

MANAGING PROJECTS – MANAGING KNOWLEDGE: SHARING A JOURNEY TOWARDS PERFORMANCE IMPROVEMENT

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Introduction

As early as 1988, Peter Drucker (Drucker, 1988) predicted that the new organisation would be information based. People would be assigned to task forces, directed by clear, simple, common objectives that translate into particular actions. From a project management perspective we think of these new organisations as managing by projects.

As organisations in the information age adopt a management by projects approach they are also realising that they need to be learning organisations and manage knowledge if they are to prosper. The more organisations manage by projects, the more they also realise that managing projects is about managing knowledge. Peter Senge, well known for his work on learning organisations, has defined knowledge as ‘the capacity for effective action’ (Senge, 1999) a definition that sits very comfortably with a project management approach.

In keeping with this synergy between managing projects and managing knowledge, a number of major organisations have recognised the power of working together to improve their project management practices and performance.

This paper presents the practice and experience of over fifty major organisations that are sharing the journey towards improved project performance through global knowledge networks that enjoy the benefit of a database and technologies developed over the last six years. Members of these networks span a wide spectrum of industries, project management application areas and countries. They share a recognition that in the information age, partnerships are the key to progress and prosperity.

What do we mean by “knowledge management”

A recent article in PM Network (Olonoff, 2000) discussed Knowledge Management and Project Management as ‘two revolutionary disciplines’. The article questioned whether Knowledge Management and Project Management could coexist and concluded that they could not only coexist but that “the marriage will produce added value” (p. 64).

Attendees at this conference are probably fairly comfortable about what is meant by “project management” but they may understandably be less clear about what is meant by “knowledge management”.

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There is a confusing cacophony of voices using the words “knowledge management” today. A search of the Internet for the words “knowledge management” produced more than 2 million hits (<http://www.northernlight.com> 3 September 2000) and the noise comes from many different voices, each with a different message.

Technologists claim that it is all about information processing, storage and distribution; economists see it as a function of the market system; financial advisers tell us it is all connected with intellectual capital; cognitive psychologists seek to explain knowledge in terms of human consciousness; practitioners such as Skandia and Shell have developed their own language for talking about and measuring their “intellectual capital” and relating it to their financial performance; organisational learning theorists such as Argyris and Senge relate systems theory to “the learning organisation”; and sociologists such as Giddens argue that knowledge management is the next logical controlling step for modern capitalism (Brown and Higgins, 1998)¹.

In the absence of any overall agreement, the authors propose to use the term “knowledge management” in this paper to mean “a continuous process of discovering, sharing and creating knowledge” and the focus of our interest is of course, on “knowledge about project management”.

Communities of Practice

Closely associated with knowledge management is the concept of communities of practice. Communities of practice are regularly cited as fundamental to knowledge creation, dissemination and use within organisations although they are equally if not more valuable in facilitating knowledge creation, transfer and learning between individuals and across organisational boundaries.

Communities of practice are not new, but the term has acquired new status and significance in an era dominated by the knowledge economy, the knowledge company, the knowledge worker and the concept of intellectual capital (Stewart, 1999b). Communities of practice are groups of people informally bound together by shared interest, shared expertise and “passion for a joint enterprise” (Wenger and Snyder, 2000). According to this definition, the early Christians and mediaeval craft guilds, amongst many others throughout the history of civilisation would be considered communities of practice.

Yet the current popularity and understanding of the concept of communities of practice is generally attributed to the work of the Institute of Research on Learning (IRL), in Palo Alto, founded in 1987 and associated with Xerox’s Palo Alto Research Center (Stewart, 1996) and in particular to the work of learning theorists Lave and Wenger (1991). A key

¹ The authors are indebted to Martyn Brown and John Higgins of Ashridge Consulting for this overview of the field, from their unpublished paper “Intellectual Capitalism – An Enquiry into Power, Knowledge, Control and Freedom”, October 1998

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finding of the work of IRL is that learning is social and in this context, communities of practice have become associated with concepts of learning, the learning organisation and by further association, with knowledge management.

A field guide for identification of communities of practice might include the following characteristics (Hildreth, 2000; Wenger and Snyder, 2000):

- Common language - the group has some sort of language of its own e.g. jargon
- Shared background - the members have some sort of shared background or knowledge
- Common purpose - the group has some sort of common purpose which gives it an internal impetus
- Creation of new knowledge - through the work of the group and the interaction of the members some new knowledge will be created for those members
- Dynamism - this relates to the social distribution of the knowledge in the group
- Evolution - there is some sort of development in the group
- More than simply social interaction
- Unofficial - it evolves rather than being created
- Voluntary - membership will generally be voluntary
- Narration - swapping war stories is a key way in which members share domain knowledge
- Informal - the group is often informal - i.e. there is no hierarchy
- Fluidity - newcomers arrive and old-timers leave
- Similar Jobs - in an organisation there will be individuals doing similar jobs
- Self perpetuating – as they generate knowledge they reinforce and renew themselves
- They benefit from cultivation but not from control

Much of the literature is concerned with communities of practice within organizations, but they are not limited to these environments. They exist across organizations, they exist in purely social settings, and they may be made up of two or three people or thousands.

According to Liedtka (1999), an effective community has a strong moral foundation of values that

- respects each individual's unique capacity to grow and, in doing so, to contribute to the community's purpose,
- recognizes each member's responsibility to help those within their reach to develop their abilities,
- conveys an obligation to engage in honest dialogue with each other, and
- includes an un-coerced agreement to subordinate short-term self-interest in return for the benefits of full participation in the life of the community.

and “such a community will gain, not sacrifice, competitive success in making these promises to its members”.

Corporate Communities of Project Management Practice

Communities of project management practice have been forming within and between corporations as individuals and organizations seek ways to respond to increasing pressures to improve performance and outcomes.

As project work becomes pervasive within organizations there is increasing realization that project management is being practiced in different ways within different parts of the organization – divisionally, functionally and globally. There is recognition of shared interests and of the opportunities to bring together project management practitioners throughout the organization with a view to identifying best practices as a basis for overall performance improvement. Such communities may be formal or informal but are most successful when recognized and supported. Internal Centers of Project Management Excellence and internal project management accreditation programs are a natural progression. Project offices are most successful when they support rather than attempt to regulate their project management communities

Wenger and Snyder (2000) cite both American Management Systems (AMS) and the World Bank as adopting the community of practice as the foundation its knowledge management strategy, bringing together people and ideas and spreading knowledge throughout the companies' global operations. Senior management boards sponsor communities and support teams help with community development, coordinating annual community conferences, knowledge fairs, library services and technical support.

A number of organizations, including Boeing, NASA and Ericsson have provided support for project management communities of practice along these lines. Active participation in corporate communities of practice may be considered a privilege and in some organizations is rewarded. By rewarding project managers for active participation in the Project Management Institute, NCR has had a major impact in the development of PMI Chapters throughout the world, and a number of organizations, including IBM, and Australia's Coles Myer, encourage and recognize professional certification.

Communities of Project Management Practice between Organizations

Development of communities of project management practice between organizations has been most evident in initiatives that look at the benchmarking of project management practices. There is increasing recognition that for such initiatives to be really effective, emphasis must be placed on the development of relationships and trust between the parties concerned in order to foster an environment in which productive sharing of knowledge and experience can occur.

A number of organizations began a journey of discovering, sharing and creating knowledge about project management in 1993 when they decided to form a benchmarking network as an ongoing inter-organizational discipline aimed at continuous improvement of their project management practices. Although this was some two or three years before the coining of the term "knowledge management" (Stewart, 1999a) the

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network had embarked upon the creation of what can now be described as a “knowledge management structure”.

Facilitated by Human Systems Limited (<http://www.humansystems.co.uk/>), member organizations have been meeting five or six times a year and through commitment, continuity and cooperation have developed a strong and creative community. This community has recognized the power of collaboration and has taken the initiative to foster other networks, which are now operating within Europe, the Pacific Rim and North America, and emerging in South Africa and South America as a global project management knowledge network.

Through the networks, organizations have been able to demonstrate the value of project management through improved project performance enhancing the credibility and energy of their internal corporate project management communities.

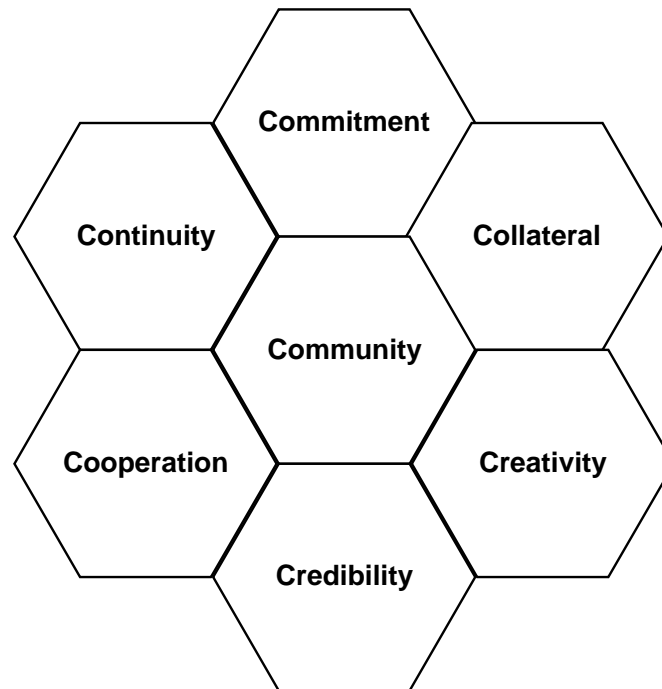


Figure 1: Criteria for effectiveness of knowledge networks

The original concept of cross-industry networks has been augmented by single-industry networks, initially for the Pharmaceutical industry, and by intra-company networks to harvest and develop the knowledge contained within different parts of the organisation who do not normally communicate well with each other, such as facilities management with marketing, or IT with R&D. Over 60 major corporations are now members of one or more of the Human Systems networks.

This explosive growth has coincided with recognition firstly that the “benchmarking” method adopted by the networks has a strong theoretical basis and a degree of intellectual

rigour that gives their members confidence that reliable insights are emerging from their work. Secondly, the fact that over 70% of the original membership are still actively involved after more than six years is itself a strong indication that the method delivers value to members.

The collateral of the networks includes well developed and tested instruments for collection, analysis and comparative feedback, both qualitative and quantitative, on project management practices at both corporate (Corporate Practices Questionnaire – CPQ) and project levels (Project Healthcheck Tool – PHT). Growing databases provide increasing opportunities for analysis and feedback to member organisations, enhancing their understanding of factors that influence project performance and providing input to discovery of creative responses.

When the first network was formed, it saw its function as gathering, storing, analysing and disseminating data on corporate project management practices. After a year of activity, however, it became clear that the only way of being certain that “best practices” are indeed “best” is to compare the actual practices employed on specific individual projects with the performance and success of these projects. Accordingly, the networks developed a clever piece of software called a “health check tool” to gather this data in a form that is immediately useful to a project manager, while also providing research data for subsequent analysis.

It is this instrument that provides evidence to support the value of efforts directed at improvement of project performance. Based on a surrogate measure of value that combines scope creep, cost escalation and schedule delay and is applied to a broad range of projects, the authors estimate that for every \$100 million of value promised by project managers in major project-based corporations to their collective sponsors, only some \$80 million of value is actually delivered. On this basis, even very small increments of improved performance can offer big benefits to the bottom line.

A consistent theme in the work of both authors of this paper is the value of involvement of people in investigating and developing their own practice. Researching and therefore understanding your own performance is a powerful incentive for change.

One of the ways in which the benchmarking networks function is to establish working parties (in effect project teams) to investigate specific topics that are of interest to network members. Topics investigated by such working parties have included:

- The process of transferring lessons from one project to another
- Risk management
- Measurement of project success and performance including business benefits review

Some insights from the shared journey towards performance improvement

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In practice, perhaps the greatest value that organisations derive from the shared journey as members of the knowledge networks, is the face to face sharing of their concerns, experiences and challenges with their colleagues from other organisations.

One of the valuable insights that has emerged from such discussion is the changing role of the Project Office or Project Support Office within organisations. Not long ago, the Project Office, if it existed, did so on sufferance and stood a strong risk of being re-engineered out of existence at the first opportunity. Discussion amongst members of the networks indicates that corporate attitudes to the Project Office have changed significantly. Experience in a wide range of organisations suggests that the challenge is no longer survival but having the resources and expertise to respond to the increasing requests for support from top management as well as from the corporate project management community.

Another emerging benefit of network membership is access to a global community of peers who are willing to assist one another as they respond to the challenges of developing project management capability and credibility within their organisations.

The following are some examples of the insights gained from analysis of the growing corporate and project level databases:

1. Few organisations are satisfied with their performance at transferring “lessons learned” from one project to another. A working party produced a generic process map which has four high-level steps: Data Capture, storage, communication and application to new projects. A questionnaire was developed to support the map, and a dramatic fall-off was observed between the third stage (55%) and the fourth (25%).

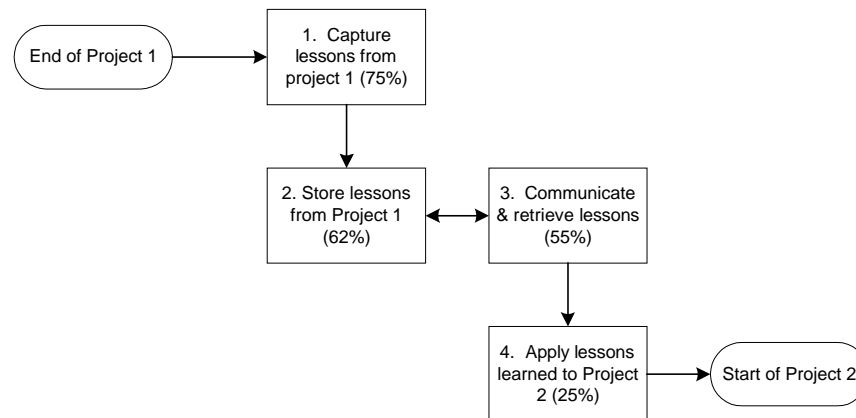


Figure 2: The "Lessons Learned" Process

Taking two questions from the Corporate Practices Questionnaire (CPQ) that are representative of stage 1 and stage 4 (in Figure 2), it is interesting to note how many organisations score highly for the stage 1 question and poorly for the stage 4 question (see Figure 3 below). This suggests that there may be a principle to be discovered about how lessons may be transferred from one project to another.

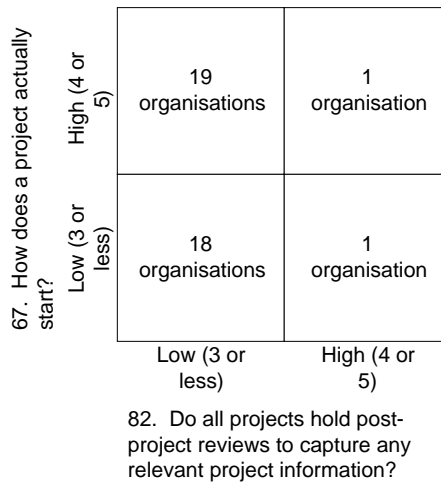


Figure 3: Project Start-up and Project Close-out

- There is a loose connection between cost escalation and schedule delay, but the correlation is not as tight as might be expected (see Figure 4). This might be because analysis indicates that cost performance and schedule performance are influenced by different factors.

Schedule performance, for example, most strongly correlates to:

- Clear responsibilities
- Risks identified and quantified and
- Practical steps to influence the team's performance

Whereas cost performance correlates to:

- Tight scope change control
- Effective performance measurement and
- Mechanisms for reinforcing prior success.

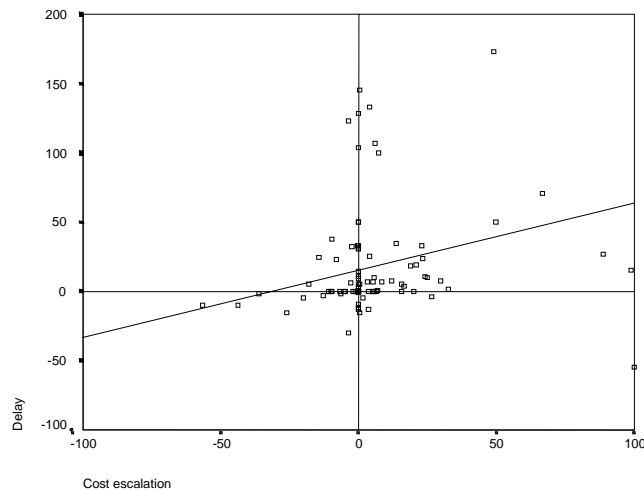


Figure 4: Relationship between cost escalation and schedule delay

3. One element of taxonomy that appears to differentiate practices is what is termed “perspective”. This term is used to describe the predominant loci of clients and of resources relative to the organisation actually undertaking the project. On a two by two matrix, both clients and resources can either be part of the same organisation as the group undertaking the project or they can belong to an unrelated organisation. This yields the four “perspectives” of in-house, procurer, supplier or prime contractor.

Comparison of scores from the Corporate Practices Questionnaire (CPQ) shows differences between these perspectives. For example, procurers score more highly for defining and executing projects and for measuring project performance. Suppliers (including prime contractors because of sample size) score more highly on managing quality and (marginally) on managing risk, but lower than others on project planning and closing projects. In-house organisations score highly relative to other groups on no specific groups of questions, but score noticeably lower on estimating and managing quality.

Conclusions

‘A firm’s competitive advantage depends more than anything on its knowledge...*on what it knows* – how it *uses* what it knows – and *how fast* it can know something new’ (Prusak, 1997, p. ix). This certainly applies to projects, which are by definition unique, requiring innovative solutions and which, for continuous improvement to be possible, require knowledge to be transferred from one project and one team to another.

This paper has presented the philosophy behind the concept of communities of practice in knowledge management, and the journey that over fifty major organisations are sharing in their pursuit of improved project and corporate performance.

Through ‘global knowledge networks’, these organisations have made a formal commitment to work together to:

- Identify ‘best practice’ in project management processes, using a powerful knowledge management technology for benchmarking
- Provide both qualitative and quantitative data on their practices
- Identify relationships between contexts, enterprise project management systems, project delivery systems and project performance
- Develop tools to help improve project management practices
- Develop global relationships and contacts

These organisation share an openness to learning and recognition that in the information age, partnerships and collaboration are the key to progress and prosperity.

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