

Penoyre & Prasad

■ Knowledge Bank



After a more than a decade of slow and steady growth since its foundation in 1988 Penoyre & Prasad has burgeoned in the past few years: a team of 35 in 2001 has almost doubled to over 60 today. The partners — now 9 instead of 2 — have been determined to retain the practice’s ethos and its approach to design, but they have had to re-think the management systems radically.

The re-think included the practice’s attitude to knowledge. It was clear that staff could no longer rely on osmosis to learn how to do things, and traditional knowledge resources — a library, subscriptions to information services such as Barbour Index, a hard-copy ‘book of details’ and a variety of largely unconnected databases and electronic document files — were no longer enough. The Practice Plan of March 2003 said:

“It is now widely understood that in any organisation the quality of flow and transfer of knowledge in its many forms is a key element of high performance. Staff, associates and partners in the practice have identified a weakness in this area. We know there is a lot of knowledge locked up in individuals which if more widely shared could dramatically improve the practice’s capability. The growth and management of knowledge in the office is our best counter to the threat from our competitors”.

Starting points

By the time *Spreading the Word* started later in 2003, P&P had already taken several new knowledge initiatives. These included regular lunchtime CPD sessions on Friday lunchtimes — “sometimes wonderful, often satisfactory and very occasionally awful” — and ‘management groups’ of enthusiasts, each headed by an associate, with briefs to take the lead in specific areas such as R&D, legal & professional issues, CPD, IT, and marketing. With no time budgets the groups only met irregularly, but they gradually worked through their self-generated task lists and got the systems working better.

The R&D group’s work quickly began to centre on knowledge management (indeed, it was later renamed the Knowledge Management group) and it took two further initiatives: focusing the Friday lunchtime sessions more clearly on learning and knowledge sharing, and creating a simple ‘R&D Database’ — the practice’s first attempt at a **knowledge bank**.

Some of the Friday sessions were used to analyse all the major elements of a building, with P&P’s own completed buildings as examples. These generated a lot of interest: staff enjoyed them and found them useful, and the written-up notes were expected to become a valuable resource. In the event, though, the

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P&P Practice Plan 2003

Practice Profile

Staff: 62

Office: London

Projects: Primarily in the health, education and arts sectors

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sessions stopped after one tour through the principal building elements, and the notes languished in a file, largely unread.

The R&D Database disappointed, too. It was intended to mimic the learning which used to happen naturally when experienced staff overheard telephone conversations or chats by the photo-copier, and offered advice. If interesting nuggets of knowledge gained from project work or research could be captured, the database could become the first port of call for advice and staff would no longer need to jump up and ask everyone within earshot how to detail a roof membrane abutment. But it did not happen. Technically the database worked well, but despite two presentations to the whole office and a publicity drive only 35 entries were made in the first 10 months, most by the database's developer, and far too few to attract significant use.

The experience with the new-format CPD sessions and the R&D database — together with input from Spreading the Word — convinced the R&D group that there was little value in creating small, isolated caches of codified knowledge: knowledge needed to be brought together in one resource where it would be readily accessible and have the critical mass needed to make it self-evidently useful, and keep it in constant use. Thinking about knowledge management needed to become much more joined-up.

The R&D Database

It was not clear what was wrong with the R&D database. The developer, an enthusiastic young architect, had little experience of IT and none of knowledge management, but he had set about the task sensibly. With the R&D group, he formulated a series of basic design principles. The database should:

- be designed principally for recording technical knowledge which is easily summarised
- treat knowledge as the distillation of a conversation

- record knowledge in distinct, concise snippets, each written and owned by a single author
- be simple and stand-alone, operating independently of other office systems.

A review of software options led to the choice of FileMaker Pro software, and a single, simple form was developed for entering, viewing and printing records. This included fields for:

- CI/SfB code and label
- a title and subtitle
- a 'commentary' of up to 300 words — the main content
- 'supporting information' including material, product, manufacturer, supplier, contractor, project reference, project name, author's name and date
- up to three contacts and three document references.

User survey

The failure of the Database led to some soul-searching: the balance between effort and reward was clearly unattractive to potential users, but why? To gain some insight into this, the entire staff were surveyed by questionnaire. About half responded, and the feedback was forthright and revealing. Staff felt that:

- conversation was still more useful than electronic records
- the format was dull and too geared to technical knowledge. The system needed to accommodate other types of knowledge, such as images — after all, it was intended for architects!
- the status of records was unclear — were they simply individual experience or office practice?
- content needed to be more selective



- the system needed more support from senior staff
- it was too easily forgotten; people needed constant reminders that it existed
- there should be a time budget for recording knowledge
- people should be asked to contribute to specific topics
- the database structure was unclear
- access needed to be faster and easier.

Some of the reactions were consequential rather than causal — the database would not have been forgettable if it had been really useful, for example — but overall the results helped show what needed to change. At about the same time, a Spreading the Word workshop provided some interesting comparisons with other practices' approaches to

knowledge bases. After considering all this new information, the R&D group decided to stay with the familiar technology of FileMaker Pro, but to use it in a more sophisticated way to create a more flexible, user-friendly and attractive system, and back it with more resources and sustained encouragement to use it.

The Knowledge Bank

In two months, the database was completely re-designed. Thanks to the use of simple, familiar software, the cost was modest: Penoyre & Prasad estimate that developing both the original R&D Database *and* the Knowledge Bank took only about 19 person days. The new 'Knowledge Bank' could accommodate a spectrum of design knowledge, and link to images, drawings, documents, videos, and external web sites. Its potential was clear — but it still needed content.

One of the key lessons from the R&D Database was that contributions are not

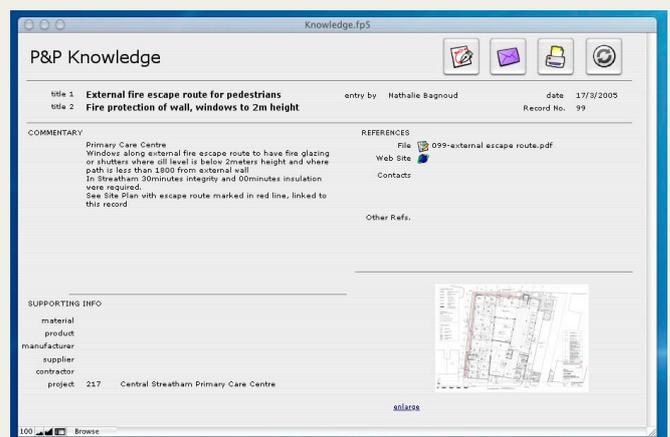
Knowledge Bank home page



The top part of the screen contains a hierarchical topic directory and buttons to open a search dialogue, a data entry form, and show all records.

A scrollable hit list of records on a selected topic (here 'Design Knowledge - Sustainability'), found by a word search, or in the whole database appears below. Items in the list have clickable links to the individual records.

... and a typical record



Individual records include most of the same fields as the original R&D Database — a title and sub-title, contributor name, date, commentary (the main content), and supporting information including material, product, manufacturer, supplier, contractor and project. New additions include fields for links to separate files, web sites, contacts and other references, and illustrations.

naturally forthcoming — people are variously too busy to contribute, too shy, feel they have nothing to offer, or simply lack clear motivation. The R&D group decided that content for the Knowledge Bank must be explicitly elicited, at least until it reached critical mass. That is a common experience with knowledge bases: people will only put knowledge *in* if they feel they are being repaid by the knowledge they get *out*, or if they get some other psychological reward such as recognition. To encourage contributions and a sense of ownership of the system, Penoyre & Prasad conducted a programme of one-to-one interviews. People were asked to make at least one contribution on:

- an aspect of design, construction or practice, such as natural ventilation in schools or stabilised soil blocks.
- a finding from research in the office, for example on non-slip floor finishes in health care facilities
- a finding from experience on site, such as how to achieve a good finish to fair-faced concrete, or
- a reference to a particularly useful external source of information, knowledge or guidance.

It was stressed that contributors did not need to be experts, but simply have some knowledge that colleagues were likely to find useful.

A second user survey, 6 weeks after the formal launch of the Knowledge Bank, has shown that people find the new structure and interface much clearer, the system easy to use, and the content interesting. They are keen to hear by email when new items are added, and they would like sector teams to contribute knowledge of their particular fields, and closer integration between the Knowledge Bank and other office systems and culture.

Observation confirms the positive message from the survey. Many more

people are searching the Knowledge Bank and contacting contributors to ask for further advice. They are quoting Knowledge Bank material at office meetings. And they have even been overheard saying “you should put that in the Knowledge Bank”!

Lessons learned

The evolution from the first ideas to today’s Knowledge Bank has given Penoyre & Prasad many insights into knowledge management. Lessons learned include:

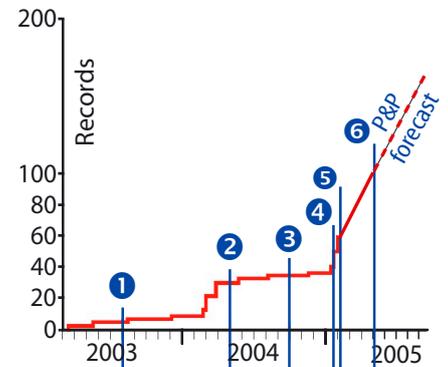
- the importance of terminology: people respond better, for example, to the idea of ‘knowledge sharing’ than to ‘knowledge management’
- a knowledge base needs a designated ‘editor’, and his (or her) role is vital
- at the same time, people must be convinced that everyone is free to contribute!
- visible links between knowledge sources and activities — knowledge bases, office meetings, seminars and so on — are vital.

Penoyre & Prasad intend to continue backing and developing their Knowledge Bank, and to start other knowledge initiatives to complement it.

Amongst other things, they plan to start a programme of Hindsight reviews, digitise their ‘book of details’, add a skills register of everyone in the office to the Knowledge Bank, and keep all the knowledge sharing activities in people’s minds with monthly bulletins.

They understand very well now that knowledge management is not a simple matter of buying software or building a database: knowledge initiatives need strong support from the top, serious and informed thinking, close attention to human factors, persistence, and, from time to time, critical re-assessment. They are convinced the investment will pay off. ■

Growth of a knowledge base



Records:

1	Launch of R&D Database	4
2	Start of publicity drive	30
3	Results from user survey	35
4	Start of interviews	40
5	Launch of Knowledge Bank	58
6	End of interviews	101

