Project Services Pty Ltd

KNOWLEDGE MANAGEMENT REFLECTIONS

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Doctor of Project Management

Knowledge Management Reflective Learning

Paper 2003

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The Knowledge Management Relationship Cycle

Introduction

The Knowledge Management Relationship Cycle describes reciprocity between the data, information and knowledge that is exchanged for the business benefit of the organisation between the project and its stakeholders. It is just as important to ensure that the organisation benefits from successful delivery of the project as it is to ensure that the project benefits from the support of the organisation and groups and individuals within it. The Knowledge Management (KM) Relationship Cycle charts the strong connections between the organisation's KM and the actions of the project Stakeholders in contributing to project success.

To define the KM Relationship Cycle, I will first define KM in the context of projects and the successful delivery of their outcomes in large organisations, followed by a definition of stakeholders and their connections to a project. Having set the framework through these definitions, I will describe the four major aspects of Knowledge Management that are key to the : the transfer of data and information into organisational knowledge, knowledge sharing, knowledge collaboration and the KM enabling technologies. Part of the descriptions of these organisational aspects of KM will be the reciprocal KM connections to the project's stakeholder set and its data.

Defining Knowledge Management

Davenport and Prusak, (1998 p5) differentiate between data, information and knowledge: **Data** is defined as a set of discrete, objective facts about events, with no inherent meaning. **Information** is defined as a message with a sender and receiver, in the form of a document or an audible or visible communication. **Knowledge,** according to Davenport and Prusak, derives from *minds at work*, and can be evaluated by the decisions or actions to which it leads - specifically wiser decisions. "The key concepts of knowledge are experience, truth, judgement and 'rules of thumb'."(Davenport and Prusak, 1998 p5) In the context of project management, management of both project and organisation data, information and knowledge are essential elements of success.

A brief review of ideas on what KM is, shows the variety and diversity of the field:

- (Svieby 1997, p37): "A capacity to act."
- (Nonaka and Takeuchi 1995, p59): "Holistic, embraces tacit and explicit knowledge. The former is informal, personal and hard to pin down, while the latter is formal and systematic"
- (Drucker 1993) : Knowledge is a resource, and "key to the availability of the traditional factors of production"

Tacit and Explicit Knowledge

Table 1 describes the continuum of the seven dimensions of knowledge as proposed by Davenport and Prusak (2000 p70) and modified by [Walker, 2002 #498].

Table 1 - Dimensions of Knowledge - Scored by Ease of Knowledge Transfer (5=easiest)

Scores 1 ⟷	**Scores 5**
1 **Tacit**	**Explicit**
2 Not teachable (bike-riding)	Teachable
3 Not articulated (bread machine)	Articulated
4 Not observable in use (golf, art)	Observable in use
5 Rich in subtext/context (requires complex interpretation)	Schematic
6 Complex	Simple
7 Undocumented	Documented

Gao, Li and Nakamori (2002 p9) classify KM into two dimensions: one of managing existing knowledge and the other to manage knowledge acquisition, creation, distribution, communication, sharing and application, from the perspective of both object and process for the sole purpose of fulfilling the organisation's mission and business objectives.

While Nonaka, Toyama and Konno (2001) and Leonard-Barton (1998) focus on the social processes of knowledge creation and innovation within and between groups of people, rather than at individual creativity or the manipulation of knowledge objects, Wiig (1997) and Sveiby (1997) focus more on the competitive benefits of an organisation's knowledge and its management. Sveiby (1997) in particular, sees the true value of knowledge as both visible and invisible intellectual capital, with success factors in the areas of the financial, the customer, process definition and compliance, organisational renewal and development and people.

Davenport and Prusak (1998) take a more practical approach – knowledge is value-added information - the value being in many cases subjective judgement as a result of the knowledge worker's values and beliefs. Each of the authors cited offers a useful perspective to my discussions. However, it is this approach of Davenport and Prusak (1998) that will form the basis of my discussions of KM relationships in organisations and their projects.

Defining Stakeholders

Stakeholders are groups or individuals who have an interest in, and can impact, the success (or failure) of the project. Project relationships can be best defined by the relationships between the

Project Manager and the project stakeholders. The relationships are defined as 'lookings' by (Briner, Hastings and Geddes (1996), and as 'directions of influence' by (Bourne and Walker 2003). These definitions focus on how different stakeholders have different expectations of the project and different definitions of success and therefore require different types of management. Project stakeholders and their directions of influence are defined in Table 1.

Table 1 Project Manager Influence (Bourne and Walker 2003)

Directions of Influence	**Stakeholders (areas of interest)**
Forwards (resource planning, project schedules, plans and other documentation)	All stakeholder types, project team, senior management, users, vendors, Project manager.
Backwards (monitoring progress, lessons learned, estimation models)	All stakeholder types, project team, senior management, users, vendors, Project manager.
Inwards	Project Manager self
Outwards	Client, end-user, external stakeholders
Downwards	Team members
Upwards	Project owner, senior executives, those who represent organisational commitment
Sidewards	Project Manager's peers

Cleland (1995) identifies the need to develop an organisational structure of stakeholders through understanding each stakeholder's interests and negotiating both individually and collectively to define the best way to manage their needs and wants.

As with definitions of Knowledge Management there are many ways to define 'stakeholder'. A few or the most significant are included in this paper. Stakeholders have been described variously as "The ones who holds the beef" (Dinsmore 1999), those who have an Interest, (Boddy and Buchanan 1999), essential in "people-oriented project cultures"(Vaupel, Schmolke and Andreas 1999) essential at all points in the project from 'initiation' to 'closeout' (Cleland 1995). (Briner *et al.* 1996) explore the idea of a framework of six directions of which a 'project leader' must be aware, to manage a project's stakeholders successfully (Briner *et al.* 1996). Weaver and Bourne (Weaver and Bourne 2002) describe a seven-element framework as the network or 'sphere of influence and support' on which a project depends for its very existence. Post, Preston and Sachs (2002 p6) have defined 'stakeholder' as: " individuals and constituencies that contribute, either voluntarily or involuntarily, to its wealth-creating capacity and activities, and who are therefore its potential beneficiaries and/or risk bearers."

The authors cited above have contributed to the concept of stakeholder relationships being essential to project success as well as to an organisation's competitive advantage. Knowledge can generated, codified, coordinated and transferred through an organisation's KM systems to and from its projects principally via the relationships created by the project's need for support. It is the organisation's and the project's relationships, and not just financial or other transactions that create organizational wealth. (Leana and Rousseau 2000) The KM Relationship Cycle charts these relationships from the perspective of knowledge transfer and its influence.

The KM Relationship Cycle

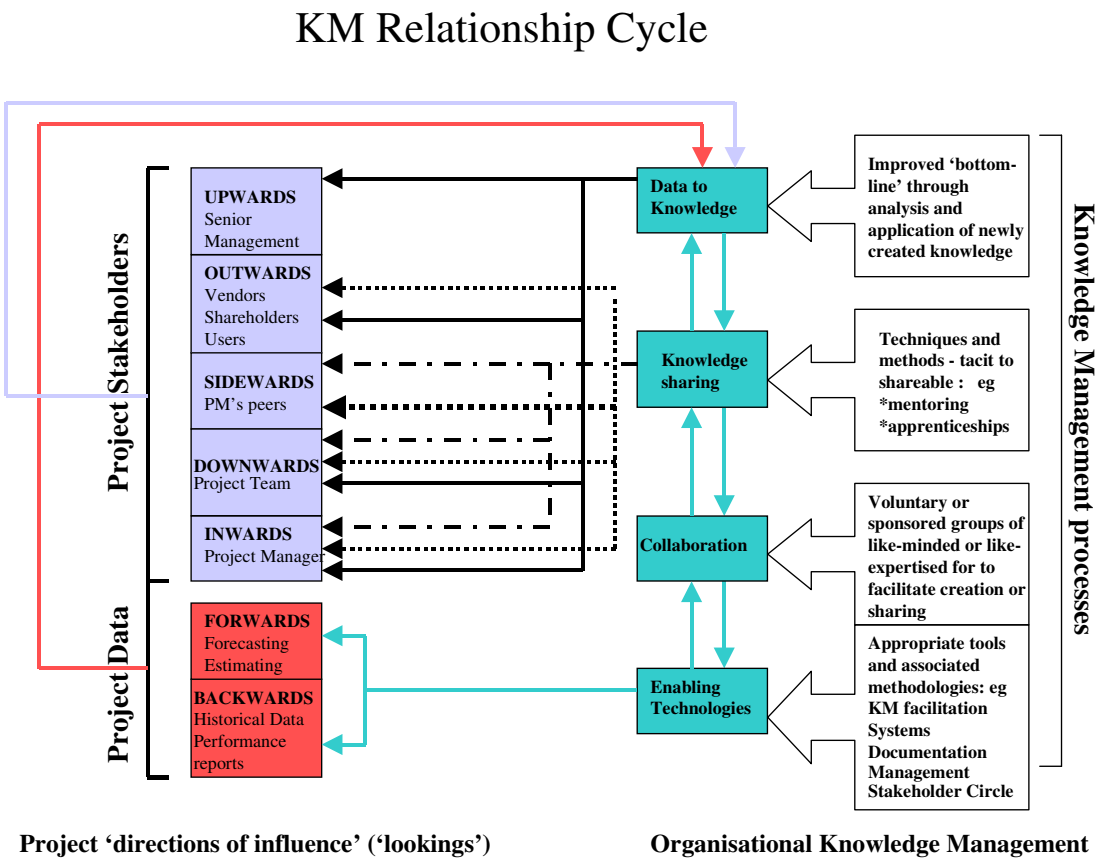


Figure 1 - The KM Relationship cycle

The KM Relationship Cycle, illustrated in Figure 1, describes the reciprocal relations between the project' 'directions of influence', and the organisation's knowledge and its management. Table 1 provides details of the structure of the project 'directions of influence'. There are two parts to this structure; they are illustrated in Figure 1. The first part, the project stakeholders, who individually and in groups will contribute to aspects of project delivery and project success, will also contribute to the organisation's Knowledge, both through the data, information and knowledge developed by the project but also through their participation in project activities such as requirements gathering, testing or post-implementation review. The second part of a project's 'directions of influence' is specifically the data and information generated by the project. This data and information is of use to both the current and future projects but also is important data and information for the organisation's operating reports and therefore, can directly contribute to an organisation's competitive advantage.

Looking to the organisational KM part of Figure 1, the four boxes define the areas of knowledge management that are specific to the KM relationship cycle. These are data to knowledge, knowledge sharing, collaboration and KM enabling technologies. Data, information and knowledge come from the project and its 'directions of influence' but also flow in both directions between each KM area. In addition there are flows back to the project from each of the KM areas. The next sections of this paper will deal with the four areas of organisational knowledge specific to projects.

The transfer of data and information into knowledge

"A corporation in the information age has unprecedented access to transaction data, but all too rarely is that data sifted into the sort of knowledge that can inform business decisions and create positive results. *Most firms are stuck with data, even overwhelmed with data.* They have yet to develop the very capability that prompted them to gather it in the first place: the capability to aggregate, analyse and use data to make informed decisions that lead to action and generate real business value." (Davenport, Harris, DeLong and Jacobson 2001 p117) Firms now have the tools to turn data into knowledge, what is missing is the human skill, experience and expertise to analyse and interpret the data and "*then to act on the insights,*" according to Davenport *et al.* (2001). The focus has been on the technology of data aggregation and storage rather than the processes that need to occur to turn data into information and knowledge.

The model of (Davenport *et al.* (2001 p120) for "turning transaction data into knowledge and results" consists of three elements: context, transformation and outcomes.

Context is the pre-requisite for successful knowledge outcomes. Context is "strategic, skill-related, organisational, cultural, technological and data factors that must be present for an analytic effort to succeed." In this model, strategy, skills and experience, organisation and culture, technology and data are all building blocks for the transformation of data into information and knowledge.

Transformation is the analysis process that turns data into information and knowledge to support business decisions.

Outcomes are the changes that result from the analysis and decision making processes. These outcomes will include changes in behaviours, processes and programs and financial conditions within the organisation. Davenport *et al.* (2001) state that any data-driven management decision relies on supportive changes in staff behaviour. Data-driven decisions leading to positive financial impacts will also need to be supported by changes in process and programs within the organisation.

Factors for success

Skills required for the analysis task are described by Davenport *et al.* (2001 p123) in terms of competencies:

- Technology skills to use the technology to manipulate, interpret and present the data
- Statistical Modelling and analytical skills to develop statistical models and develop statistical reports that support decision making
- Knowledge of the data – understanding how the data is stored, produced and transformed
- Knowledge of the Business – depends on the knowledge of the industry and the org to put the data into the correct business context
- Communication/partnering skills – to ensure that the analysed data is useful to managers for decision making

" Knowledge is information plus causal links that help to make sense of this information." (Lee and Yang 2000 p 792) Companies must look to their intangible assets for their competitive edge. Svieby (1997), lists an organisation's intangible assets as
"employees' creative ideas, customers' loyalty, innovative products and services, popular brand names and reputation." According to Svieby (1997 p10), "All assets and structures – whether tangible or intangible – are the result of human actions. organisation…. In a knowledge organisation, there is little machinery other than the employees." Many of the people that Sveiby refers will part of a project's stakeholder set. This is the link between the organisation's KM and the project.

The sharing of knowledge

Sharing of knowledge in the organisation described by the KM Relationship cycle in Figure 1 is principally focussed on knowledge that is important to project success. In the paper *Tapping into the Power Lines*, Bourne and Walker (2003) state that the key to successful projects is the ability to know "how and when to connect to the organisational power grid and identify who the key connectors (stakeholders) should be. Without attention to the needs and expectations of a diverse range of project stakeholders, a project will probably not be regarded as successful even if

the project manager was able to stay within the original time, budget and scope." This ability is defined in the paper:

> "Special skills, beyond leadership and management, provide project managers with the wisdom and knowledge to map power and influence grids using their understanding of the historical and cultural issues that control the available flow of people's potential energy. We argue that these special skills focus upon understanding the nature of the power source that drives these large, complex organisations, and knowing how to effectively harness this energy for project success. These skills are largely the ability to make sense out of complex, fragile and often confusing sets of sub-textual alliances of power, influence and resource availability."

Successful project management is a combination of the *craft* of management, the *art* of leadership and the *wisdom* and *knowhow* born of experience, of learning the hard way. The ability to understand the culture and politics of an organisation, and to be able to identify and manage the important stakeholder relationships cannot easily be taught – but it must be learned. It is just as important to ensure that the organisation benefits from successful delivery of the project and that the project benefits from the support of the organisation. This part of the paper will explore the ways that a project manager learns, gains experience and *wisdom* as well as ways that this knowledge (*knowhow)* can be passed on to others and used for the benefit of the organisation. The assumption is that the model for how knowledge workers such as project managers or project team members that is detailed in this paper will apply to knowledge workers in other parts of the organisation. It will focus on how people learn and then on what organisations can do for more effective sharing of knowledge.

How do people learn?

There is no more effective teacher that a spectacular mistake. If the organisation tolerates mistakes and offers a supportive, blame-free environment, (Baldwin 2001) the 'mistake' can be turned into an effective learning experience for the individual and the organisation. In the context of project management in large organisations, Figure 1 provides an overview of my observations of how project managers learn. These conclusions have been reached through my own experience of twenty years as a Project Manager and the anecdotal experiences of my colleagues.

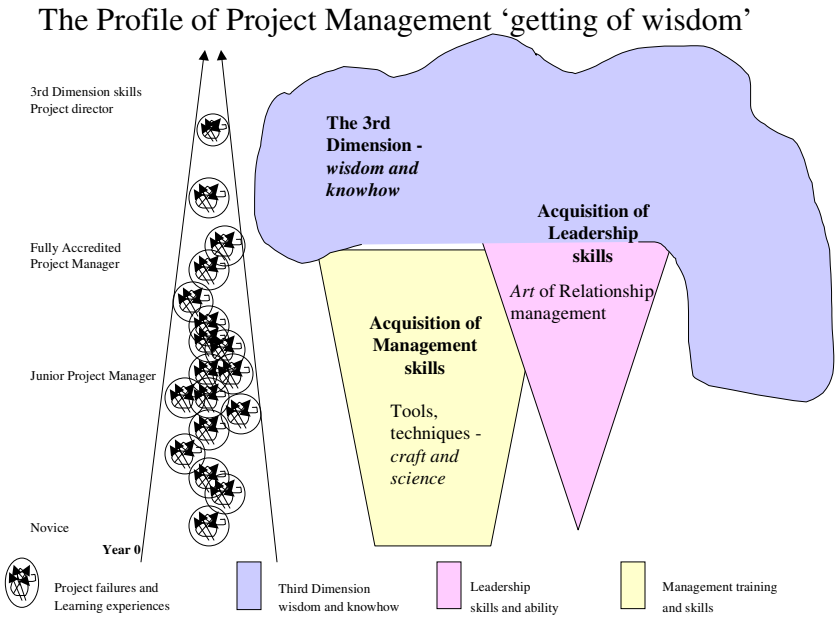


Figure 2 - the getting of project wisdom and knowhow

A *novice* Project Manager is expected to have some knowledge of the *craft* – tools and techniques of project management, but little or no *art* – project-focused relationship management knowledge. Knowledge of tools and techniques can be taught through courses, and can be documented for reference. This knowledge is clearly *explicit.* Relationship management can be taught or documented to a limited extent (but rarely is in most organisations); instinct and experience are the primary means of acquiring this knowledge/expertise. Through time, as the individual progresses through levels of project management, he/she becomes more adept and both *art* and *craft.* Figure 2 shows that one of the primary ways that this experience is acquired is through project failures and other learning experiences, both positive and negative. Even after twenty years, it is still possible to be faced with new learning experiences (positive and negative).

However, it is the skills of the Third Dimension – *wisdom and knowhow* - that are acquired in mid-career. These skills, understanding the politics and culture of the organisation and having the

ability and willingness to work within that context, are hard won. They cannot easily be taught, articulated, documented or codified; it is *tacit* knowledge.

How an organisation can support transfer of *wisdom*

In most organisations today, where competitive advantage is tied to swift, effective development of products or services, projects are the mechanisms of this delivery. Organisations can no longer afford the luxury of allowing a PM's knowledge and experience to just evolve naturally. They must always be aware of the need to act to ensure that an individual's knowledge becomes part of an organisation's knowledge and that the organisation's knowledge is accessible to each individual.

Bhatt (2002 p33) states that although an organisation has access to an individual's skill and knowledge, it can never own that individual's knowledge. " On the contrary, the organisation itself becomes vulnerable to the mobility and idiosyncrasies of experts... What kind of knowledge is shared is determined by the professionals, not the management…Knowledge sharing is an informal and social process." The social process is facilitated by 'interactions', and the organisation must do everything possible to ensure these interactions take place.

Figure 3 shows how organisations can harness individual knowledge through an understanding of the nature of the 'interactions'.

Cell 1 focuses on individuals performing routine, low 'interaction' tasks. The challenge is to empower employees by providing guidelines for limited 'discretion' in daily routine tasks. These employees can be trained "to understand the 'hidden' realities of doing business in the present dynamic and competitive environment." (Bhatt 2002 p35) In the context of the development of PM wisdom, this applies to the project manager in the *novice* to *junior* project manager classification.

Cell 2 defines the approach for managing individual expertise. These individuals must be motivated through 'stretch' assignments, accompanied by appropriate strategies for support and reward. The challenge is to "balance the needs of the organisation (for greater productivity and effectiveness) with the desires of experts (for exploration of new ideas)." (p36) This approach applies to project managers at any level, but primarily to those who are more experienced, from *fully accredited* upwards.

Cell 3 describes mechanisms for knowledge sharing through social interactions. These mechanisms include self-managed teams brought together for a specific purpose, and Communities of Practice - usually voluntary, informal 'guilds'. However, irrespective of how the groups come together, the essential elements of success are trust, commitment, collaboration and a shared vision. Communities of Practice as a mechanism for project manager learning will be discussed later in this paper.

Cell 4 describes the challenge of storage and codification of rules and procedures.

Knowledge Management strategies

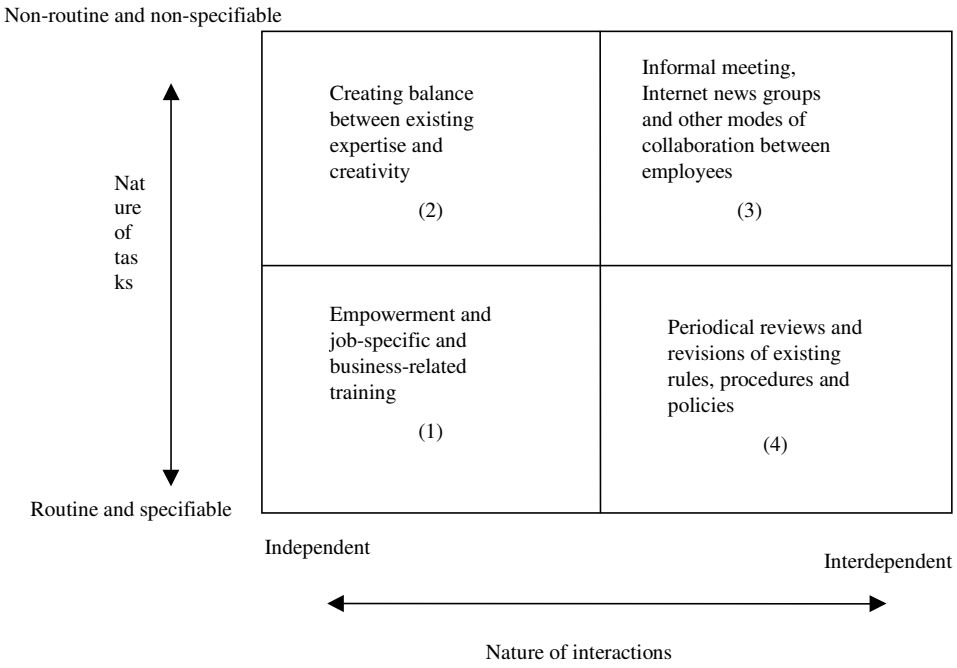


Figure 3 - Knowledge Management strategies

Methods of PM knowledge transfer

Cohen and Levinthal (1990) describe an organisational characteristic they call 'absorptive capacity' as the capacity of the organisation (or individual) to absorb new knowledge. The most important factors of absorptive capacity are cultural - such as openness, tolerance of mistakes, cultural diversity of participants in terms of their world-view, and freedom to experiment with new ideas. (Walker 2002) However, most project managers must learn about the Third Dimension relationships the hard way: by trial and error. (Block 1983 p46) The 'scars' thus gained help to enrich the project manager's perception of project and organisation 'reality'. With each new experience expanding this perception of reality, the project manager builds a significant portfolio of 'learnings' as well as healthy cynicism to hone those instinctive alarms.(Trompenaars and Hampden-Turner 1997) Only a very small number of managers are good at anticipating, identifying and knowing how to dilute disasters caused through unequal power relationships.

"Managers who have survived over the years have the skills…project managers who have delivered successful major systems have by necessity become politically skilled." (Block 1983 p21) has also defined project politics as "actions and interactions between project team members and people outside the team that have impact on the success of the project, its system, the project team, and the project manager."

Based on the model in Figure 3, transfer of *wisdom* and PM knowledge is assisted by:

- developing people through empowerment, job-specific and business-related training,
- creating balance between existing expertise and creativity through apprenticeships, stretch assignments, coaching and mentoring,
- developing modes of collaboration such as Communities of Practice between project team members, their colleagues and sometimes even like-minded individuals from other organisations. (This element of KM Relationships is described in detail in a later section of this paper) and
- reviewing and revising of existing rules, procedures and policies.

Developing people

Argyris and Schon (1996 p20) defined two types of learning – single-loop and double-loop learning. Single-loop learning changes "strategies of action", detects and fixes errors or improves existing processes, but does not change the existing organisational culture. Double-loop learning is learning that results in a change in organisational values and norms and is characterised by "thinking outside the box." Single-loop learning focuses on knowledge of how to get things done, while double-loop learning happens when creative thinking occurs leading to innovation. In the context of this paper, single-loop learning in the form of job-specific and business-related training will develop PM skills particularly in the *craft* and in some cases the *art* of Project Management. Double-loop learning habits must be encouraged by the organisation through allowing the project manager (practitioner) time for reflection, tolerance of experimentation and mistakes and through valuing innovative ideas. (Argyris and Schon 1996 p36)

A strategy of job rotation, will ensure that a project manager is exposed to different types of projects, and works with a diverse group of people, thus experiencing different management styles and different methods of project success (or failure).(Dessler and Griffiths 1989). The wider the work experience of *novice* and *junior* PMs, the more quickly the individual will be able to operate in the Third Dimension, gaining the necessary *wisdom.* Job rotation also extends the PM's network – thus ensuring a wider community of practitioners to draw on for advice.

Balancing existing expertise and creativity

Balancing the needs of the organisation with the needs of the individual can be achieved through:

- matching PM skills to appropriate projects,
- apprenticeships, coaching and mentoring.

Matching PM skills to appropriate projects

Docker, Worsley and Harpin (2001), write about "corporate Project Management competence", as being an essential part of what an organisation must do to deliver more successful projects more often. "The demands made by a project in terms of complexity and management capability must be understood and where necessary, the characteristics of the project must be modified to meet the level of project management capability available." In other words, an organisation must not put the project at risk by assigning someone who doesn't have the capabilities necessary to ensure success. If these skillsets are not available, then project managers whose skillsets are almost at the necessary level should be offered a 'stretch assignment', supported by additional training, coaching and mentoring.

Apprenticeships, coaching and mentoring

It may be possible to learn how to operate in the Third Dimension and acquire project wisdom less painfully, and to significantly reduce the learning period and the number of errors through apprenticeships. Novice PMs, with some training in project tools and techniques can be allocated to work with a senior PM on a complex project in the role of project assistant. In some cases, individuals with technical skills and potential will serve an 'apprenticeship', on the understanding that after successfully completing an agreed probation period they will be acknowledged (and paid) as project managers. It may also be accompanied by a requirement to do additional vocational study or take on small 'stretch' assignments within the project. A scheme such as this must be accompanied by regular coaching and feedback sessions between the apprentice PM and the 'master'. Mentoring schemes, whether informal or supported by the organisation are other potentially successful ways to pass on PM *wisdom* and knowhow. Ragins (1997 p483) suggests that mentoring relationships are reciprocal – the mentor may also gain from the relationship with a protégé's performance being directly relative of the mentor's competency. The relationship between mentoring and power is reciprocal and complex – influencing both parties' power in organisations.

Modes of Collaboration

Making collaboration happen depends on personal behaviour changes by knowledge workers to not only work collaboratively but also to share knowledge. (Mitchell 2002 p59) "Working collaboratively requires a great amount of team effort." Communities of Practice are one often-successful example of how knowledge workers collaborate to help each other solve problems and to share technical and organisational knowledge.

Communities of Practice

"Communities of practice (CoPs) are groups of people who share a concern, a set of problems or a passion about a topic, and who deepen their knowledge in this area by interacting on an ongoing basis." (Wenger, Mc Dermott and Snyder 2002). The archetypal example is of the Xerox service

technicians who made a point of spending time with each other as well as with their customers to the benefit of the company. (Brown and Gray).

Nahapiet and Ghoshal (1998) have defined these modes of collaboration as 'social capital' - "the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit." Social capital has three aspects: structural, cognitive - shared codes and language and shared narratives and relational - trust, norms, obligations and identification. (Nahapiet and Ghoshal 1998)
Table 2 shows the major differences between teams and CoPs. A knowledge worker will work in many teams throughout his/her working life. He/she may also participate in many CoPs, either for a short-term focussed workshop or longer-term, within clearly defined knowledge or interest areas. Both teams and CoPs have are important for delivering results and for the knowledge worker's development, but each will have different influences and different learning experiences.

Table 2 - differences between teams and CoPs

	Teams	**CoPs**
Nature of formation	Selected through resourcing processes	Generally formed through voluntary and informal processes
Term	Temporary and finite: until the project is complete	It depends: the CoP will remain as long as its members consider its has a purpose
Structure	Each team member will have a specific role and 'place' in the team	Peers with a common purpose.
Purpose	Deliver the 'result' (building, system, change)	Sharing of knowledge
Operating principle	Command and control	Collaboration
"Legitimation" (power and authority relations)	Formal Hierarchy /leadership	Informal and dynamic/fluctuating membership Status in CoP must be earned
Essential ingredients for success	Trust, shared 'vision' and purpose Commitment	Trust, shared 'vision' and purpose. Commitment
Knowledge transfer	Explicit knowledge and information (documentation, processes) Coaching and mentoring Formal learning (courses)	Stories

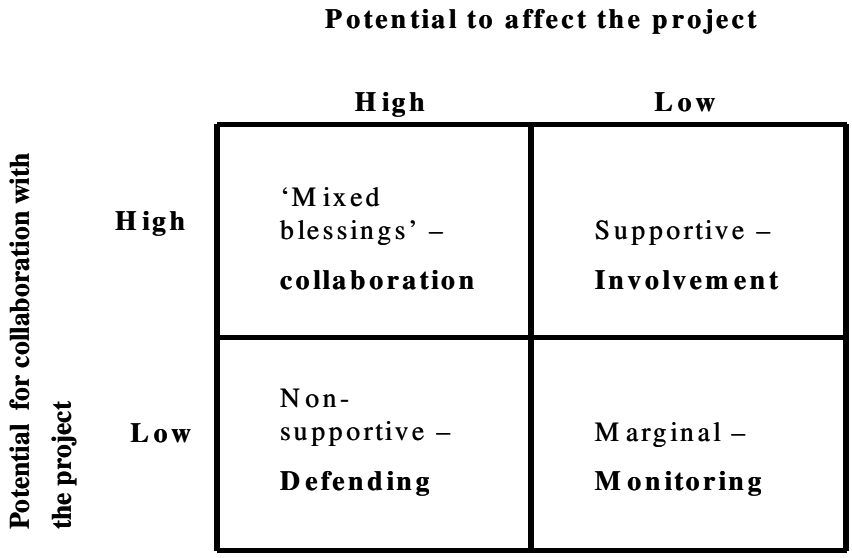
In comparison with the more formal and organisation-driven mechanisms of team formation, CoPs are formed voluntarily by individuals with a need and desire to share experiences, and a willingness to participate in activities that require trust, commitment and shared vision. CoPs can be both transactional and transformational. They are transactional through an assumption that each member can call for help when needed and get a response from members of that CoP, and transformational in the way they engender enthusiasm, involvement and to commitment to excellence. (Walker 2002)

Enabling technologies

Management of Explicit knowledge

Defined in Figure 3 as the continual review and revision of rules, policies and processes, the currency and availability of documentation is an essential aspect of ensuring that project managers and team members learn. Whether it is methodology, or procedure documents, or 'roadmaps' of how things are "done around here", it is essential that this information is readily available and always current. It is also important that 'Yellow Pages' or 'knowledge maps' of who knows what and how to find them are developed, accessible and maintained. According to Davenport and Prusak (1998 p75), personal knowledge transfer can be assisted through the use of 'knowledge maps' that identify people in the organisation who are sources of knowledge and expertise, through skill and competency databases which define the knowledge and competency for particular jobs and linking this information to training programs.

Tools and Methods



Project Stakeholder categories and their management strategies.

(Karlsen, J T *Project Stakeholder Management)*

Figure 4 - Stakeholder categories and their management strategies.

As stated earlier, managing a project successfully is not just about delivering on time, on budget, and with the required quality; it is about successfully managing all the project's 'directions of influence'. The qualities Bourne and Walker (2003) have termed the 'Third Dimension' are the qualities most difficult to acquire and most difficult to teach. To be successful, a project manager must be able to understand and work within the power and influence structures of the organization through tapping into the 'power lines'. A project manager can survive in the Third Dimension, and can deliver successful projects, but must know how to acquire and internalise the tacit knowledge that allows them to read situations, formulate a response based upon their knowledge of the 'who', the 'what' and the 'how', to master problematic situations effectively using both the skills and resources of people and administrative systems and processes to achieve this.

The project manager can however be assisted in this 'Third Dimension' by methods and tools that will enable identification and assessment of relative importance of the stakeholders impacting a project. Figure 4 shows one way to differentiate between stakeholders, based on Karlsen (2002)'s strategy for stakeholder identification and thence management.

Karlsen's (2002) methodology is extremely useful as a descriptive method of stakeholder categorisation coupled with strategies for managing each category. The methodology would be more powerful is applied to a practical visualisation tool such as the Stakeholder Circle.

The Stakeholder Circle

This is a visualisation tool – illustrated below in

Figure 5. It is supported by a methodology that uses data collection techniques to identify and prioritise project stakeholders. It will define stakeholders in the following categories:

- Senior management
- Clients, vendors, users
- Team members
- The project manager him/herself
- Other staff in the organisation.

It can also use other categorisations such as that of Karlsen 2002) or the power, legitimacy, urgency matrix of Mitchell, Agle and Wood (1997) for additional filtering.

Within these categories the identified individuals or groups will be weighted according to their power to influence the outcomes of the project and their proximity to the project – whether they are closely associated or relatively remote from the project. This data will produce an image like

that below. The benefit of this tool is the ease with which any stakeholder's influence on the project can be judged. It can be modified with changes to the stakeholder set, thus reflecting the dynamic nature of project relationships.(Weaver and Bourne 2002)

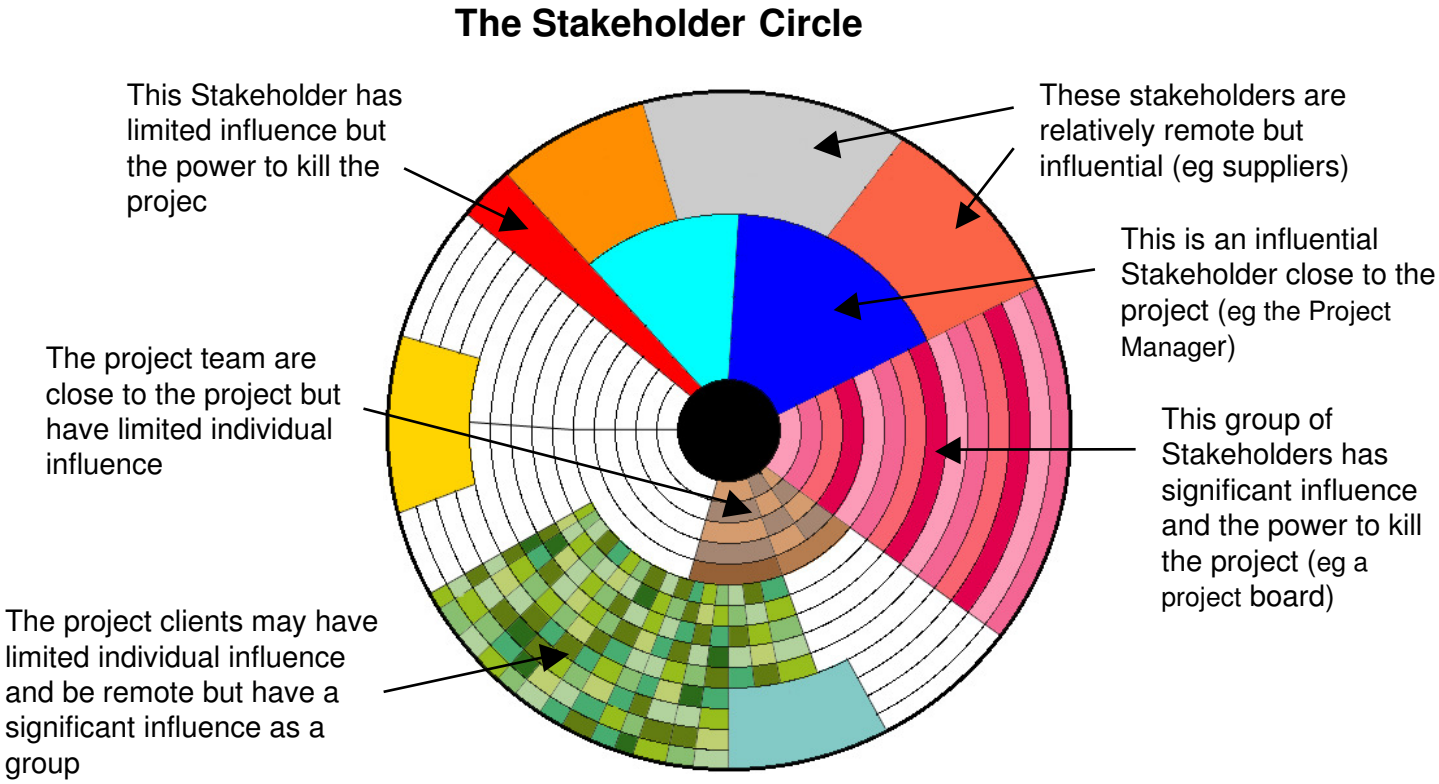


Figure 5 – The Stakeholder Circle (Weaver and Bourne 2002)

Conclusion

Nonaka, Toyama and Konno (2001) and Leonard-Barton (1998) state that successful KM is about culture. In describing the KM Relationship Cycle, the focus has been on the people and relationship aspects of organisations and their projects and the resultant data, information and knowledge. It is essential to ensure that technology is used to support the organisation's KM activities, rather than being an end in itself. The technology is meaningless without knowledge workers' value-add. While it is important to use tools to assist the project and the organisation deliver benefit, it must always be understood that without effective management of project and organisation relationships, KM will not be used effectively for an organisation's competitive advantage.

Through the research outlined in this proposal, ways to support the Project manager in the complex tasks of relationship management may become clearer. With the data and knowledge acquired through this research it should be possible to take the next research step – that of understanding and documenting the reciprocal relationships between project and organisational stakeholders and the effectiveness of an organisation's KM strategies.

The Research

There are potentially many areas around the idea of the KM Relationship Cycle that require further enquiry. I will focus on aspects of technology enablement for the initial research.

Summary of Research Project

This project will focus on support for project managers in building and maintaining relationships with project stakeholders. In much of the literature, stakeholder management is called a 'soft' skill. The starting point for this project is that stakeholder management is extremely difficult; the project manager and his/her project team members must identify, engage and sustain relationships with a diverse set of groups and individuals (including themselves) who can impact the project in many ways.

Organisations change constantly - a project's stakeholder set will change as Senior Managers change roles within the organisation, move into different roles or leave the organisations to take up roles in other organisations. For whatever reason, the ability of individual stakeholders to influence the project may increase or decrease. Most project management methodologies define ways to identify project stakeholders, and to base their communications strategies on this initial identification.

Many projects fail because stakeholders do not continue to support the vision or objectives of the project. In many cases this is because the team does not recognise changes in the relative power or position of key stakeholders and fails to make appropriate adjustments in their stakeholder management activities.

This project will investigate the effectiveness of a tool - the Stakeholder Circle - to provide support for the project manager and project team in managing the project's stakeholders. One assumption that is relevant to the KM Relationship Cycle is that the tool – Stakeholder Circle - will the provide the support for effective relationship management that is an essential starting point for reciprocal exchange of project and organisational data, information and knowledge between projects and the organisation.

A review of literature on stakeholders and relationships outside the scope of this paper provided the following threads:

- One of the reasons for project success or failure is the perception of the project stakeholder
- Project stakeholders have an interest in the outcomes of the project and will contribute to the success or failure of the project through action or inaction. Stakeholders include:
    - Senior management
    - Clients, vendors, users
    - Team members
    - The project manager him/herself
    - Other staff in the organisation

- Project Managers who are able and willing to manage organisational politics are more likely to have successful projects
- It is likely to be more effective if all team members participate in stakeholder management
- Stakeholder Management may be more effective if a visualisation tool is used to help all team members identify important stakeholders and understand each stakeholder's relevant significance to the project.
- A project's stakeholder set does not remain static throughout the project and needs to be identified, re-assessed, tracked and managed appropriately throughout the project lifecycle

In large organisations today, many projects have team members from a number of different organisations. Teams consist of staff, contractors, and staff of other organisations. Many team members:

- will only be part of the team as long as their specialist skills are required
- come from different organisational backgrounds and cultures
- may be geographically dispersed.

The outcomes are that a small core team will be responsible for co-ordinating the team and achieving project success.

The Project Manager is still accountable for successful delivery of the project; however, there are good reasons for project responsibilities to be shared:

- Reducing the PM's workload
- Apprenticeship/coaching of less experienced members through learning by doing
- Knowledge Management – supporting the spread of tacit knowledge through ensuring that more than one person 'knows'.

Project specialists are part of the team only as long as their expertise is needed, a small core team that remains throughout the lifecycle. This core team should share responsibility for Stakeholder Management: workload management, coaching, knowledge management, personality matching To facilitate this sharing it is essential to have a solid process and the support of a tool.

The visualisation tool, the Stakeholder Circle, charts all stakeholders according to his/her ability to influence the project's success or failure. It is a flexible device that can be adjusted to cater for changes in stakeholder membership and influence throughout the life of the project.

Through the research I plan to conduct, I intend to measure the effectiveness of the tool and its ability to support assessment and management of a project's stakeholders by the project manager and any of the team members assigned responsibility for stakeholder management.

Statement of Research Problem

Project managers are accountable for his/her project's success. One of the keys to project success is ensuring that all stakeholders are willing to support the project's vision and objectives throughout the project's life.

The main issues that a project manager will encounter in stakeholder management are that changes in personnel or organisation mean that the power and proximity of the individual stakeholder changes.

Current project management methodologies do not support the changing nature of stakeholder management. Current project stakeholder management and communication plans are static documents and cannot support project managers and their team members in this activity.

The question that this situation raises is how to provide better support for project stakeholder management.

This study will provide a methodology and visualisation tool to participant project managers and their teams to assess the impact of this additional support on improved stakeholder management for project success.

Research Question

To ascertain if building sustainable relationships for project success be improved through:

- use of a stakeholder relationship visualisation tool

Research Objectives

Main objective:

To identify ways to improve the building and maintaining of sustainable project relationships for project success.

Sub-objectives:

1. To determine the effectiveness of a visualisation tool for stakeholder management.

Rationale for the Research

The profession of Project Management will be advanced by establishing an effective and easily useable tool supported by commonly used methodology that provides the project manager and his/her team with the means to continuously track and manage the project's stakeholders.

Research Methods

Scope and Location

I intend to select five (5) projects representing a selection of industries and project types from the following sectors:

- Service Organisations using complex infrastructure including IT solutions as the main mechanism for delivery of that service (banks, telcos)
- Government (bureaucracy)
- Large traditional engineering (eg Ships, Bridges)

Using contacts through Project Management professional bodies, personal and business I will attempt to identify target companies who deliver projects that have:

- A three- to six-month lifecycle timeframe
- May operate in a virtual team format –
- Spatial (geographically dispersed)
- Specialisation – specialist are only part of the team for the input of their specialist advice
- Multi-cultured – different nationalities or organisations.
- Have a core team of 3 –5 members.

Ideally, the projects should be located in Melbourne. However, it is important to study the benefits of the tool within virtual teams, so I am prepared to be conduct some of the research through techniques that include telephone and email communication as well as face-to-face. This is not expected to be much of a constraint since I and the potential research participants should be accustomed to operating in this mode by the nature of our/their activities as members of virtual teams.

Approach - Methods selected and Sampling Strategy

The approach will be deductive – the theory behind the application of the tool and its benefit for project managers will be tested by observation and data collection. This is an exploratory study with the intention of gathering data for case studies, through an in-depth study focussing on a small number of projects that fit the criteria defined above *(purposive sampling with self-selection sampling*).

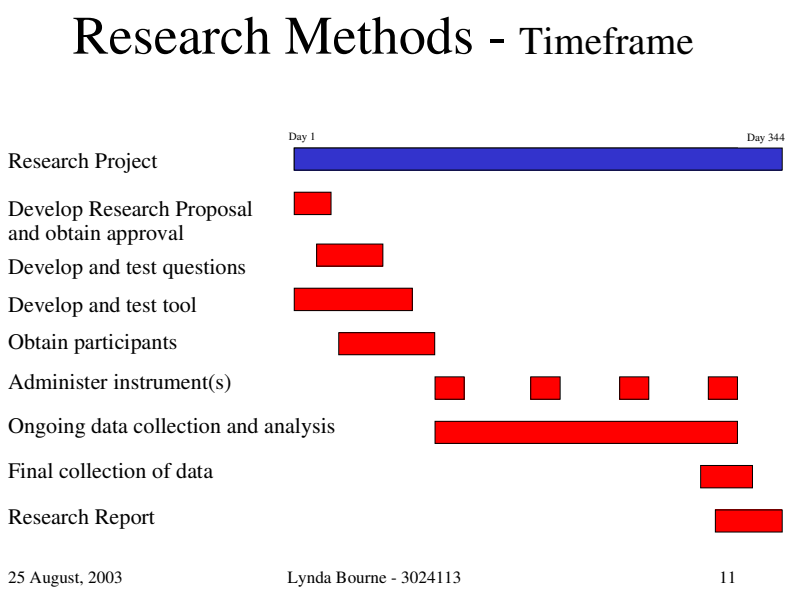
Other aspects of the approach are that the research will be:

- Longitudinal - projects must be around 6 months in length (see reference to McGrath above - (McGrath (1993, p287).)
- Structured observation
- use of self-completion diaries to track team members' issues with stakeholders and use of the tool and
- Group interviews of the project core team (users of the tool) conducted at:
- researcher's attendance at initial meetings for training in use of the tool,
- mid-way through the research to record mid-point results
- close of research.
- In-depth interviews at the beginning of the research (preferably in person) of the project managers of each project on:
- Themes of stakeholder management in projects – issues and successes
- Nature of the project manager's role and accountabilities
- Nature of the organisation

- Type of team and roles of team members
- In-depth interviews at the end with the project manager on:
- Effectiveness of the tool to support specific areas of stakeholder management
- Issues
- Ways to improve methodology and tool

Timeframe

Figure 6 - Research Timeline



Issues

Issues that need to be carefully addressed in this research are the ethical issues regarding Privacy, ownership of Intellectual Property and Confidentiality. These will be addressed in the ways defined by the RMIT processes.

One additional issue is that of continuous participation of the selected projects and their managers and team members. I am planning to address this issue in a number of ways:

- Regular communication through attendance at meetings
- Providing the team with a tool that is useful in helping to achieve project success, will reduce the instances of projects withdrawing from the research early
- Choosing 5 projects will provide some contingency – my estimate is that data from three projects is the absolute minimum required.

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