

NEW ORGANIZATIONAL FORMS FOR KNOWLEDGE TRANSFER.
CHALLENGES AND LESSONS FOR COLLABORATIVE WORK

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Abstract

As knowledge becomes an important part of wealth creation within companies, the identification of new organizational forms that better capture the needs and preferences of knowledge workers becomes more and more important. For some innovative companies, in their effort to adapt themselves to new corporate cultures, some of the most successful and innovative companies failed to survive, losing their best workers. This paper will follow a business case of one of these companies in their efforts to survive their acquisition by a large telecommunications operator. This analysis will help us understand the nature, if some, of these new organizational forms and try to derive some conclusions about the adequacy of their business practices for their industry. We will present this exploratory study as a base to the incorporation of some traditional theories (structuration, organizational learning, and organizational change) to gain understanding of these new challenges for future research.

1 INTRODUCTION

There is a clear need for more flexibility in the understanding of work practices and organizations within the environment of collaborative technologies, specifically in the rapidly evolving high tech industry. This document is oriented to the first development of the theoretic foundations and the description of preliminary work and conclusions developed with a very successful Internet services company in Spain (Alpha Networks in the document).

The relationship between traditional job assignments and projects and the new and changing needs that technology evolution is bringing to some companies and industries is, at least, problematic. Executives from many companies try to find solutions at business schools, research groups and even in the few “internet companies” that are still around. This work will try to use some of the traditional approaches to understand work practices in order to find out which are the best lessons to be learned from some of the most innovative “internet companies” and their approach to projects, success and value to the worker and to the group.

Some of the most important companies born in the internet era died during the period 2000-2001, but the effects of e-commerce and internet technology in the organizational structure of companies remained strong, while the sharp change predicted for the market was still a reality. In this midst of changes, the ideas that some of those companies applied to their organizations were severely judged, but at the same time, some of the success stories were so surprising that both consultants and academics tried to explain why that happened in different studies and articles. Several studies told us stories on how knowledge was shared; team-work excelled or high-achieving personalities driven by success or professional pride were developed. This paper will try to speak to that debate using a framework created from theories of organizational forms (heterarchies) and reactions of workers to technology and technological change. The framework will be developed and supported using findings from a business case of an extremely successful internet company in Spain and will try to find answers in the learning mechanisms that were present in all those projects.

Heterarchies theory will help explain how the company was structured in the first place, and structuration theory will be used to explain why some of the once flexible work practices, especially in relation with the use of technology, became more rigid, creating enacted structures and relationships of power, based in proficiency of use of the technology and on expertise relationships. The theory of organizational learning will provide the basis for the understanding of what is an organizational practice and how individual becomes group and organizational knowledge, as well as some mechanisms for its creation. The combination of these theories will create a framework useful to explain some of the observed realities in the study of Alpha Networks, an internet solutions provider in Spain that in the middle of 2000 announced its expansion to Latin America and Europe thanks to their alliance with a major telecommunications company (that will be called Beta).

The paper will begin with a literature review on heterarchies, structuration theory, organizational learning and some notes from the relationship of workers with expertise power and company ownership. Then a proposed framework will be presented and discussed using the case of Alpha Networks. Finally, some conclusions will be drafted and directions for future research will be explored.

2 LITERATURE REVIEW

2.1 How organizations learn in the presence of organizational learning support systems

First of all is important to characterize the processes by which individuals and groups in a specific organization translate their work methods into common rules and habits, into practices that give value to the organization, that are specific resources of the firm and cannot be replicated easily. In this line, it is important also to know how the traditional literature treats the different support systems companies use to help individuals and groups to store and enact their knowledge of the firm, the who-knows-what so important for the correct and fast answer to a problem.

The importance of Information Systems as a support platform for learning has been studied in different occasions (Goodman and Darr, 1998; Constant, Sproull and Kiesler 1996; Orlikowski 1993; Sproull and Kiesler 1986). The orientation in each of the studies ranged from finding out the applicability of genre repertoire to identify key concepts in adoption of these systems (Orlikowski 1993), to the impact of electronic mail in communications (Sproull and Kiesler 1986) or the impact of weak ties in knowledge sharing into networks of electronic mail (Constant et al. 1996). In a different approach, Goodman and Darr (1998) set the basis for a systematic analysis of the impact of computer support systems on organizational learning in distributed environments. They focus their analysis in the decision to contribute and adopt solutions among distributed teams, and how the OLLS can help this process. In their work reward systems appear only as one part of the contribution approach, focused mainly on organizational context and its impact on the learning process supported by an information system. This reward systems are always created in a different environment, even organization, that the one where they will be applied. This means that the attachment of the different members of the group to those rewards will be low, or at least only monetary, not including reputation and group power as it will be denoted later.

The topic of Organizational Learning has been in the literature for more than 30 years. At least since Cangelosi and Dill (1965) we can use the term organizational learning. And even with the current popularity of the concept, there is yet no clear consensus in the literature about a general definition or the nature of the term as showed by Huber (1991) or Kim (1993). For the purpose of this work, Organizational Learning should be understood as the process of acquiring knowledge from another workgroup in the company to the extent the management of a consulting project is concerned, this knowledge will be mainly based on rules and norms, ways of solving problems, facing projects and tasks. It basically means the different ways of organizing work or “recipes of organizing” according to Kogut and Zander (1992). That should match part of the definition of second level organizational knowledge by Fiol and Lyles (1985). Our concern should then focus on organizational level learning, where individuals learn how to deal with problems that concern the environment of the company, its strategy and how to deal with changes. While much work has been done to understand how different factors as change, the individual, crisis and organizational context impact on how an organization learns, the attempts to connect this area with IS have been restricted in almost all cases to a design perspective. For our purpose we will focus on matching organizational learning with a Computer Support System, keeping track of the organizational context as one of the key factors that impact the learning process in organizations. In this case, the system

was created by the workers themselves, and developed to match their own reward system and their specific way of creating new rules and norms.

Organizational learning has also been an important topic in information systems literature (Boynton and Zmud 1987, Brancheau and Wetherbe 1987, Dickson, Leitheiser and Wetherbe 1984, Niederman Brancheau and Wetherbe, 1991). But most of the studies have been developed from an operative point of view. Stein and Vandenbosch (1996) explore the opportunities to foster organizational learning when all the organization work with the development team of the Executives Information System, identifying key obstacles on its adoption and using its definition to better understand where information lies. Working more close to Organizational Learning Support Systems, Hine and Goul (1998) define a model to design OLSS and facilitate the adoption and use of those systems from the point of view of conflict facilitation between team members as one of the primary aspects of organizational learning. Boland's (1979) framework for system development was based on the idea that design is structured around a static model of organization and doesn't take into account the process of change that learning means, or the impact that the changes in organizational context that an introduction of a new system brings to a company. While information systems literature has been trying to create models and testing applications, the number of studies devoted to explain failures and successes connecting technology adoption issues and organizational learning literature is almost irrelevant (see Goodman and Darr 1998, Hine and Goul 1998). There is a clear need for some new studies applied to the self-managed learning support systems that intranets and the World Wide Web allow workgroups to create at a low cost, not only of development but also maintenance.

Whenever a OLSS is in place, some sort of reward system is also present to foster contributions. One of the spaces where contributions are not necessarily followed by a monetary retribution is electronic media. Some of the literature could be useful to explain why workers will prefer to collaborate with an ad-hoc learning support system rather than joining the "official" one.

Contribution in electronic media has been an important topic, and research has showed the problems to explain contributions of ideas or opinions using electronic media, using concepts as weak ties (Constant et al. 1996), status (Weisband, Schneider and Connolly, 1995), or minorities in groups (Dennis, Hilmer and Taylor 1998). Their work, mainly instrumented through laboratory studies or within highly technical environments (where a specific kind of culture and organizational context takes place), looks for reasons to explain the contribution process in electronic media, giving answers to questions or contributing with ideas to a group more or less close to the individual, giving away then part of their own knowledge to other members of the group. Nevertheless, this approach seems extremely useful in the environment we are trying to study, where most of the participants have a high level of specific knowledge, very technical and difficult to acquire.

In an environment with information which is complex and difficult to articulate, contributions are more valuable and rare (Daft and Lengel 1986). Then, there should be some stronger-reason to contribute, given the difficulties implied by the process of contribution and codification of these contributions. In an interesting study, Constant et al. (1996) found the impact of weak ties and the social gratification as means of obtaining contributions. But this environment is different, and the knowledge the workers are supposed to share is their best

asset towards the company (their unique capability to perform some rare role, project, contact in the company), and sometimes it could be perceived as losing power into the company (Burt 1992). Strong and weak ties have also been used to explain contributions and information sharing into groups (Krackhardt 1992, Granovetter 1973). In these cases friendship and everyday contact should help the development of strong ties and add an element of willingness to the contribution, but this same contact should make the contribution of strangers to a closed group more valuable (this is where weak ties are apparent). In this study, while testing for the impact of new technology adoption to understand the pure impact of other phenomena, the focus should be concentrated on the impact of explicit reward systems to useful contributions. This approach should lead us, in subsequent studies, to understand what kind of answer could be obtained by setting up different reward systems compared to just letting the system work by itself. Given the importance of network theory to explain these sorts of phenomena, the sample should keep track of groups with and without a strong contact –tie- between its members.

2.2 Heterarchies: explaining diversity and change

In words of Stark (2001) “Heterarchy represents a new mode of organizing that is neither market nor hierarchy: whereas hierarchies involve relations of dependence and markets involve relations of independence, heterarchies involve relations of interdependence”. To face ever increasing change in the environment, organizations have to change more rapidly than ever, creating new ways of organizing (Lane and Maxfield, 1996, Kauffman 1993). He describes how these changes create the need for more interdependencies between work teams, creating more problems to control and coordinate the resulting organization.

Powell (1990, 1996) shows that organizational boundaries are disappearing, being substituted by a myriad of contacts and interrelationships, using what he describes as distributed authority, that is, more independence, more autonomy, more accountability between groups that depend on each other.

Other examples (Grabher 1997, Hannan 1986) explain how diversity and changes in the environment lead to different degrees of adaptation and then to more interdependence, accountability and success in leading with uncertainty.

They help explain why organizations undergo some specific changes leading to the deregulation of activities, in a way that will create self-controlling teams, interacting with other teams in the same organization, even competing for resources and requiring accountability for their actions. In our example, we will see how from the beginning, Alpha was organized to promote competition for resources, self organized divisions and groups and accountable team works. This competition and the organization of the work around it lead to the creation of a learning support system to track projects and help new programmers get up to date with the rest of the team-members. Moreover, a team was changed for each project, creating more and more informal contacts among members, contacts that were informal, deregulated.

2.3 The role of expert power in organizations

Expert groups play a central role in the process of institutional reflexivity (described by Giddens (1990), Kumar (1995) and Webster (1995) as the process to control and monitor their performance to enhance productivity), and they provide the means through which control mechanisms and technologies can be implemented (Scarbrough and Crobett 1992). Several studies have focused in the role of power and control in new organizational forms (Castells 1989, Zuboff 1988, Webster 1995), highlighting the contribution that experts make in the development of control systems for their own benefit. Attributes of controllability, storability, indetermination (Boreham 1983) and stability (Larson 1990) must be attached to the knowledge of the expert to be defensible and create some sort of strong position that will generate power. One important part of these theories for our purposes is the description of the mechanisms that expert groups use to “close” their areas in order to control and exert that power, described by Pettigrew (1973) or Pfeffer (1981). Reed (1996) describes a framework where he connects the creation of power and control mechanisms by experts in new organizational forms that can override traditional control mechanisms in specific types of organizations. Although this work is previous to most of the “new economy” companies, it identifies some of the relationships that will later characterize the relationship of the technological elite with their organizations (a fact broadly treated in the popular literature with examples as Silicon Valley).

This phenomenon will be helpful in our setting to help explain how the exercise of power by the programming group of experts in Alpha created an parallel control and power structure that became more important than the formal one and that created a high contrast and cultural shock when a more sophisticated and bureaucratic control mechanisms was put in place by Beta. I will link here, then, not only performance at the individual and group level with technology and its enactment as a social structure and reality in an organization, but also the power and control relationships that these technologies created. And my point of view here is to look for patterns that help us decide whether working in an internet company creates or not the need for a specific structure of the organization, different from the same company offering the same services not online. The key here is velocity. Services and products grow as technology changes. And technology is changing so fast that new enhancements for old services or even completely new services grow by the month, even every week. The performance of development teams is then key to survival, their flexibility and the enactment and, most important, learning of the rules, and the substitution of new rules when needed, are key for competition.

2.4 Structuration theory as a way to explain enacted norms and rules.

Structuration theory, primarily the works by Giddens(1984) or Latour (1991) describes how the social use of technology can create different norms or rules that can be adapted to different social circumstances, or even create them, depending on the relationship that the users develop with those technologies in use (Orlikowski, 2000). Structure will be used, as in Orlikowski (2000) as “the set of rules and resources instantiated in recurrent social practice”. Then, groups of people interacting with a technology choose how to implement those rules and norms, structures that are appropriated by the group when they use them (DeSanctis and

Poole 1994). That can be translated to learning as the process of changing the “recipes of organizing” described by Kogut and Zander (1992) that were mentioned above.

The structuration perspective can be added also to the design of those technological artifacts, where the view of the world of the designers is added (Perrow 1983, Thomas 1994, Winner 1986). Finally, clues of this enactment of rules and norms can be found when workers work around the technology in place to serve their own benefits (Kraut et al. 1996). This is a key issue to understand some of the processes that Alpha went through. Once a technology is in place, workers operating that technology can decide that it is not what they need /want for their job, and they will modify that technology or find ways to employ it how they think is better, not necessarily in the way it was developed for use.

This brief description of the existing literature will be helpful explaining how the technology workers in Alpha, invested in the power that their expertise gave them, created their own control and reporting systems, that were the translation of their values and approach to the work and to the special technology they worked with. This approach, substituted by a different system when Beta arrived and bypassed by some of the programmers in Alpha, was the enactment of their organizational structure, that collapsed when new methods of control and a new power structure arrived.

2.5 Hierarchies frozen in time: fight for survival in the hierarchical world.

Experts in high technology firms, especially in internet and e-business development firms, have a high power position; they are the ones that make the on-time and state-of-the-art delivery of products possible. Their power leads them to create a special relationship with projects and technologies, enacting a group of rules and norms that are the basis for the organization life. These organizations, based on the expertise and competition to be best and serve an ever-changing environment, have been described as heterarchies. But in these heterarchies only the process of creation and evolution has been explained, and not if there is or not a need to have this kind of organizations to survive in some industries. My approach predicts that some fast-pace changing environments need the existence of this kind of organizations, supported by internal competition and accountability that will be fostered by expertise and technology. This setting, if disrupted with traditional hierarchy or market approaches, will originate the destruction of the equilibrium, with less adaptation to the market, less organizational competition and finally disappearing adaptive capabilities.

3 METHODOLOGY

The experience of the Spanish company Alpha will be used to support this exploratory framework. Alpha was founded in 1995 in Madrid, Spain, by one of the most prominent programmers in the country and a successful technology entrepreneur, with several companies already functioning. Their idea was to unite the best programmers in Spain interested in the internet and e-business world and create for them an environment where they could work freely. They decided from the first moment that the management and programming-creativity tasks should be separated but at the same time work together.

While in its origins the market was slow, by 1996 the internet market in Spain was exploding and the company had a great advantage: it had captured some of the best freelance programmers of the market, attracted by a place where competition to be the best and fastest was everyday business.

As described by one of the senior programmers (21 years and 4 years of experience): “It’s a great environment, we painted the wall with bright-green color, we always have techno music on and nobody tells you what to do, you have a date to review the project and you compete with your neighbor to get the best product out of the door. This is a real Internet company, is like when I used to work at home, but better.”

The author spent part of the summer of 1999 developing business cases with this companies, 2 Internet companies in Spain (a search engine for shops and a online shop), 1 Hungarian Internet company (an ISP and internet shop), and 1 e-Business Solutions developer in Spain. The time allotted for each company was from five to ten days over a two months period, doing semi-structured interviews to 15-20 employees in each company, besides the CEO which was the main contact in all the cases. The interviews asked for business and personal issues (from the most exciting projects for the next fall that he/she was facing to how would they describe the work environment or which kind of reports/control systems they had with respect to their supervisors/team). In the case of Alpha 20 interviews were conducted with all the executives and project leaders at the time, and another 20 short interviews, with a previous questionnaire, were conducted with programmers. The average interview accounted for 90 to 120 minutes. All interviews were taped and later on transcribed and confirmed with the corresponding company. Additional written documentation, both public and confidential – from the companies – was used to confirm the data gathered during the interviews.

Most of the responses in every company were similar (the case of the Hungarian company was highly affected by the fact that all the personnel of the firm came from another company of the founder with a highly structured hierarchy made it absolutely different, and the results of the adventure were also different). While all three companies in Spain were among the most successful initiatives in e-Business in the country, the Hungarian company has suffered a major change of the business objectives due to the bad results.

4 DISCUSSION

Alpha, the most interesting case, showed the importance that the company gave to what each of the different employees needed. The vast majority of them (70 of 96 by July 1999) were programmers with an average age of 24, and previous experience mainly as free-lance developers, hackers or no “professional” experience at all (no previous work in a company, most of them had their own sites in internet, with music, programming and role-playing games as their favorite themes).

The company didn't use “pesetas” (the official currency in Spain by the time) as base currency, but “teknolos” (1 teknol= 1 million pesetas), to fix prices of contracts, salaries, expenses, etc... even to charge clients. No formal codes of dressing or time schedules are in place. The company offices are placed on the top three floors of a former eighteen century palace, newly transformed for office use. All the rooms are painted and decorated according to the decision of the occupants of that room (with a span of colors from yellow to green and motives ranging from acid music to heavy metal). No formal structures of programming teams are in place. For each project a different team was structured by one of the leaders of the group. Leaders were selected among the programmers by their technical and social abilities by one of the founders (who acted as managing director of the technical side of the company). Leaders for the projects rotated as skills were acquired and new programming tools developed.

The company was structured in different units. The main division was Alpha Madrid and E-Biz (this last company was in charge of producing new internet business ideas and taking them to the market. The formal process of getting a project done for a client involved various stages. This “formal” relation with the client was managed mainly by a completely different part of the company, with experienced consultants hired from other companies (Mckinsey, Bain...). The key issue in the company was always the programmers-design team, and they organized themselves around this key idea: these people come from internet, and they want to be treated different.

The only key control issue was time. A project had several milestones (first design, first presentation to the client, first final version, complete version could be examples of these), and the managing team only controlled for “on time” scheduling. The adequacy of the program itself was managed by the programmer-designer team, who was proud of being the best in Spain and foster competition among their members by giving away prizes (computer or music equipment, concert tickets, travel packages to London or Amsterdam are some examples). But the main competition was in the proud of being the best and fastest. Programmers usually used the company's headquarters to sleep during high intensity projects, and compete internally for the creation of the most innovative and “cool” tool. They even developed tools to share information, programs and created an internal community to share and guide projects. This tool was organized around the most experienced programmers and served as a community of knowledge and a way to identify new good programmers that could be group leaders. It was also used in training. It was the technological side of the norms that ruled the group, and was highly respected and sought after in terms of deciding who was who in the group.

The programmer's rooms were more similar to student rooms than to a business office. Music could be heard day and night and friends and family were welcomed and not rarely found there, even as collaborators. As summertime was the time of the year when I was present, most of the business meetings (even the Monday meeting of all the directors) were held in the terraces of the building, near the ping-pong table and just outside the big kitchen where catering food was served everyday day.

One consequence of this environment was the tremendous growth of the company: they were the leaders of the market, with the revenues growing at a rate of 400% for 1998-1999. All the workers had the compromise from the founders of receiving a participation in the company when it went public, and that ownership was one of the issues that made them feel more close to their work. They created a two-folded organization, where the consultants, in contact with the client, were hired already trained and were placed in a different level in the building, separated from the programmers. Meanwhile, the programmers were the real owners of the company, they had their own school to teach new recruits specific programming methods. They had also their own organization and control mechanisms.

They had also created a support system for the projects, where programmers could share opinions, code and even the project outcome. This was the basis of their reputation system, and the development of the systems, that was running not officially as the company's intranet (internal web site for information about and for the company), was shared by everybody as informally as the rest of the organization, but with the same perfect results.

4.1 The demise

But the success attracted one of the telecommunication giants in the country, that we will call Beta, by then building their multimedia group. In words of Luis Cifuentes, the "business side" of the two founders: "We have a great group of people doing the design and programming. They understand what Internet is all about, and can create products that users love. This is our main strength and "Beta" wants to participate. What this alliance will give us is the financial freedom to continue the good work and expand to our natural market, Latin America. The important thing is that we will continue with our work methods and nothing will change".

But that was not what happened. Beta had a history of buying internet companies and applying their own organizational methods. Ole was the leader search engine in Spain in March 1999 when Beta bought the company to its founder and team. After six months trying to adapt the company to the methods of the big telecom dinosaur, only one of the 27 people working for Ole in March remained in the new company called Terra. Even the new developing team of Terra left the company as a group to go to another telecom firm because of the control system of Beta, used to compete in a never-changing market and with a system in place created to avoid theft and promote control, hierarchy and power exertion by the higher levels in a highly bureaucratic organization.

First, it seems clear that some control systems in place in multinational companies are not adequate to the ever-growing population of knowledge-workers, and in a higher degree if they are involved with the different approach to business that the internet world has brought to the landscape. Second, that the study of initiatives where these big companies keep new internet startups separated from the main structure could be a good field of study to understand which

are the real changes and needs in these new businesses. Finally, the final lesson could be that an open mind and an attention to day-to-day relationships is a key element when trying to study these phenomena.

These new companies are enacting different organizational structures, based on the need for different work relationships to respond to the fast internet market that makes the hierarchical approach dated or at least in need of renovation. The rapid and flexible learning process of the “recipes of organizing” is one of the secrets best kept in the evolution of these companies. In the case of these companies where experts have a great weight, installing a traditional bureaucratic system completely underscores their power and their established cultural rules, forcing them to change or leave the company. That was what happened with Alpha.

Popular literature has long examples of this kind of operations failing, with workers of the acquired companies fleeing to another start-ups searching for the liberty and creativity they supposedly lost in the way. The main problem these companies faced was a different understanding of the relation between technology and organization. In the traditional structures, the power relations have been established for a long time, and they didn't allow the flexibility needed to accommodate these new changes. Programmers were included in the old pejorative category, their flexibility denied and the changing power structures also denied and explicitly condemned.

The relationship between expert power enacted in the relationship established with technologies and the need to adapt and to be accountable will end up giving the result of experts leaving the company in search for new grounds to play their role as leaders, displaced by traditional practices where project managers and the relation with the client were kings. The result was the migration of the experts to different companies where the power structures were more flexible and the failure of these projects.

In Alpha, Beta changed the report systems, giving more power to the consultants and re-arranging some of their business deals and expansion plans, the result was bankruptcy filing in 2001 and a broken agreement to make Beta own the whole company that was agreed by the founders when the company first entered Alpha.

In the road, most of their best programmers left, not before trying to override the new systems in place, using their old community to keep sharing their projects and ideas, paying no attention to the standardized knowledge management system that Beta has extended to its new internet arm.

These could be some first conclusions about the necessity of a new organizational model based on the demands of internet companies and the understanding of technological needs and market needs applied to an organization that is trying to compete in that market. While the basic ideas have been outlined, a framework grouping together all the described areas needs development, but not before gathering some more data about the transition and how the desertion and disruption of their work practices happened.

5 CONCLUSIONS

The concept of technology needs a broad approach to understand the processes described in this document. The best approach could be its understanding as the compound of information technologies used in their work, project procedures and personal experiences and backgrounds. This mix was what could give a project success and was valued as the most important asset almost any company today. Then, if they valued the change in structures as their most valued asset, allowing them to give the programmers and project leaders enough flexibility to build their power relations in the different projects was a key element to achieve success. They created and enacted their own rules, different from what the market expected and what traditional companies were enacting. One could think that one of the factors there was that they didn't have a previous experience to look at in these rules, because this was their first job in a company (while they had previous experience as freelancers). They were able to create their own learning systems, linked to specific rewards that were more valuable to them than holidays, a better paycheck, a note from the director.

The framework adds to the current literature the value of expert power and the enacted structures that the experts create to defend their status in these firms, and at the same time maintaining an intrinsic flexibility and collaboration ethics, given that the expert is an expert for its knowledge, the same way that experts are recognized in communities like Linux. The organization of knowledge becomes a specific asset that the workers themselves organize and store around a system that fits their needs, not imposed from outside. Showing respect for this system, even being prepared to let the groups interact with different systems could be a key factor for success in rapid development environments.

Some points that need further development are the relations between management and the experts groups, how their interest can be aligned at all times to make success possible. One point that could be the base of this discussion could be the fact that on time delivery and "the best product" is part of what is considered as building reputation among the group of programmers, indirectly fostered by management when the expert-of-experts names the best projects or developments of the week using those standards (and making them public) as his decision basis. Nevertheless, the document helps in the understanding of new work practices and organizational forms, and the identification of critical issues to better exploit and adopt those practices.

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