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# KNOWLEDGE CREATION IN AN ERP PROJECT TEAM: THE UNEXPECTED DEBILITATING IMPACT OF SOCIAL CAPITAL

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## Abstract

*A project team, set up to design and implement an Enterprise Resource Planning (ERP) system, is essentially tasked with integrating knowledge distributed across an organization. This suggests that the social capital of project team members will be important, allowing them to acquire the necessary knowledge of organizational processes. In the case study project, however, team members used their social capital to further their own personal goals rather than the ERP project goals. Moreover, time and effort spent maintaining networks with others outside the project to pursue personal goals prevented the project team from developing into a knowledge-sharing community. The paper uses the framework of strategic exchange (Watson, 1994) to explore why, in this particular situation, social capital had a detrimental rather than a beneficial impact on the ERP project.*

## Introduction and Conceptual Foundations

ERP systems are designed to integrate the core corporate activities of an organization, such as logistics, finance and human resources. This is achieved through having a common IT infrastructure and common business processes. While the potential benefits of an ERP system are extensive in terms of both productivity and speed (Davenport, 1998), evidence is accumulating to show that many organisations have failed to achieve such benefits (Stein and McGee, 1998). In order to explore why these benefits are not always achieved, this paper reports on an in-depth study of a project team involved in the design and implementation of part of an ERP system.

If a company decides to adopt an ERP system, it will normally set up a project team.<sup>1</sup> This team has two essential tasks – to design and then implement the selected ERP system. First, in terms of design, the team has to configure the ERP system to suit the particular organizational context. An ERP system has a standard reference model that contains a set of event driven processes, which need to be customized in each context of application to represent how the organization will operate. In doing this, knowledge embedded in the software needs to be integrated with organizational knowledge about current and future business processes. This knowledge is dispersed both within the organisation (e.g. across functional groups) and across organisations (e.g. with consultants, software suppliers) (Hislop et al., 1997). Second, the team has to ensure that the system is implemented in the various parts of the organization where it is to be used. This implementation is likely to involve the modification of existing, or the introduction of new, organizational processes as well as the introduction of the new hardware and software. In order to ensure that the ERP system is implemented and utilized, the project team will need to involve users in order to try and obtain their commitment to the project.

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<sup>1</sup>In large organizations, like the one described in the case study here, there will typically be more than one project team, each focusing on a different part of the system or a different part of the process. However, for simplification and because, in the analysis we focus on only one project team, we refer to a project team in the singular.

The successful completion of these tasks will depend on selecting project team members with appropriate knowledge, skills and expertise, so teams ideally will be chosen so that their members have a mix of knowledge and capabilities (Grandori and Soda, 1995). We can refer to this as the intellectual capital of the team - the 'knowledge and knowing capability of a social collectivity' (Nahapiet and Ghoshal, 1998). Intellectual capital and its mix across the team is important. It is unlikely, however, that team members will have all the relevant knowledge and expertise necessary, either to design the system per se or to ensure that it is accepted and implemented by all those for whom it is intended. Rather, team members will need to network with a range of other individuals in order to appropriate the necessary knowledge and gain commitment from users. In doing this they will be drawing upon their collective social capital. Nahapiet and Ghoshal (1998) define social capital as "the sum of actual and potential resources within, available through, and derived from the network of relationships possessed by an individual or social unit" (p.243). Individuals and groups can draw upon this social capital because organizational actors are embedded within a network of relationships (Nohria and Eccles, 1993).

In an ERP project team then, each individual not only has unique knowledge, skills and expertise, which can be drawn upon, but also a unique network which might therefore broaden the reach of the project team across the potential user community. Project team members need to mobilize this social capital in order to access the necessary knowledge and gain the required commitment. At the same time, they also need to build a community among themselves, since the success of the project depends upon close co-ordination, collaboration and knowledge sharing across this project team. In the light of these arguments, the aim of this paper is to explore a particular example of a project team involved in designing and implementing part of an ERP system in a large organization. Of particular interest was the extent to which they used their social capital to access necessary knowledge for the system design and to gain user commitment. In analyzing this, we demonstrate the paradoxical effects of social capital.

## Case Study

The empirical study focused on analyzing one element of a large ERP project, within a global corporation – Quality Engineering Limited (QEL) - headquartered in the Midlands, UK. In this company, the implementation of the ERP system was extensive, involving systems integration across all of the company's functions. The current study focuses upon the HR functional 'pillar', with the ERP HR project team members (N= 8) and the process owners (N=7) being interviewed. These interviews were of about one hour's duration, were tape recorded and later transcribed. Participative observation was also undertaken with regard to the project team members at work on their section and in meetings.

The decision was made by a new CEO to implement an organisation-wide ERP system (SAP R/3) to replace the approximately 1600 existing legacy ICT systems, many of which were completely independent. This led to a considerable waste of resources and also meant that it was difficult to collect information at an enterprise level (or indeed even at a business unit level) that would have been helpful to run the business. The introduction of SAP was planned in two 'waves'. The HR function, however, appeared initially to have been left out of these plans and it was not until Wave One was well under way that it was recognized that much of the data that was needed for a company integrated system was HR data (e.g. payroll, employee records). The ERP HR project was therefore set up, falling between the two waves.

## The ERP Project Team

The HR director initiated the ERP HR project. He was a board member who was not particularly knowledgeable about IT and did not want to be involved in any details of the project. He asked one of his corporate HR managers (Nick) to be the project leader. Nick had been specifically brought into the company seven years previously in order to set up a new HR system. Once Nick had been appointed, he set about recruiting a project team, which consisted of eight members, including himself. Of these, five were QEL staff drawn from different areas of the company, and two were from MDL, the outsourced IT function. Nick put out a general advertisement about the project, but more importantly he used his own networks to find people with the relevant knowledge and experience. Next we briefly consider who was involved in the project team:

Nick knew Caroline through previous work. Given that QEL had outsourced the IT function, she was one of the few remaining individuals within QEL who had IT and business expertise. In particular, her skills as a business analyst with IT knowledge and HR understanding were exactly the combination that was required. She agreed to be on the project team but only on a part-time basis, whilst continuing to work in her previous role in HR planning. During the interview Caroline stated that she had agreed to join the team for strategic career reasons. She had decided to have a baby some time in the future and thought that getting some

SAP experience ‘under the belt’ would make it easier to find a job once she returned from maternity leave.<sup>2</sup> Caroline had an extensive network of contacts within QEL, but given her focus on her functional activities, her focus on the future, and then her impending maternity leave, she did not use these contacts to try and encourage support for the project or to identify those who might have relevant expertise when the project faced difficulties.

Bob had no IT knowledge (describing himself as computer illiterate) but he had many years experience as the HR manager to one of the Business Units where the new HR ERP system would be implemented. He felt that the project offered a unique opportunity to be involved in the visioning of a new HR organization. He felt that he wanted to be involved in this new venture: “...it sounded exciting, this was a real opportunity to reform the way we do things within HR.” Bob was the only project member with good networks with individuals and groups who would be the end users of the HR ERP system, which they were developing. However, once Bob started to work on the project he appeared to effectively cut his links with his former colleagues and did not attempt to use them to predict user reactions to the HR ERP system, despite the importance of such reactions. Instead, he focused on becoming part of the Head Office HR team.

The HR ERP system was to cover the payroll function so Nick knew that he would need someone with this specialist knowledge. He gave a presentation of the project to the payroll management team, trying to encourage someone to join. Robin attended this presentation and agreed to join. He saw this as an excellent opportunity to develop his technical IT skills. Despite being involved in the project supposedly full-time, Robin maintained his links with his functional area and regularly returned to do some work in his old job. He stated in the interview, that while he joined the project team this was with the knowledge that “I could always fall back in to the payroll manager’s role”. While Robin maintained his links with former colleagues he did this in relation to his former job, and did not use this network to encourage support for the ERP project.

Susan was working in an HR functional role and so had general knowledge of the HR processes at QEL. She was unhappy in this role, however, and so applied to join the project team in order to get out of a line HR job that she did not like: “It’s more for myself really...it’s what I can get out of it”. However, once working on the project she continued to look for other opportunities within QEL that would provide her with a more permanent role. This search intensified as the HR ERP project seemed to falter. So Susan did network extensively with others within QEL, but the focus was on her personal job search rather than on gathering support for the ERP project or identifying people with relevant knowledge for the project.

Rebecca was a placement student who had been assigned to the project team. She had no relevant knowledge and experience but Nick had felt that this would provide her with useful experience and that she could be useful in some of the more simple and mundane tasks that would need to be done.

While the project team members did therefore have diverse knowledge and experience that would be important for the project, their own goals and desires were also influential in their involvement. Nick himself was anxious to ensure that those getting involved did so because they were personally interested in the project. When he made individuals an offer to join the team, he took great care to explain that this was a temporary project with no guarantees of success. Team members, then, only joined the project team if it suited their personal agenda. This influenced their behaviour on the project - individuals reinforced their networks with colleagues or used their networks to scan for more permanent opportunities within QEL. This outward facing propensity also meant that the networking between project team members was limited. Each member worked independently on defining the work processes within their particular work package area (see below). There was no attempt to work jointly on this, even though the team was co-located. The team consisted of a group of individuals, all focusing on their small part of the project, with very little interaction and knowledge sharing between them. Indeed, one member of the team drew the team as a crossword box, with each team member ensconced in his/her own little box.

Project team members were ‘work package owners’; each assigned to look after a particular HR process (e.g. absenteeism, training), depending on their existing knowledge and experience. In addition, senior managers of QEL were assigned as ‘process owners’ for the particular HR process that they were the head of. These process owners were chosen for their knowledge and experience but many were not very interested in getting actively involved in the project, to the extent that several of them did not know who their work package owner was. They had the necessary knowledge and experience but they had little personal incentive for getting involved. The work package owners and the process owners were supposed to work closely together to undertake an ‘as is’ and ‘to be’ mapping of HR processes, which would feed into the system configuration process. There was, however, a great deal of confusion about this mapping process, especially in relation to the ‘to be’ processes, since those involved had very little

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<sup>2</sup>In the event, Caroline had her baby mid-way through the project and a follow-up interview suggested that she had chosen to do this rather earlier than originally intended because she felt that the ERP HR project was not going as well as she had anticipated.

knowledge of what the selected ERP system could support. Moreover, given the lack of interest from the process owners, little attempt was made to implement these changed processes across the company.

During the initial phase of process mapping it also became clear that the money for the HR pillar of the ERP project was problematic and would have to be justified. Project team members started working on a cost-benefit analysis with the aim of justifying the expense of the HR pillar through cost savings. This was found to be difficult because it was not easy to quantify the more qualitative benefits of having an integrated HR system. At the first presentation of their justification, the QEL board was not convinced and would not release the money for the project. Instead, the project team found itself having to scrape around to find enough money to keep the project going while they attempted to improve their justification. This happened several times over the next 12 months, with the HR ERP project being 'off' then 'on', again seemingly continuously. This was demoralizing for the project team and left them feeling insecure. Eventually, the project was put 'on hold' and the team was disbanded.<sup>3</sup>

## Discussion and Analysis

Social capital is considered by Nahapiet and Ghoshal (1998) to be generally beneficial for an organization. The assumption is that individuals will use their previously established networks to gain access to resources, such as knowledge, that they do not personally own but which are needed for particular organizational purposes. Here the purpose was to design and implement an ERP HR system and while there was considerable knowledge and expertise within the team there were still areas where no team member had extensive knowledge, for example in relation to training and development processes. The individuals on this HR ERP project did have considerable social capital that could potentially have been used in this beneficial way, for example to identify and learn from someone with relevant training and development knowledge. Unfortunately, while individuals did mobilize their social capital during this period of observation, they did so more often to further their own private projects than to provide resources needed for the ERP project. So, Caroline and Robin put considerable effort in to maintaining ties with former colleagues, but they did this to secure their own career options rather than to acquire information necessary for the ERP project or to try and convince these colleagues about the benefits of a new ERP system. Susan also used her personal networks, but again this was more often to seek out job opportunities than to gain knowledge or commitment for the ERP project. Using social capital to further personal projects aligns with Coleman's (1988) view that social capital is created by rational, purposeful individuals who build this capital to maximize their individual opportunities.

We can use the framework of strategic exchange (Tansley and Watson, 2000, Watson, 2000) to understand why this occurred. Individuals within an organization, through their dialogues with each other and themselves, are seen to be strategically shaping their life careers (Hughes, 1937). They shape their careers, biographies and identities through 'strategic exchanges' with other people, with institutions and with their culture. This 'shaping of self' is a process of giving and taking from the world around one, to take one's self and one's projects forward into the future. At the same time, as employees within an organizational context, they are engaging in strategic organizational activities designed to enable the long-term survival of the company. This essentially is the price that employees have to pay for being able to pursue their personal projects within an organizational context - I will get a valued promotion or a pay rise (my personal project), when I engage in activities that are seen to benefit the organization. So there is a strategic exchange such that, the personal goals and ambitions of individuals need to be negotiated alongside the broader project and organizational goals.

Those arguing from a social network perspective make a similar point when they argue that most economic behaviour is embedded in social relationships. For example, implicit in Granovetter's (1982) notion of embeddedness is the idea that each member of a community is expected to contribute to the group, while receiving benefits as well. Applying this to the focal ERP project, those involved were particular people developing their own particular material and identity projects. Interviews confirmed that they believed that by being involved in the ERP project this would benefit some personal project. Other individuals with relevant competencies and expertise may not have joined the project team because they believed that involvement in the project was actually a threat, rather than an accelerant, to their life career. At the same time, for those who chose to be involved, as project team members they were expected to undertake activities that would lead to the fulfillment of the project goals.

What appeared to be happening, however, was that the project team members invested more time and energy in their personal projects than in the ERP project. Strategic exchange assumes that individual's trade with others in their environment in order to shape their personal careers and identities at the same time as they seek to fulfill organizational goals. This suggests a two-way interaction of give-and-take - I am only likely to commit to an organization, if that organization, in turn, commits to me. In the context of this project, however, the dominant message from the organization to the project team was that the project was

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<sup>3</sup>Although subsequently the project has been restarted with many of the original project team returning to work on the project.

precarious and was not fully supported by senior management. The project team had to continuously try and justify their existence and there were many indications that this justification was not fully accepted. The organization was not demonstrating commitment to the project team, so that the individuals chose not to fully commit their time and effort to achieving project success. This included not mobilizing their social capital for the benefit of project goal fulfillment. Instead, in this context of insecurity, individual project team members opted to use their social capital to further their personal goals rather than use it to further the ERP project goals. They were able to 'get away with this' because the project leader adopted a laissez-faire approach, assuming the team members to be professionals able to 'get on with their job'. So, in the absence of direct control and in a situation where team members felt that their positions were vulnerable, strategic balance was achieved by giving more weight to personal than project goals.

For the team members, the main way in which these personal goals could be fulfilled was to maintain and reinforce their existing networks so that their intellectual capital and commitment was evident to those who would be in a position to offer them new posts, should the ERP project fail or come to an end. The result was that team members were focused more outward, away from the project, than inwards, towards the ERP project team. Given this outward focus, the HR ERP project team did not develop into a knowledge-sharing community. Team members were more concerned with maintaining their networks with former colleagues than in establishing close ties with the other project team members. They wanted to do this because of the temporary and precarious nature of the project. Their existing network was the 'lifeline', which would enable them to get back their job if the ERP project failed to find the necessary support. So, in this project team existing networks i.e. social capital, actually distracted from a focus on the project goals rather than facilitating the acquisition of valuable resources.

## Conclusion

Nahapiet and Ghoshal (1998) argue that social capital can be transferred from one social setting to the next (they describe this as appropriable organization). So, while social capital is typically created (or destroyed) as a by-product of other activities in a particular social setting (Coleman, 1988), it can be transposed to other situations. The analysis presented here does not contradict this, but it does suggest that this appropriation is problematic. Individuals have to choose to appropriate their existing social capital for some other purpose and the extent to which they choose to do this will depend on their perceptions of the ensuing strategic exchange. In the case considered here, project team members chose not to appropriate resources from their existing networks for the benefit of the HR ERP project. This did not mean, however, that they neglected these networks. On the contrary, they actively nurtured and developed these existing ties, but for their personal benefit. Indeed, their involvement in their existing networks actually detracted from their involvement in the ERP project. It is argued that this occurred because of the insecurity surrounding the ERP project, which meant that the strategic exchange was only balanced by an over-emphasis on personal goals. This suggests that the effects of social capital are ambivalent and that a strategic exchange perspective can be a useful heuristic device with which to consider the ways in which social capital will be appropriated within a particular context. In certain situations, the resources available through social networks may be invested only for personal goal fulfillment, not for organizational goal fulfillment.

While social capital can be seen as a resource that exists within organizations, it is not the property of the organization and cannot be directly controlled (Mueller, 1996). In relation to an ERP, or similar, project the analysis presented here suggests that where there is a great deal of insecurity surrounding the funding and priority of the project, those involved as core team members, are unlikely to appropriate their social capital in the kinds of beneficial ways that Nahapiet and Ghoshal's analysis would suggest. This suggests that more research is needed identifying the situations in which social capital can be an inhibitor, rather than a facilitator for knowledge exchange.

The findings from this research also have important practical implications suggesting that one situation at least where social capital is unlikely to be appropriated for the benefit of the larger organization is where there is a great deal of insecurity among the individuals involved. This is because the findings here suggest that in situations of personal insecurity, social capital is more likely to be used to foster personal benefit. This indicates that where individuals need to use their social capital to ensure task success, creating a situation that does not leave individuals feeling vulnerable is especially important. While security on a project will always be problematic because of its temporary nature, strong support and commitment from senior managers and a secure funding allocation may at least alleviate the extreme insecurity experienced among the case project team.

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