Building enterprise project management capability 4

Knowledge management and the project management community

by Professor J. Rodney Turner

During the early part of this series I explored how to improve organisation project management capability and next month I will look at individual project management competence in the *Project Manager Today* Annual Education and Training Sourcebook.
But there is something that underpins both organisational and individual capability: the knowledge management practices that underpin the development of both - Figure 1.
I consider:

- the project management community which supports the development of both
- repositories of knowledge, the basic form of knowledge management
- how to set a strategy for a knowledge management system for you organisation

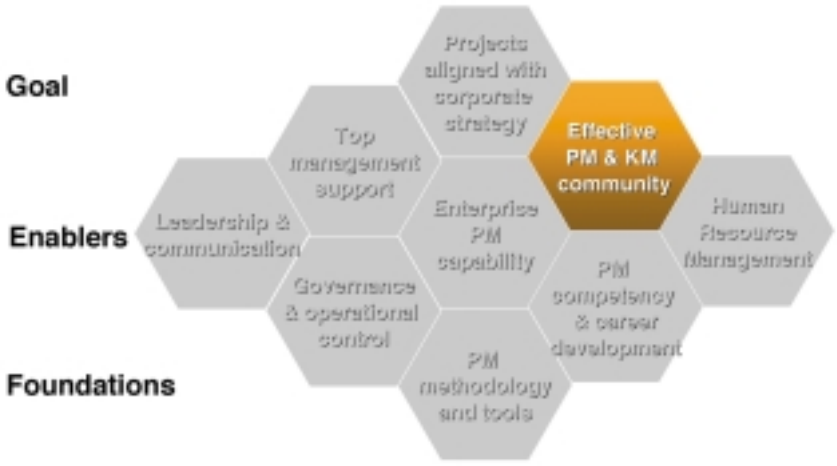

Figure 1: Knowledge management and the project management community

The project management community

I introduced the idea of the project management community in March as one of the practices for improving organisational project management maturity. It first appeared at maturity level 2, helping to support the competence development of individuals. Then in April and May we saw its role in organisational learning, helping to draw out the organisation's tacit knowledge and convert it into explicit knowledge, and then record it and use it to convert it back into tacit knowledge. Next month you will see its role in supporting the development of apprentice project managers.
It is clear that maintaining a healthy project management community is critical to the development of organisational and individual competence in project management, and thus to an organisation's success at managing its projects. There are several things an organisation can do to maintain a healthy project management community.

Conferences which encourage participative learning and networking
Many organisations with a healthy pm community have regular conferences or seminars at which project managers can meet their colleagues to learn new ideas, exchange experiences and network with others in the organisation. These usually take the form of a 2-3 day conference, or a seminar, lasting two to four hours, and are usually held once every three months. I have given presentations at such events and the following are examples:

- A Dutch bank hold an evening meeting once every three months for their project managers delivering information systems projects. Two speakers, one internal and one external, speak for 30 minutes, followed by questions. The formal part of the meeting is followed by a borrel, of drinks and sandwiches.
- A Dutch consultancy's project managers meet once every three months to hear an external speaker talking about a new area of project management, followed by dinner.
- The Dutch army's seminar lasted for a whole day, with internal and external speakers.
- An international telecom company, hold a quarterly conference lasting two days, with project managers attending from all over the world. The plenary sessions are external speakers or senior managers. But project managers have the opportunity to make presentations about their experiences in short, parallel sessions.
- Two separate global computer vendors hold similar conferences annually.

People working for smaller organisations do not have the opportunity to attend such events in their own organisation but they can get the same benefit from meetings of professional associations such as the Association for Project Management or the Project Management Institute.

Technological support and communications
Between quarterly meetings, project managers want to maintain contact with each other and an Intranet web page and discussion forum dedicated to the project management community can support that. This requires somebody to act as web host, but members of the pm community can take hosting in turns. The web page can also provide project managers with access to the repositories of data to be discussed next.

Leadership
The project management community will not take shape of its own accord. Nor will it provide mentoring to apprentice project managers on its own, nor monitor the career progression of project managers. Senior project management personnel must provide leadership by:

- guiding the establishment of the community
- assigning responsibility for organising events
- establishing the mentoring
- monitoring careers of project managers
- encouraging the active participation in the ommunity

Although senior project management personnel should provide this leadership, it is probably best that a middle-ranking project manager actually organises the meetings of

the community, as that encourages succession planning. Many writers have recognized senior management support as critical to developing organisational project management maturity, (see for instance Turner, Keegan and Crawford, 2003).

Strategic budget

None of this is free. It does not need to cost much, but it will cost something. The organisation will need to set aside money in it annual budget to fund quarterly meetings, technological support and communication. It also needs to accept the time commitment in terms of project managers attending events and senior project managers attending committee meetings and providing leadership. But the organisation has to balance that cost against the increase in organisational maturity and individual competence, and the improvement in project performance that come as a result. The project management community is required at the lowest levels of maturity. It is also needed to progress beyond those levels. If an organisation wants to progress, it needs to make a strategic commitment to the project management community by setting aside money and people's time.

Repositories of data

In order to manage knowledge and build up both explicit and implicit knowledge on how the organisation does projects, and to become better at managing projects, it is essential to have controlled repositories of data within the organisation.

Repositories of data are essential to basic knowledge management. There should be repositories of data for a number of different things, including:

- data on current projects and programmes
- data on contracts and procurement processes
- data on company processes
- data from project reviews (post-project and internal reviews and audits)
- data on lessons learned
- data on project personnel by grade, competence and experience
- external benchmark data on internal processes, tools and practices
- external benchmark data on individual projects

How many do you have in your organisation? Do you know where to find them?

Current projects, programmes and contracts

It is essential to have data about individual projects, including the plan and current progress data. Project data may also include material and design schedules, the risk and stakeholder registers, and issue lists.

It is becoming increasingly common to hold current project data on a central server where it is accessible to the entire project team via the internet or intranet.

Turner, Keegan and Crawford (2003) reported that Ericsson created a virtual project office coupled with a powerful search engine where all project plans were accessible to all project personnel within the company globally. Project personnel with a problem could interrogate the virtual project office to find another project with a similar problem and see what was done and what they could learn. However, the problem with this is that there is no guarantee of the quality of the data. Yesterday's hearsay becomes today's perceived wisdom.

Equally it is important to be able to track status of all current contracts and materials procurement processes.

Company processes

Maintaining company procedures is also a significant element of increasing maturity, along with the project management community. From maturity level two, an organisation needs to begin to maintain its internal company procedures for project management. In order for these to have any validity, the company needs data on how well they work. It needs to know what processes lead to superior performance, and what do not. Information on that will come from project reviews and lessons learnt. Many organisations try to reissue their project procedures at regular intervals.

In the days when procedures were issued in paper form, that could lead to the long gap between lessons being learnt and the procedures being reissued and used. In my article in April I suggested that gap could be as long as eight years. Now, with procedures held on the intranet, they can be patched much more frequently, perhaps once every three months. But that makes it all the more important that patches are based on a clear understanding of how the procedures work and how they need to be improved.

Project reviews and lessons learned

The importance of gathering data from project reviews and lessons learnt is quite clear. In IBM this is the responsibility of the quality department. In other organisations the duty is often undertaken by the project management community or project office.

But I have a cautionary tale about lessons learnt. They must be kept confidential to your organisation.

A firm of design and construction contractors in the heavy process industry won a bid for a job on the basis of their lessons learned. They promised to avoid previous errors. However, when the job got into difficulty, the client was able to show that was because previous errors had been repeated, and that became the subject of a claim by the client. The lessons learned are there to improve your organisations implicit and explicit knowledge. Competitive advantage comes from your resulting superior performance, not from ownership of the database.

Project personnel by grade, competence and experience

Maintaining data on the competence and experience of project personnel is something that is not well done in many organisations.

Projects are not resourced by assigning the best people, but by who happens to be available at the time, or worse, by people the project manager has worked with in the past and can get along with.

When I worked with Coopers and Lybrand in the mid-1980s, a director tried to develop a resource assignment database that would keep track of the commitment of staff, and their coming availability. The idea was to match people's competence and availability to new assignments. However, it never worked because people far preferred using informal contacts. Later, in the early 1990s I worked with IBM on the development of such a system as part of a software suite they were developing.

Benchmark data on processes and projects

I mentioned above the need to gather lessons learned data from project reviews. That is important for improving the company project management procedures. However, they can become very introspective.

It is also important to benchmark the performance of your organisation against others. It can be difficult to benchmark your performance against your direct competitors because they may try to keep their performance confidential.

However, it is sometimes possible. The European Construction Institute and Construction Industry Institute have together developed a benchmarking database whereby companies working on the design and construction of heavy process plant can benchmark their performance against industry norms. You cannot compare your performance to another named company, but you can compare your performance to the cumulative data in the system, to find how you compare to the mean and standard deviation, and which quartile your performance lies in. It is also possible using the system to work out which elements of project management actually contribute to success and which do not, that is what are the real critical success factors and what are phantom ones.

The Project Management Group of the University of Economics and Business Administration in Vienna has developed qualitative benchmarking data that organisations can use to compare their performance to industry norms and best practice. Again you cannot compare your performance to another organisation, but you can compare your performance to industry

norms. The Organisational Project Management Maturity Model (OPM3) developed by the Project Management Institute also requires the users to complete questionnaires which provide effective benchmarking.

Other organisations form benchmarking networks with companies from other industries. A consultancy called Human Systems runs several networks in Britain, Australia and the Pacific Rim. In these networks organisations can compare their performance to companies from other industries, that is to generic best practice, but not industry-specific best practice.

A strategy for Knowledge Management

What I have just described are fairly basic knowledge management processes for a project-based organisation. Most organisations should be doing most of these things. It is possible to develop more sophisticated knowledge management systems, tailoring the system to your specific requirements. I know of research being done into knowledge management in a project context at both Henley Management College and Loughborough University in the UK.

So how do you establish a knowledge management system for you organisation? The team at Loughborough University suggests a four-step process for developing a strategy for your knowledge management system (Kamara et al, 2002):

1. define the knowledge management problem
2. identify the 'to-be' solution
3. identify critical migration paths
4. select appropriate knowledge management processes

Define the knowledge management problem: You need first to identify the needs of the knowledge management system. This requires you to understand the business context and the business drivers for your projects, and the key performance indicators and critical success factors that influence their success. From an understanding of these you can identify the characteristics of the knowledge to be managed and the users and sources of the knowledge, and any enablers or inhibitors they may face. The output of this step is a definition of the knowledge management problem and a set of issues emanating from this problem.

Identify the 'to-be' solution: Now you perform a gap analysis, identifying the gap between where you are and where you want to be in terms of the performance of your projects.

You need to identify the characteristics of you current knowledge and knowledge management system, and the nature of the system you require to provide the knowledge you need to achieve your desired performance levels. This requires an understanding of your business context, business drivers, key performance indicators and critical success factors.

I said above you need to understand the key factors that influence the success of your projects, and those which do not.

You can see that you need a knowledge management system to identify your critical success factors, but they in turn will influence its contents. The development of a knowledge system is an iterative process. A clear set of knowledge requirements are thus identified and prioritized. The output of this step is a definition of the components of the required knowledge management system.

Identify critical migration paths: Now you have to determine how to get from where you are to where you want to be. For each problem you need to identify a migration path to take you from where you are to where you want to be, and so develop an overall map for the knowledge management system to be developed.

Select appropriate knowledge management processes: You can then chose appropriate knowledge management processes to achieve the desired results for each business driver, key performance indicator and critical success factor. For each driver you need to define processes for:

1. Knowledge generation: where knowledge will come from, and how it will be captured and developed
2. Knowledge propagation: how data will be converted to information, and information to knowledge and knowledge to wisdom
3. Knowledge transfer: how knowledge will be transferred from where it is generated to where it needs to be used. In my April article I said this is a particular problem in project based organisations because knowledge has to be transferred from the project where it is generated to the next project where it will be used, without loss and without significant delay
4. Knowledge location and access: the knowledge has to be stored somewhere, in repositories of knowledge and wisdom, and made available to those who need to use it.
5. Knowledge maintenance and modification: it must be clearly defined who can add data and who can change it. If anybody can add data, it will quickly become corrupt, with large amounts of garbage. Ericsson felt that with their search engine project it was possible to allow all project managers to add data to their virtual project office and all to access it. If you want to adopt that approach, perhaps you need two elements to your knowledge management system:

- a virtual project office where project managers maintain their project plans, records and control data, accessible by all through a search engine. People using data from this part of the system can take it for what it is worth
- a knowledge and wisdom centre where tested and selected knowledge is stored. Knowledge in this part has been shown to be sound.

References

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