

THE EFFECT OF TEAM STRUCTURE ON PROJECT-BASED LEARNING

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Prepared for submission to the 4th annual
Organizational Knowledge, Learning, and Capabilities Conference

Academic Track

Key Words: Project-based learning, Human capital, Social capital,
Organizational context

Funding and support for this project was provided by the Engineering and
Physical Sciences Research Council (EPSRC).

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ABSTRACT

Work-based teams are an integral part of the landscape of the modern firm. However, despite the extensive research that has been done on projects and teams, there is still a great deal of uncertainty about the process through which teams actually acquire, create, and disseminate knowledge. In this paper we extend the emerging theory of project-based learning, by developing a learning model that examines the structural elements of the project team. To do this we draw on the results of an empirical study of five organizations in the United Kingdom. Our findings indicate that there are two prevalent team structures, the “human capital” model and the “social capital model. In addition, the choice of which structure to adopt is contingent upon the internal organizational climate of the firm as well as the level of dynamism in the firm’s external environment. Finally, the choice of team structure has a lasting impact on traditional project outcomes as well as project learning outcomes. Implications are discussed.

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INTRODUCTION

Work-based teams are an integral part of the landscape of the modern firm (Ancona & Nadler, 1989; Hoerr, 1989; Tjosvold, 1996). Management scholars have conducted extensive research on teams looking at dynamics such as team formation (Tuckman & Jensen, 1977); team composition (Sundstrom, De Meuse & Futrell, 1990); team working (Proctor & Mueller, 2000); and the learning dynamics of projects and teams (Tyre & vonHippel, 1997). However, despite the large amount of research that has been conducted on teams and projects within organizations, there is still a great deal of uncertainty about the process through which teams actually acquire, create, and disseminate knowledge. The recent work around project-based learning is one attempt to understand this phenomenon. Project-based learning refers to the theory and practice of utilizing real-world assignments on time-limited projects to achieve mandated performance objectives, while simultaneously facilitating individual and collective learning (Smith & Dodd, 1997). An underlying assumption in project-based learning is that people learn best when they are working on real-time projects within the context of their own organizations.

The emerging theory of project-based learning is at the nexus of a number of closely related learning traditions. DeFillippi (2001) in his review of project-based learning outlines five distinctive research streams that together form the literature on learning in projects. These include, action learning (Revans, 1971), action science (Argyris & Schon), (Lewin, 1946; Cunningham, 1993),

communities of practice (Brown & Duguid, 1991; DeFillippi & Arthur, 1998; Wenger, 1998), and reflective practices (Raelin, 1997; 2000). By drawing on the fundamental principles of each of these related research streams, a picture of project-based learning is emerging as a process that involves:

- Working on real-time problems in a work-related context
- Challenging hidden learning assumptions that prevent learning or lead to unreflective repeating behavioral patterns
- Bringing project participants into the project research process as co-researchers and therefore co-learners
- Examining the social communities in which individual identity construction and learning occur
- Incorporating the process of reflection into the project-learning process.

These, taken together form the basis for a theory of project learning, which, in a knowledge economy, is posited to help companies remain competitive in the long run (Stewart, 1997).

There are a number of core tenants that that make up the emerging model of project learning. One of these is the notion of human capital. Human capital refers to a wide range of aspects such as the individuals achieved attributes, background, family characteristics, age, and level of education (Becker, 1964). It is the expertise that each individual brings to the project. In addition to human capital, the social capital of the project participants is also critical. Social capital refers to the goodwill available to individuals or groups. Its source lies in the structure and content of the actor's social relations and its effects flow from the information, influence and solidarity it makes available to the actor (Adler & Kwon, 2002:23)

While these characteristics of the project participants are clearly important in understanding project-based learning, it is also important to note that the organizational and environmental context in which the project takes place will also impact on the learning that occurs. Thus, exploring features of the organizational and environment context will be key to developing a complete understanding of project-based learning. In particular, a key feature of the environmental context is uncertainty (Emery & Trist, 1965), which refers to the degree of unpredictable turbulence and change in the external political, economic, social, technological and legal context in which an organization operates. A key feature of the organizational context is the organizational climate, which is the employees' set of shared attitudes, values, and beliefs about how an organization operates (Ferris, Arthur, Berkson, Kaplan, Harrell-Cook, & Frink, 1998). More specifically, Kopeiman, Brief, and Guzzo (1990) argue that climate is comprised of means and goal emphasis, reward orientation, and task support, and socio-emotional support.

On a practical level, there is a growing body of evidence that indicates that companies can benefit when learning, which is developed within the scope of a project, is systematically distributed across the organization to other similar teams and projects (Davenport, DeLong & Beers, 1998; O'Dell & Grayson, 1998; Edelman 2000). Performance benefits such as reduced customer response time, enhanced revenue generation (Pan & Scarbrough, 1998), and the smooth and successful incorporation of newly acquired firms into existing firm structures (Szulanski, 1998), are all attributable to the successful dissemination of

organizational knowledge. While clearly these project performance measures are critical to the successful implementation of projects in organization, to date, no one has examined the success of projects by looking at learning outcomes

In this paper, we extend the existing theory of project-based learning, by developing a learning model that examines the structural elements of the team and the project. Similar to the construction of intellectual capital, which involves the interaction between human, social and organizational capital (Naphiet & Ghoshal, 1998), we contend that projects create new knowledge by drawing on the human capital attributes of their members in conjunction with the project member's social capital ties. In addition, the initial findings from our study suggest that there are two distinctly different structural models of project organization: a "human capital" model, and a "social capital" model. We contend that these different models of organizing result in different interactions with the internal and external environment in which the project is situated, and that the type of model adopted has dramatically different results with respect to the project's performance outcomes.

RESEARCH DESIGN AND METHODS

This investigation was an exploratory qualitative study of five unrelated projects, for the purpose of understanding the processes by which project-based learning is created and disseminated. The unit of analysis was the project. What the five case studies give us that other research designs cannot is an intensive investigation of processes, which reveals the common patterns among projects.

The limits of qualitative research involving a small set of cases are well documented: we do not know if the findings from this inquiry can be generalized to a larger population. The value of the research instead lies in its ability to provide insights through rich detail, and to provide directions for future inquiries.

The project did not begin as an exploration of social capital effects. Our initial mandate was to use interviewing techniques to better understand the ways in which projects take their learning and transfer it to other like groups within the firm. Interviewing was chosen as the method of investigation because there is a strong indication in the organizational learning and knowledge transfer literatures that the context in which the transfer occurs is extremely important in the transfer process (Argote, 1999; Szulanski, 1996). Only after the interviews were completed and the data analyzed, did we realize the important, and often contradictory effects that using social capital in the context of project-based learning had on the organizations in our sample.

Sample Criteria and Selection

Companies were chosen based on industrial sector. Five diverse industrial sectors are represented in the data, telecommunications, pharmaceuticals, health-care, construction, and social services. A sixth sector, automotives, was initially included in the research design, but the company declined to participate due to a large number of internal changes that were ongoing during the time-frame of our inquiry. These particular industrial sectors represent a substantial portion of the UK economy, and hence were identified as critical for inclusion in a UK-based cross-sector inquiry. For the purposes of this

study, the organizations are called Teleco, Drugco, Healthorg, Constructco and Servicesorg. All organizations are located in the United Kingdom. The organizations were operating under relatively different environmental conditions; for example, Teleco was operating in a rapidly changing environment and was undergoing a major cultural transformation as it moved into Internet-based competition. Conversely, Constructco's and Servicesorg's environments were relatively stable. Drugco, and Healthco were also operating under conditions of some uncertainty, but these were due mainly to regulatory and other governmental changes and so were not of the radical proportion that Teleco was experiencing.

In each company, a specific project was chosen as the focus of our investigation. Projects were chosen by the organization, based on a set of guidelines set by the research team. Since we were interested in generic project-based learning issues, we asked each organization to provide us with a typical project. We also recognized the difficulties in comparing projects at different phases of their life cycle (Leonard-Barton, 1990), and so we requested a mature project that was well established in the organization. To our surprise, we found that projects and project teams are not synonymous, and that in two of the five cases the core project members consisted of one or two actors and that the project was ongoing, with no clear goal or end-point. These projects stand in contrast to two other projects that have an identifiable team structure, identifiable objectives and finite time duration. One project was a hybrid of the two project types.

Data Collection

In all cases, we began our investigation with an introductory meeting with a senior manager, administrator or the director of the organization. While this person had a general familiarity with our interest in project-based learning, it was necessary for us to acquaint him with the particulars of this inquiry, and to help him in identifying an appropriate project for us to investigate. In each case save one, a suitable project was determined at this initial meeting. In one instance, a project was identified that failed to meet our “typical project” criteria and so another project was chosen. In conjunction with the introductory meetings, archival data was collected about each organization to help the researchers understand the organizational context in which the project was situated. Web sites were accessed when available, and written documentation in the form of financial reports and/or press releases was requested.

After our initial meeting, we met next with the various project managers. It was at this meeting that we learned the details of each project as well as the names and contact information of the project members. To the extent that it was available, we collected archival project documentation, to include project process charts as well as sets of minutes from previous project meetings. Subsequent to this meeting, we met with numerous members of the project team. In all cases, the project team members interviewed had different roles and responsibilities on the team, thereby providing us with a holistic perspective on project-based learning for that group. In addition, regularly scheduled meetings were held within the research group to discuss our findings to date. In total, we interviewed

thirty-eight individuals, in five organizations over a seven-month period, logging thirty-five total interview hours. Table 1 provides a breakdown of the number of individuals interviewed per organization and the length of each contact.

Insert Table 1 about here

While the interviews varied in length from one-half hour to over two hours, on average each interview lasted for approximately one hour and fifteen minutes. One of the interviews was conducted in a group format and included four different project participants. At another organization, researchers attended a project meeting. In all cases, every attempt was made to have two researchers present at each interview, although this was not possible for every interview due to scheduling difficulties. Before each interview, interviewees were sent a letter describing the objectives of the research project and outlining the subject of the interview. At each interview, the researcher gave a brief example of knowledge transfer to help the respondent understand the general phenomenon of interest. All interviews were structured to maximize the respondent's ease of response. Respondents were asked to initially describe their role in the project, then to discuss the process of knowledge creation and transfer first within the project and then between other projects and other organizations, if applicable. At each interview, numerous open-ended questions were asked to encourage respondents to relate stories of how knowledge was created and transferred within and across similar projects within the organization.

All interviews followed a pre-designed interview protocol. The protocol included questions about the facilitators and barriers to knowledge transfer among project teams. Questions in the interview protocol were developed based on an extensive review of the knowledge management literature, a workshop in which senior managers from each of the five companies discussed project-based learning issues, as well as from the backgrounds in knowledge management research of the various research team members.

Data Analysis

As is typical in inductive studies, writing the five case studies was an iterative process in which the data was constantly revisited (Eisenhardt, 1989; Yin, 1989). To aid in data consistency, the interview data was initially coded based on a coding scheme developed by the research team. Data coding was also an iterative process in which the research fellow and the team's four principal investigators searched the data for regularities and patterns and then recorded these key words and phrases to represent topics or themes which became the categories for further study (Bogdan & Biklen, 1992). It was our analysis of these themes that led us to focus the interaction between team structure and organizational and environmental context. Within each category if inconsistencies occurred among the data that was collected, third party sources were consulted for clarification. Triangulation across the different sources of primary and archival data revealed a high level of data consistency.

After each case study was complete, the data was re-analyzed to develop the conceptual insights presented in this paper. While there were no

preconceived hypotheses at the outset of the inquiry, patterns emerged from the data that suggested that team structure was closely related to the context in which the team operates.

Validity and Transferability of the Findings

Recent research suggests that the processes involved in analyzing qualitative data have motivated a change in the traditional frameworks that were used for ensuring data validity (Erlandson, Harris, Skipper & Allen, 1993). Specifically, to ensure validity, qualitative data must be checked against the criteria of credibility and transferability. In this study, data categories were identified across the five case studies to ensure data credibility. In addition, after each case study was written, it was sent to the individual project manager as a way to ensure the validity of the findings. Findings were also discussed with company representatives at a project workshop meeting held near the conclusion of the project. Data transferability was addressed by employing an interview protocol for collecting data that utilized questions that were primarily drawn from the existing literature. In relying on previous literature to ground our inquiry, future researchers examining the interplay between project structure and organizational context could potentially apply the interview protocol to their own studies.

FINDINGS AND DISCUSSION

Human Capital and the Formation of the Team. Human capital refers to a wide range of aspects such as the individuals achieved attributes, background, family characteristics, age, and level of education (Becker, 1964). The literature

on team building, and cross-functional teams, is replete with examples of how teams draw on individuals with different human capital attributes. In our inquiry, it was evident that many of the projects carefully considered human capital when comprising their project teams. For example, when Healthorg constructed their cataract diagnosis and treatment process reengineering team, they included individuals that were involved in all aspects of the diagnosis and treatment process such as: optometrists, General practitioner doctors, nurses, hospital administrators and consultants (read surgeons). Each of these individuals was vital to the reengineering process in that they brought their own understanding and unique expertise. A similar process was found in Servicesorg. At Servicesorg, a team was put into place to help the organization manage the change in process required when the organization moved into a new and very different workspace. Here, as with Healthorg, multiple and divergent individuals were assembled from various parts of the organization to help implement the policies and procedures that would help manage the organizational change.

Proposition 1: The “human capital” team structure is critical to project-based learning.

Social Capital and the Acquisition of External Knowledge. The literature on project teams emphasizes the need to have diverse membership to ensure that the team has the required knowledge and experience to meet the project objectives. This popular team structure is reflected in our notion of the human capital team. However, in our research is that we found that project teams regularly did not have the human capital necessary to fulfill project objectives.

We call these social capital teams, because the social capital of the remaining team members took on an increasingly important role.

Social capital is defined as “the sum of the resources, actual or virtual, that accrue to an individual or group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” (Bourdieu & Wacquant, 1992:119). Unlike human capital, which can be possessed by a large number of people, social capital is unique. It resides in the structure of relationships between or among actors making it a resource that does not lie with one individual, but instead is jointly owned (Coleman, 1988; Putnam, 1995). Consider Teleco, which was changing from an R&D “make” to a “buy” philosophy. Their technology-watch team was comprised of only two individuals. The team used their social capital to go into the organization and seek out the expertise needed to evaluate various purchase or partner opportunities. A similar team structure was found in Constructco where the team consisted of two individuals in each regional division whose mandate was to facilitate and mentor site-engineers. As with Teleco, the project team members acted as point persons for the acquisition and dissemination of key organizational knowledge. Therefore, while social capital was important in both team structures, in this second type of project structure, social capital was critical for project success.

Proposition 2: The “social capital” team structure is critical to project-based learning.

Human Capital and Social Capital-based Teams. Our findings indicate that organizations make a choice about which team structure that they will adopt. This choice, between human capital and social capital teams relates to the type of project that the team is undertaking. In our study, there were two general types of projects: projects that were taken on *in addition* to the regular course of work and projects that *were* the regular course of work. Our findings indicate that in those projects that were in addition to the regular course of work, the team resembled the human capital model in that it was comprised of multiple human capital competencies. In addition, these projects tended to be of limited duration and have clearly defined outcomes. In contrast, the social capital model with its small core team and extensive use of social contacts was prevalent in situations where the project was part of the regular course of work. These projects lacked a clearly defined process outcome, and had broader objectives. This leads us to propose:

Proposition 3: Project team structure is contingent on the objectives and the duration of the project. For ongoing projects with broad objectives, the “social capital” structure is preferred. Alternatively, for projects that have a limited duration coupled with clear objectives, the “human capital” project structure is prevalent.

Therefore, we suggest that the human capital team structure is more appropriate in some organizational contexts and the social capital team structure is more appropriate in others. In the next section we explore how the organizational and environmental context of the project team influences the choice of team structure.

Organizational and Environmental Context. While the importance of human and social capital cannot be overemphasized, the overall organizational and environmental context in which knowledge is generated and spread has important and lasting effects on the learning that occurs in projects. Specifically, findings from our study emphasize the effects of team structure on four key elements: the overall organizational climate, which is defined as the motivation and incentive of key participants to gather and disseminate project-based learning, the ability of the project participants to develop clear well-defined outcomes in advance, and the importance of support from management to garner organizational support, and the level of environmental uncertainty in which the firm and team are operating.

Organizational Climate – Means and goal emphasis. One of the striking features about some of the projects in our inquiry was the clarity about which the project participants could articulate their project timetables and outcomes. For example, at Healthorg, the project team was formed to work on the specific issue of how to best change existing work practices to correspond with the new demands of working in a storefront, walk-in counseling environment. In this case, it was clear that the organization had a new operating model within which they had to establish guidelines and procedures to function. This clarity of purpose allowed Healthorg to assemble a team that was comprised of individuals from all of the areas of the organization that were affected by the change in workspace. In other words, Healthorg knew what their desired outcomes were *ex ante*, and could design a project team that reflected what they wanted to accomplish.

Contrast this with the project at Constructco. In this case, the position of regional engineering manager (REM) was formed to facilitate communication among construction engineers as well as to value-engineer project bids for cost savings. While the outcomes of the REM role were well defined in theory, in practice, the position was new and so was interpreted differently between regional offices. For example, in the Midlands region office, the regional engineering manager spent over half of his time working and training construction-site engineers, however, in the Southeast region, the REM was consumed with value engineering work. Therefore, unlike Healthorg in which the project team had a clear, identifiable mandate, in Constructo the regional engineering manager was constantly justifying his or her position. As one REM stated:

The REM is still not a valued position in that we are given loads of work, more than can be done really, but there is no help because the role is not justified yet. We are constantly persuading people about the important work that we do.

This leads us to propose:

Proposition 4a. In situations with outcomes that are clear and identifiable ex ante, teams based on human capital are most effective.

Proposition 4b. In situations where the outcomes are not clearly identifiable ex ante, teams based on social capital and relationships are most effective.

Organizational climate - Task and socio-emotional support. While our findings suggest that organizations with clearly defined team outcomes tended to favor human capital over social capital based teams, this distinction was less clear with respect to task and socio-emotional support. In the projects that we examined,

organizational support was critical to both team structures. Specifically, our findings indicate that both human and social capital based projects were more widely accepted within their respective organizations, if an influential person in the organization had a role in organizing and promoting the project. This reinforces previous work in the manufacturing context concerning the importance of a key project champion in facilitating an organizational change (Clark & Fujimoto, 1991).

In Healthorg, the project was managing a change in the way in which cataracts were diagnosed and treated. In this project, an influential consultant worked with the other consultants to overcome their resistance to change. In addition, this consultant provided vital training in diagnostics to the optometrists who under the reengineered system were charged with the responsibility of recommending surgery to their patients. So influential was this consultant, that when he left the NHS Trust, members of the project team were worried that the already implemented project would end, and the cataract diagnosis and treatment process would revert back to the previous system.

Proposition 5. Projects that utilize either the “human capital” team structure or the “social capital” team structure are more likely to be successful if an influential individual in the organization has a role in organizing and promoting the project.

Organizational Climate – Reward Orientation. The findings from our study support the popular contention that employees respond when there are organizational incentives in place that reward particular behaviors (Luthans, Stajkovic, Luthans, and Luthans,1998). However, as with task and socio-

economic support, we did not find any differences between the human-capital based team structure and the social capital team structure as it related to this construct. Consider Drugco, where the focal project was a revolutionary medical approach that was outside the mainstream product line of the company. This new treatment required a different approach to customer promotion and sales. The headquarters project team at Drugco was continually reinforcing the importance of their project to the country managers. However, given that the compensation and incentive system for the country managers was not aligned with the way in which the new product needed to be promoted and sold, the focal project team met with great resistance. Only in countries where the product had been proven successful, and the compensation system modified, was the team able to overcome the country manager's resistance.

Proposition 6: Projects that utilize either the "human capital" team structure or the "social capital" team structure are more likely to be successful when there are clear incentives associated with the team structure.

Environmental Uncertainty. The relationship between the organization and its environment has long been recognized as pivotal in organizational studies. Early authors such as Lawrence and Lorsch, (1967), and Thompson (1967) argued that the firm must "fit" with its environment, (Venkatraman, 1989) and that companies must erect barriers that protect their organization's core capabilities or technology from others in the environment. Similarly, Emory and Trist (1965) posited that the structure of the organization must align with its environment, which in their model ranged from placid to turbulent. In a placid environment, change can easily be predicted and hence planned for, however; in a turbulent

environment, environmental change came not from the interaction of existing firms, but instead from the environment itself. Instead of having controlled levels of change, turbulent environments are characterized as the “ground is in motion”, with little chance of any one group of organization exerting any significant influence.

In our inquiry, for example, Teleco, a telecommunications company that was trying to change from a traditional voice carrier to a full-service voice and data company, was operating in a highly turbulent environment. One way that they responded to their chaotic environment was to form a small technology watch team whose mandate was to seek out new technologies with which Teleco could either purchase or partner. The team was comprised of only two individuals. However, these two individuals were well connected throughout the organization, and they used their relationships, which spanned functional as well as departmental boundaries, to access organizational knowledge that was needed to evaluate the various technologies that they were considering. In essence, the technology watch team used their social capital relationships to bring in expertise to expedite the decision making process. This was clearly more timely and responsive than forming a traditional team based on human capital elements.

Proposition 7: The greater the level of environmental uncertainty, the more likely it is that the “social capital” team structure will be used.

Figure 1 provides a summary of the proposed relationships between human capital, social capital and the organizational and environmental context. Table 2

provides a summary of the key constructs and their relationship to the focal organizations.

Insert Figure 1 and Table 2 about here

IMPLICATIONS, FUTURE RESEARCH AND CONCLUSIONS

This paper contributes to the literature on project-based learning by developing an integrated model that includes the three elements of project learning: human and social capital, and the organizational and environmental context in which the creation and dissemination of learning occurs. In addition, it raises interesting questions with respect to the use of human and social capital within projects. Finally, it discusses a number of critical dimensions of organizational and environmental context: and suggests that there is a direct relationship between the structure of the project team and the context in which the project is being conducted. We contend that these three dimensions human capital, social capital and context are critical to the overall learning that is generated and disseminated by project teams.

This research has important implications for our understanding of projects and project-based learning. With respect to traditional project performance metrics such as on time or on budget, our findings indicate that either the “human capital” team structure or the “social capital” team structure will produce satisfactory results depending on the context. In particular, human capital project structures tend to be used in contexts where projects have a limited and finite

duration and goal, while social capital projects will be more evident in the context of ongoing projects.

While this suggests a contingency element to project team design, it is important to recognize that when learning is considered as a performance outcome, the human capital team structure is strongly favored over the structure that is based on social capital. Senge (1990) tells us that organization knowledge spreads throughout the organization as individuals move from project team to project team. In projects where there is a very small core of individuals, such as in the social capital structure, there is less chance that these individuals will move throughout the organization. By extension; there is also less chance that critical organizational knowledge will be disseminated. The result is that organizational expertise is concentrated in a small number of individuals, thereby leaving the rest of the organization without a widespread knowledge base upon which to draw.

This research has implications for both academics and practicing managers. For academics, it continues the exploration into a relatively new area of inquiry: how organizations create and then utilize the learning that arises from projects and project-based work. Continued work, utilizing techniques other than interviewing would provide additional insights into this area.

For managers, understanding the differences in human and social capital requirements that on-going versus occasional projects require would help in both the staffing and the management of these types of projects. In addition, our findings indicate that it is critical that organizational systems and motivational

mechanisms are aligned to fit with existing projects. This raises many interesting challenges for managers who are often constrained by antiquated evaluation and measurement systems. Future research into how projects are successfully integrated into the organizational fabric, and how project outcomes are evaluated, would be of value to both audiences.

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**TABLE ONE
INTERVIEW SUMMARY**

Interviews		
Organization	Number of Interviews	Hours Spent Interviewing
Teleco	8	8
Drugco	5	5
Healthorg	9	7.5
Constructco	8	7
Serviceorg	8	7.5
Total	38	35

TABLE TWO

HUMAN CAPITAL, SOCIAL CAPITAL, ORGANIZATIONAL CONTEXT AND ENVIRONMENTAL UNCERTAINTY

Cases ®	Teleco	Constructco	Drugco	Healthorg	Servicesorg
Human Capital	Limited use of human capital in team composition	Limited use of human capital in team composition	Extensive use of human capital within the boundaries of the team	Extensive use of human capital within the boundaries of the team	Extensive use of human capital within the boundaries of the team
Social Capital	Extensive use of social capital to bring knowledge into the project	Extensive use of social capital to bring in knowledge as well as to spread knowledge about the project to other parts of the organization	Extensive use of social capital to spread knowledge about the project to other parts of the organization	Social capital less important than team composition	Social capital less important than team composition
Organizational Context					
• Nature of project	On-going project	On-going project	On-going project	Limited duration project	Limited duration project
• Organizational Climate					
• Means and goal orientation	Not clearly defined	Clearly defined	Somewhat clearly defined	Clearly defined	Clearly defined

<ul style="list-style-type: none"> • Task and socio-emotional support 	<p>No Project manager not at a senior level, project considered less vital by others in organization</p>	<p>Yes Project originated at headquarter level but was implemented at regional level leading to budgetary problems</p>	<p>Yes Project was lead by a senior member of management team and was managed by an individual who had experience in both US and European offices</p>	<p>Yes Project run by a member of the hospital's transformation team and supported by key consultant</p>	<p>Yes Project originated and was run by senior management</p>
<ul style="list-style-type: none"> • Motivation and incentives 	<p>Motivation and incentive systems not aligned with the new "Buy" philosophy</p>	<p>Incentive systems were not aligned at the regional office level</p>	<p>Motivation and incentive systems not aligned with the new treatment promoted by the project team</p>	<p>Project reduced workloads and costs for all groups involved.</p>	<p>Project was part of a larger reorganization of work that was not supported by incentive systems</p>
<ul style="list-style-type: none"> • Environmental Uncertainty 	<p>Highly uncertain external environment</p>	<p>Stable environment, little externally generated change</p>	<p>Stable environment, little externally generated change</p>	<p>Stable environment, little externally generated change</p>	<p>Stable environment, little externally generated change</p>

FIGURE 1
RELATIONSHIP BETWEEN CONSTRUCTS IN PROJECT-BASED LEARNING

