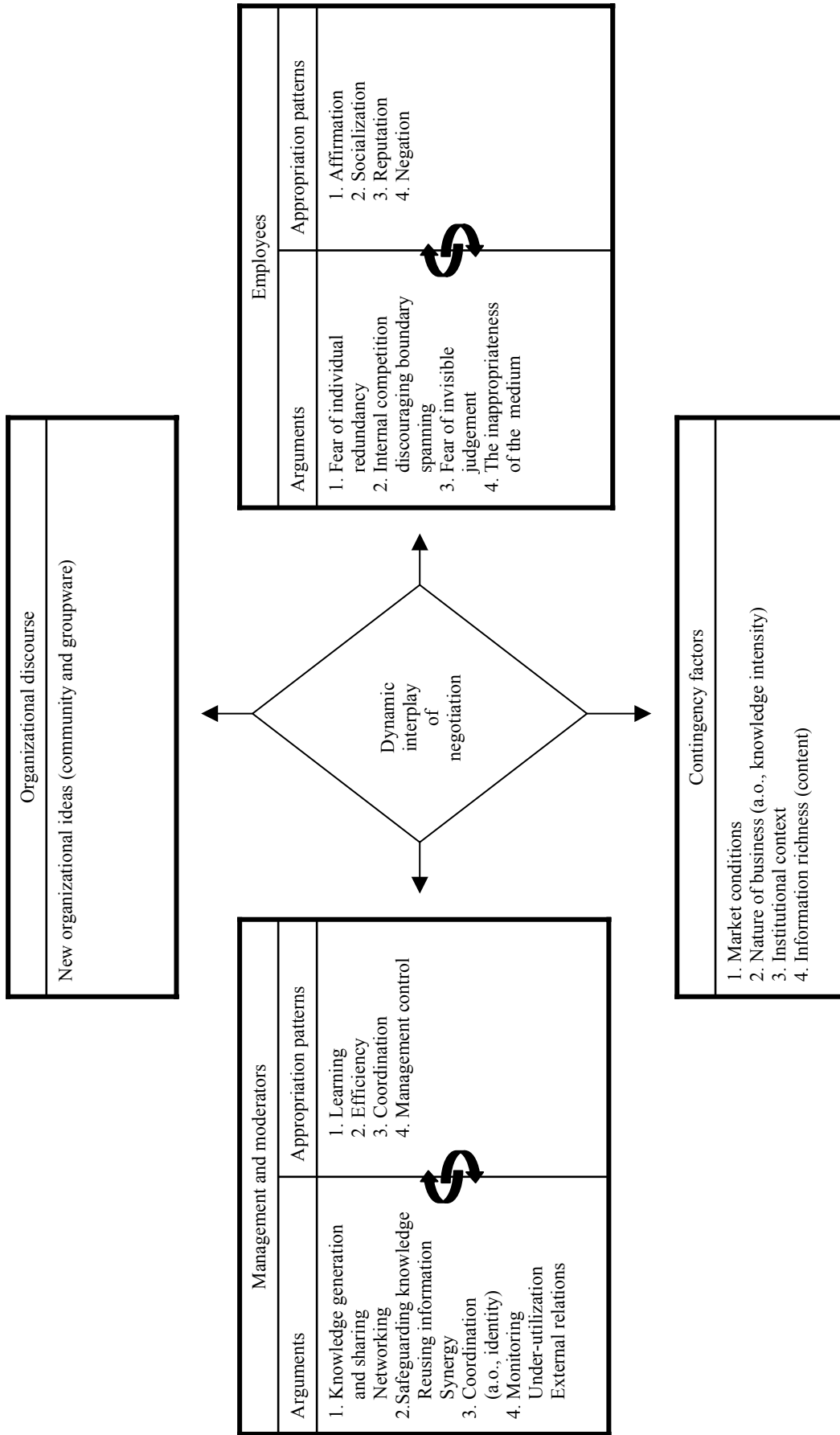
After a few years of experimenting with on-line practices, as of early 2001 Dito offered all its employees the opportunity to create communities of practice and base these communities on a new groupware technology. Groupware is a self-service web tool for coordination, collaboration, and communication through shared access to technological capabilities such as common repositories, discussion forums, and communication facilities (Orlikowski, 1996). Although originally a broad conception of the community idea was used, the attention gradually shifted towards the groupware supported virtual communities.

As a research team we witnessed the community change project from the start and continued our exploratory study until August 2002. By that time 191 virtual communities had come into being into which, in terms of registered usernames, 2742 employees participated. One and a half years after their introduction, therefore, the virtual communities represented about 30% of the firm's total population.

Research framework and methodology

Figure 1 shows the research framework and simultaneously summarizes our findings. It is based on three theoretical considerations. First, in every organization there is a delicate balance among the three distinct ideal-typical forms of organization: market, hierarchy, and community (Adler, 2001). For communities to be the organization principle most effective in stewarding knowledge and learning, they need a certain degree of informality and autonomy. When institutionalized into an organizational context, however, they also need conformity to organizational goals such as greater efficiency, accountability, flexibility, and control. As Wenger *et al.* (2002) allege, communities are unlikely to achieve their full potential when they fail in this respect. This pushes the community concept into contradictory directions. On the one hand, many firms refine their hierarchy in a reaction to increasing competitive pressures and are inclined to make communities part of that refinement. On the other hand, it is acknowledged that communities are a fundamentally different form of organization that cannot be planned and controlled as traditional organizational structures. The pitfall is over-management compromising the passion, aliveness, and bonding relationships needed for collective learning. From an organizational perspective, the point is that institutionalizing communities can easily result in conflicting requests posed on the firm and its employees that, if not resolved, can cause

Figure 1 Research framework

Organizational discourse	
New organizational ideas (community and groupware)	

Employees		
Arguments	Appropriation patterns	
1. Fear of individual redundancy 2. Internal competition discouraging boundary spanning 3. Fear of invisible judgement 4. The inappropriateness of the medium	1. Affirmation 2. Socialization 3. Reputation 4. Negation	

Dynamic interplay of negotiation

Management and moderators		
Arguments	Appropriation patterns	
1. Knowledge generation and sharing Networking 2. Safeguarding knowledge Reusing information Synergy 3. Coordination (a.o., identity) 4. Monitoring Under-utilization External relations	1. Learning 2. Efficiency 3. Coordination 4. Management control	

Contingency factors	
1. Market conditions 2. Nature of business (a.o., knowledge intensity) 3. Institutional context 4. Information richness (content)	

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failures of organizational change and learning. How these conflicting requests of market, hierarchy, and community are aligned is therefore one productive way of studying change projects.

The second theoretical consideration is that organizational change projects are always interpreted by the organization's relevant social groups or occupational cultures (Schein, 1996), often leading to the co-existence of different meanings around the same change idea (cf. McLaughlin, 1999). From the change agents' point of view, deviating appropriations of, for instance, the employees may come as unforeseen and unintended consequences (cf. Vaughan, 1999) or as drifting behavior (Ciborra, 1996). Reasons for incongruence between intentions and outcomes are, for example, that the organizational change discourse and information and communication technologies as part of it, hold prescriptive representations of work activities or imprint a unified pattern of thought and behavior (Suchman, 1995) that may be "worked around" by other groups in varying degrees and for various purposes (cf. Foote Whyte, 1991). Consequently, every organizational change project is a dynamic interplay of negotiation among design and responses to that design (Wenger, 1998), which is the third theoretical basis for our study. This dynamic interplay also involves interactions with contingency factors, which are therefore included in the research framework.

We view the dynamic interplay between different perceptions of change ideas as the natural course of change projects, because every social group involved interprets the change idea and makes it their "own" to ensure the essence of their own social and cultural ordering (cf. Sahlins, 1999). This chapter therefore explicates the various meanings Dito's management, moderators, and employees have attached to the community and groupware ideas as part of their everyday work practice and how they employ these "resources in action" (Suchman, 1987) accordingly. In this analysis two potential causes for learning failures emerge. The first is that deviating patterns of appropriation can obstruct organizational learning if not recognized as such, and the second relates to whether or not organizational change is shaped as a learning process in itself. Box 1 shows how we collected our data.

Box 1 Research methodology

To comprehend Dito's community change project "from within," we conducted an ethnographic study. Ethnography refers to engagement or immersion through participation, observation, and description. Six methods for data collection were employed: 1) document review, 2) informant, 3) interview, 4) offline participation, 5) on-line participation and content analysis of the virtual encounters in the on-line working spaces, and 6) sequential observation of the log files kept. Document review provided important background information about Dito, its view on communities of practice, and the technology implemented. The cultivation of "insiders," referred to as (key) informants, seasoned employees highly involved in the project, acted as a ready source for consultation and convenient help over the course of the study.

Over the 16-month research period, around 50 formal interviews in the various locations of the firm were conducted. The interviewees, who were guaranteed strict anonymity, referred to themselves as managers, consultants, project managers, data warehouse architects, sales account managers, and software engineers. For the purpose of this chapter, these divers IT professionals have been classified into two relevant social groups: management and moderators as well as partaking employees (participants). Additionally data were collected from participation in face-to-face meetings, which allowed for direct and sustained observation of, and interaction with, a broad sample of the actors involved. Last, we performed a virtual ethnography (Hine, 2000) or ethnography in cyberspace (Paccagnella, 1997; Markham, 1998), meaning that data were also drawn from participation in and content analysis of the virtual workspaces of the communities, and sequential analysis of the log files that were automatically stored.

Hence, our arguments are based on proven tactics for ethnographic research (Hammersly and Atkinson, 1983; Hess, 1992): spending a long time on site, using informants, interviewing actors with different opinions, and triangulating across multiple data-collection methods. Moreover, to validate our interpretations of the data and to establish confidence in our findings, we have repeatedly registered our field observations, analyzed preliminary data (Spradley, 1980), and acquired feedback from the participants at various stages of the study. Such interactions refined our understanding of the phenomena observed and assisted in further data gathering (and eventually in the emergence of cultural patterns). Finally, a preliminary summary of findings and implications was presented to the participants.

The promise and the language

The decision of Dito's management to create communities supported by groupware is in line with the increasing popularity of these ideas in the literature. Together, both ideas and the language they are presented with radiate a strong and optimistic promise, in a practical and a theoretical sense.

As Rapport and Overing (2000) point out, "community [is] a concept of always positive evaluation and evocation, whose usage expresses and elicits a socio-cultural grouping and milieu to which people would expect, advocate, or wish to belong." It propagates an idealized view of work practice and learning, as is reflected in the excerpt taken from an interview with Dito's director of Corporate Development, who was responsible for introducing the community concept (see Box 2).

Box 2 The promise

> *"It [the virtual community] concerns the professional, the animated specialist who is looking for pals, within as well as outside the firm. Let's say I am a Java expert. As such I will often come across people with whom I am not collaborating, but who could very well be interested to talk to me about my line of work and tell me: "Gosh, our specialties are so akin, let's get together some time." People who are mad about Uniface, for instance, want to share their knowledge with as many other such fanatics as possible. And I am not just talking about the knowledge that one makes available to the whole of the firm formally."*

Apart from the optimistic portrayal of human practice, both theory and the interview excerpt show what community and groupware are meant to be used for, that is, what they afford to the users. In terms of affordances (Ingold, 2000; Hutchby, 2001), people of all hierarchical levels in the firm are meant to benefit from each other's knowledge and learning capabilities. The combination of the idea of community and the affordances of the groupware presupposes bottom-up knowledge creation and sharing and, consequently, new or improved ways of organizational learning. Moreover, it is predominantly communicated as a tool *for* its users who wish to relate to each other on the basis of equality and for the common good of the group anchored in a strong sense of belonging and identity construction. Furthermore, communities are presented as informal boundary spanning devices. They are said to enable increased connectivity across formal organizational structures and cultures to multiple information resources, in the form of both people and systems, not necessarily confined to the place of action. Last, communities of practice would significantly contribute to the organization's ability to innovate and adapt to its changing environment.

Appropriation by management and moderators

The community idea was not solely appropriated by management and moderators as an idealized representation of human practice and in terms of its presumed affordances. Highly informative in this regard is an internal document that was used in a meeting to instruct the prospective moderators, who would play a pivotal role in the anticipated change project. Box 3 sums up the ten motives described in this internal document.

Box 3 Ten motives for organizational change

1 *Saving costs in information exchange and office facilities*
2 *Increasing efficiency and productivity*
3 *Increasing turnover as a result of the bundling of efforts*
4 *Advancing synergy between subsidiaries*
5 *Reusing knowledge by eliciting best practices*
6 *Sharing knowledge*
7 *Cultivating knowledge*
8 *Stimulating creativity*
9 *Maintaining internal and external relations*
10 *Developing new relations*

The ten motives behind the introduction of communities and the related groupware technology illustrate how Dito's management has interpreted the community idea and how the delicate balance between market, hierarchy, and community was dealt with. Faced with a rapidly deteriorating economy and a need for downsizing, the ten motives are a mixture of potentially conflicting learning, efficiency, coordination, and control objectives. It is also not a coincidence that the efficiency objectives appear most prominently on the list of motives.

The same mixture in motives appeared in interviews with Dito's management and moderators, out of which four interpretations or patterns of appropriation of the community and groupware ideas can be distilled. In the first interpretation, both ideas are primarily viewed as a learning tool, that is, a tool for generating and sharing knowledge, and for networking. For instance, Maurits, moderator of the junior employee community, remarked concerning his community objective: "*I call it members for members, meaning that members can actively use each others' knowledge by way of the community,*" to which he added: "*We want to use the community as an additional binding agent.*" Another example is moderator Leo, who claimed that the project managers' community *"...is directed foremost towards getting to know each other to find out who has what kind of knowledge, what you could approach someone for, what incites this person so that you can even call him in the night regarding certain matters.*" Such remarks clearly resemble the promise of communities as described in the previous section.

In the second interpretation of communities and groupware efficiency arguments dominate. As Tanja, one of the responsible knowledge managers, voiced: "*It [the objective] concerns most of all the safeguarding of knowledge in the organization. The knowledge that would otherwise simply remain in people's heads can now be "invested" in expert databases, reports or what have you.*" In this view, communities contribute to the codification of the firm's tacit and explicit knowledge with the ultimate aim of preventing knowledge leaving the organization. As general manager Reinbert added: "*The consequence of an employee leaving the company is that with him also the documents and the knowledge leave. (…) Virtual communities are about the reuse of information, what we refer to as digital durability.*" Achieving synergy across organizational boundaries was another argument used.

The third interpretation of the community idea relates to coordination. Closely related to reusing information is the argument of Karel, moderator of the document management systems community: "*In case of new products and developments in the field you see that they all try to reinvent the wheel again.*" Communities and groupware in this interpretation are meant to help coordinate documents, activities, and

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working methods to minimize redundancy. Coordination to present the firm as a coherent entity with a collective identity to the outside world was also mentioned: "*Looking at the way you are presenting yourself, clients will say, that's curious, one consultant says this and the other that. This firm is a many-headed monster*."

The fourth interpretation relates to management control. Leontien, asked for her community objective, replied: "*To keep track of current projects and their progression,*" to which other respondents added projects done in the past. Reflecting the poor state of the economy, communities are furthermore believed to be helpful in solving the problem of under-utilized consultants. In a community meeting, Berend, the managing director of Dito, called upon peoples' feelings of solidarity in encouraging them to collaborate internally before employing external personnel. The virtual communities would incite such an inward perspective, he said.

Management control is also the most appropriate indication for the way the communities have been made "accessible" to their prospective users. When employees intend to start a community, the first step is to fill in a "Request for community," a digital form on the firm's intranet. The next step for responsible managers to arrange is an intake conversation with the applicants to assess their intentions. Subsequently, the managers determine what kind of information system would best suit their needs. In case of this being the community tool, the applicants are given the community template. From this application procedure can be said that even though the technicality of the tool does allow for the spontaneous emergence of communities, management does not permit it.

The four interpretations of community show that managers and moderators have attached different meanings to the same concepts, differentiating and modifying the language used in the community promise. As described in the previous section, the learning related arguments are readily communicated to the firm's employees, whereas the arguments of efficiency and coordination and, in particular, that of management control often remain more or less hidden or implied. Clearly, individual managers and moderators can and do adhere to one or more of these arguments, resulting in a multitude of divers patterns of appropriation that has shaped the explicit and implicit messages conveyed to the firm's employees. How did these community participants react to these divers and mixed messages?

Arguments affecting employees' appropriation

Although originally a broad conception of the community idea was used, the attention of management and moderators over the course of the change project shifted towards the groupware supported virtual workspaces. The next two sections describe how Dito's employees have manifested themselves in one or several of these virtual communities. First, we delve into the kinds of arguments employees have used while appropriating the proposed change ideas. Next, these arguments are generalized into four patterns of appropriation.

The kinds of arguments affecting employee's appropriation can be split into considerations reflecting management and moderators' intentions and in those showing deviating interpretations. In what follows we focus on the latter considerations that consist of four kinds of arguments: the fear of individual redundancy, internal competition discouraging boundary spanning, the fear of invisible

judgment, and the inappropriateness of the medium. Box 4 contains illustrative interview quotes regarding all four kinds of arguments.

Box 4 Illustrative remarks

1. Fear of individual redundancy
"It's because the commitment of people to their profession is hardly being rewarded within Dito. So, you keep the knowledge to yourself and by this means make other people dependent on you. Instead, when you do share your knowledge with others you just might make yourself redundant." (Bas, IT architect)

2. Internal competition discouraging boundary spanning
"Whatever I publish within my department is usually not meant for others outside the department. That is specifically meant for my department and none of anyone else's concern. And what you make available to your business unit, you might just want to keep within the business unit." (Hanno, project manager)

3. Fear of invisible judgment
"Well, if you have the feeling that you are not judged on the basis of it [messages posted] then you would be inclined to put it there. The moment you realize: "Hey, when I as a project manager post something like a plan of mine, others will look at it and that will evoke a certain value judgment of my colleagues," you won't do it. Especially if you know that it concerns people of higher ranking as well" (Philip, project manager)

4. Inappropriateness of the medium
"I notice that people are not really inclined to actually share their real problems in there (...) For now I prefer, and I think the others as well, to do that at the Friday night drink for example (...) when you know who's in your surroundings and not that there are about 70 other people who can listen in." (Natasja, project manager)

"When you really have a project management problem, you would not post it there. Since it usually entails that you have to explain so many things. You would at least need to write four or five pages in order to make someone else understand the problem properly. For someone to be able to help you he would have to know the context, the situation of the client and what have you." (Peter, project manager)

The four kinds of arguments present a different reception of the virtual community idea than intended by Dito's management and moderators and contradict the language accompanying this idea. The fear of individual redundancy causes at least part of the employees to hoard knowledge and the boundary spanning aspect of communities can withhold them to share their knowledge across the formal structures of departments, business units, and subsidiaries (cf. Davenport and Prusak, 1998). Both kinds of arguments relate to Dito's overall culture emphasizing internal competition rather than collaboration. The fear of judgment of others results from the visibility of the author and the invisibility of the audience when expressing oneself in virtual spaces. While enhanced visibility may mean an improved mechanism for management control (Beniger, 1986), it can entail unappreciated surveillance for the employees (Leigh Star and Strauss, 1999). Together, these three arguments contradict the view of the employee as eager to learn from and teach others, the idea of practice anchored in a strong sense of belonging and identity construction, and on-line practice being non-hierarchical. They also show that the employees are aware of the mixture of motives behind the introduction of the community and groupware ideas.

The inappropriateness of the medium implies that the possibility of large-scale recording, easy reproducibility, and widespread dissemination of the firm's available information has a price in abstracting unique experiences on the job and information loosing its richness. As the excerpts indicate, groupware technology can be interpreted as an impersonal and decontextualized mechanism not suited for sharing real or complex problems. These inhibiting factors for learning contradict the view of virtual communities intended for social gatherings and representing an informal, "disembedded" notion of work (Forsythe, 2001). This, along with the argument of management control, all the more undermines the view of virtual communities as a tool *for* the employees.

Four patterns of employee appropriation

The extent to which employees attach importance to the abovementioned arguments determines the way they appropriate the change ideas and hence how they will use the virtual communities. Out of these personal responses, which can be any combination of the arguments mentioned, four generalized appropriation patterns emerged: affirmation, socialization, reputation, and negation.

Affirmation is the appropriation pattern that resembles the community ideals closest. In these cases, virtual workspaces are used to exchange information and to individually or collectively learn. We say "closest" instead of "completely," because content analysis of the log files kept of the virtual contacts illustrates that there is a relation between the degree of codification of the information exchanged and the appropriation and use patterns. The more complex or real the problem at hand, the more "rich" communication is needed, the more employees seek other channels to satisfy their information and learning needs. However, for codified information, such as concerning technical knowledge and skills, the virtual communities are readily used. As project manager Philip commented: "*Say, Windows 2000 has a problem. You then put a message in the relevant newsgroup and within a day you will have four usable answers. (…) Well, project management problems cannot be summarized that easily.*"

Socialization, in terms of learning to become a member of a professional group, is another response pattern. It refers to the move of the outsider, a novice or newcomer to the group or the organization, becoming an insider (Trice, 1993). Junior software engineer Matthijs, for example, explained his community membership as follows: "*I go there just to see what they know that I don't know yet.*" Novices and newcomers typically use virtual communities as a "mirror of knowledge" to assess their own level of competence and to find out what knowledge needs to be learned to become an accepted and full member of the professional group.

Reputation is the appropriation pattern whereby the virtual community is mainly employed as a tool for self-marketing. Employees and groups of employees profile their professional identity by means of virtual communities, i.e. they show other members of the group and other groups in the firm, including management, who they are, what they have done and what their expertise is. As an example of many interviewees responding in similar vein senior consultant Ronald remarked: "*I use the consultants' community purely to profile myself; this is who I am, this is what I do and this is my resume.*" The content analysis of the virtual workspaces indicates that the information provided in these instances usually concerns job descriptions, rank, subsidiary, contact address, expertise, current projects one is

involved in, projects done in the past, technical skills, formal training, certifications, professional interests, and sporadically hobbies.

Using communities as reputation mechanisms serves various purposes. Increasing visibility through participation in on-line spaces can help safeguard one's position in the organization, convince others of a right to the field of expertise or that they should be granted a monopoly to perform their work. Reputation means having a "face" (Goffman, 1959). By developing an expert reputation, participants hope to gain status, power, and market value within the professional group, the firm, and with clients. The virtual communities are thus interpreted not so much as learning devices, but as one of the tools available to guide the impressions others in the firm and clients form of him (cf. Donath, 1997). It is not the knowledge itself that is being shared, but information about the person holding that knowledge. Interestingly, we found that the personal information "given" varies with the virtual communities in which the employee partakes. Apparently, how we present ourselves depends on the people we present ourselves to (cf. Goffman, 1959). Other purposes served by reputation are generating work in current or new fields of expertise. "*Call me when you spot a lead*." Particularly in times of economic decline and job lay-offs reputation and visibility gain in significance.

Negation, the fourth and last response pattern emerging out of the research data, refers to the intentional or unintentional behavior of employees who barely contribute to the formalized knowledge cultures, or not at all. One and a half years after the introduction of the virtual communities about 70 percent of Dito's employees were still in this group. As senior project manager Victor commented on his participation in the project management community: "*The better I know what is good and where my strength lies, the less I use it*." Senior consultant Gert commented similarly: *"For me [being employed in the firm from 1988 onwards], I am less and less in need of such information systems for I am in need of information that is not present in the organization."* We found that this cultural pattern typically concerns the most experienced, knowledgeable, and skilled employees in the different domains of expertise. From an organizational learning perspective, such behavior calls the presumed functioning of virtual communities into question.

Conclusions and implications

Reflecting on Figure 1, which summarizes our research findings, it can be concluded that Dito's change project has advanced with difficulty. Although some virtual communities are relatively successful, one and half years after the launch of this project only a minority of the potential users contributed to the virtual communities. In varying degrees, the (non)users have intentionally or unintentionally worked around the new way of working, obstructing the formal attempt intended to generate innovative practices. They hoarded knowledge for themselves or within the boundaries of departments, business units or subsidiaries. They kept the discussion of real and complex problems out of the virtual communities. They ignored these communities or used them as reputation mechanisms, solely providing information about themselves rather than sharing their "working knowledge" and experiences. This last response particularly applied to the most experienced and knowledgeable employees, who disapproved of the inward perspective of the on-line communities and rather identified themselves with their worldwide

occupational community as their fundamental reference group (cf. Schein, 1996). The pitfall is a vicious cycle in which socializing newcomers or novices visit their communities, but do not find the colleagues from whom they could learn most effectively and, consequently, refrain from usage. Moreover, as socialization fixes the social order (Douglas, 1986) and reputation "formalizes" status, power, and market value, the promise of improved firm innovativeness has not materialized in most practices. Instead, as far as the virtual communities are used, capturing knowledge has taken precedence over cultivating it (cf. Fuller, 2002) and reusing existing knowledge has outshined generating new knowledge.

Explaining the workaround behavior of employees, we first hold that such behavior is inspired by the infusion of the community and groupware ideas with efficiency and control objectives (cf. Adler, 2001; Huizing and Bouman, 2002). Making communities part of the restructuring process in which Dito was engaged, the enforcement of more discipline in daily operations, the promotion of internal competition, and of increasing head-count flexibility is understandable in a deteriorating economy, yet does not go unnoticed. Such hierarchy and market-driven changes have definitely affected employees' responses to the community change project. Since such changes can evoke different responses in other, more prosperous times and in other organizations, "market conditions" and "the institutional context of the firm" are included in our research framework as contingency factors. These contingency factors intend to help generalize our findings.

As to the implications of this first explanation of employees' workaround behavior, Dito's management could try to achieve a more productive balance among the opposing requests resulting from hierarchy, market, and community forces. They could, for instance, introduce new ways of increasing collaboration across organizational boundaries. Transfer pricing based on trust (cf. Adler, 2001), amongst others, fit this intention. Alternatives are designing communities of practice as parallel structures that are truly allowed to exist outside the hierarchy and the adjustment of compensation and assessment schemes reducing feelings of internal competition and appreciating synergy across profit centers (see Box 5).

Another explanation of the signaled workaround behavior is the apparent naïve view of organizational learning on which the community change project was based. First of all, the community idea was gradually reduced to the institutionalization of *virtual* communities, which were experienced as impersonal and decontextualized media not suited for rich communication and generative learning. Obviously, this does not mean that such processes did not occur within Dito. It merely implies that these processes were left in the informal domain. As a result of this observation, our research framework includes "information richness (content)" as a contingency factor. Furthermore, Dito's employees are knowledge workers whose jobs are difficult to evaluate due to high performance ambiguity (cf. Alvesson, 2001). With these work characteristics, personal relations, identity construction, and mutual trust take on extra significance. However, as Dito's management and moderators have experienced, these immaterial factors are not easily regulated or orchestrated. "The nature of business, in particular its knowledge intensity," is therefore viewed as another relevant contingency factor. Implications of these observations are that the learning theory behind communities of practice could be applied more intelligibly, emphasizing the social and situational nature of organizational learning (Wenger, 1998; Brown and Duguid, 2001). Another implication is that management control could change focus from

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monitoring individual performance to establishing standards that help employees define themselves (cf. Alvesson, 2001). Allowing more spontaneity in creating virtual communities instead of requiring management permission is also an alternative.

Box 5 Implications

1. When formalizing communities, align them with the hierarchy and market mechanisms also present within the organization
   - mitigate the potential conflicts between learning, efficiency, coordination, and control objectives
   - introduce new ways of increasing collaboration across organizational boundaries
   - adjust compensation and assessment schemes
   - facilitate self-organization

2. Base relevant change projects on an appropriate learning theory
   - appreciate the social and situational nature of organizational learning
   - establish standards that help employees define themselves
   - allow spontaneity and creativity in the creation and maintenance of communities

3. Shape change projects as learning processes
   - view change as a dynamic and reciprocal process of negotiation
   - study employees' information, learning and identification behavior extensively and employ the insights thus developed to enhance change effectiveness
   - use deviating interpretations to identify more productive organizational forms and processes

A third and last observation of the appropriation and use patterns of Dito's management, moderators, and employees is that the change project was not shaped as a learning process in itself. First of all, Dito's management and moderators tend to see organizational change as a top-down and one-time effort from discourse to praxis. As this chapter indicates, however, it could be much more productive to view such change efforts as starting points of negotiation processes in which different perceptions of relevant social groups dynamically interact shaping their evolving outcome. Moreover, Dito's management and moderators are inclined to interpret the responses of the employees as resistance to change or even sabotage. They could, however, also see employees' deviating perceptions and use patterns as valuable sources for identifying new and more appropriate organizational forms and processes, which, as stated in the introduction, is a primary management responsibility. In their experience of everyday work practice, Dito's employees have simply reacted to the prescriptive nature of the changes and the imprint of a unified pattern of thought and behavior (cf. Suchman, 1995) and, in this way, have shown to prefer alternative routes to learning. Management and moderators could use their insights and translate them to an improved organizational change discourse and more effective designs by, for instance, studying how employees seek and employ information, establish and maintain relationships with the people they identify with, and shape their own learning processes. If so, organizational change would involve a genuine learning process in which discourse and praxis reciprocally and dynamically interact.

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Endnotes

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i For reasons of anonymity the name of the firm and the names of the informants are fictitious.