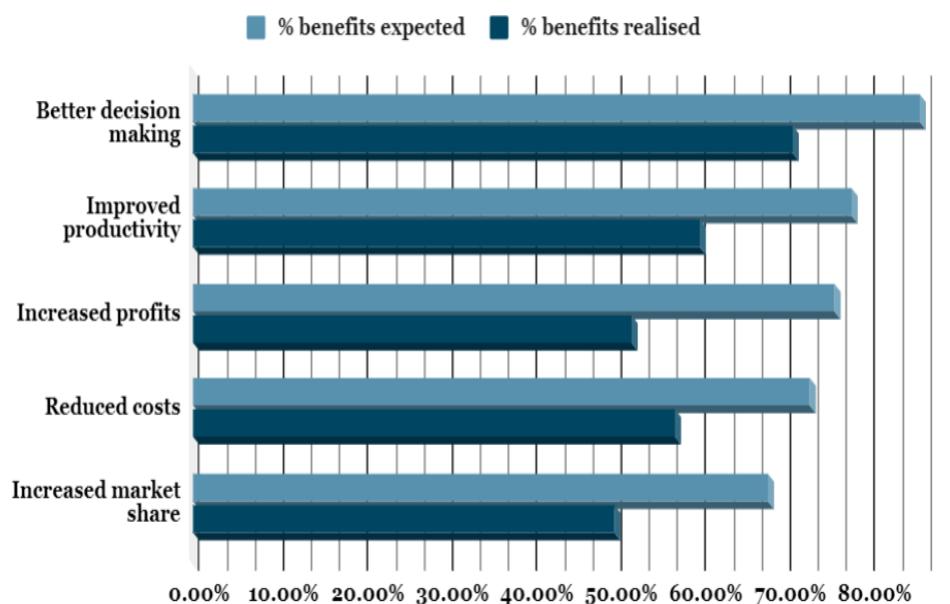




Knowledge Management within Project-Based Organisations

In an industry as competitive as construction, Project-Based-Organisations (PBOs) have to use every method available to gain an advantage over others. One such method is the use of Knowledge Management (KM). This makes sure that the right knowledge can reach the intended persons at the right time and provides organisations with benefits ranging from operational efficiencies to increased profits, as seen in Figure 1¹.

Figure 1



¹ http://www.providersedge.com/docs/km_articles/kpmg_km_research_report_2000.pdf

According to the British Standards Institution (BSI), flaws in the UK construction industry cost at least £20 billion annually to fix or rebuild². Ineffective information use and lack of knowledge transfer are the main causes behind this. KM is critical to a PBOs ability to enhance results and lower the risk of failure.

PBOs differ from non-PBOs as the projects they undertake are unique, complex and filled with uncertainties. These distinctions are reflected in their knowledge transfer requirements. One such way is the retention of knowledge. Experienced personnel will leave after a project is completed to return to their firms and the knowledge they possess may be lost. In a non-PBO, there is a lower rate of attrition meaning knowledge is maintained and shared for longer.

Types of Knowledge

Explicit Knowledge: Simple to record, store, and share. It includes manuals, guides, databases, videos and is effective for training new employees.

Tacit Knowledge: Knowledge acquired through experience that is intuitively understood, for example Leadership Skills. This makes it challenging to be codified.

Implicit Knowledge: Similar to tacit, it refers to skills gained through experience. It typically exists in processes and while it may not be documented, it can be articulated.

² <https://www.bsigroup.com/globalassets/documents/about-bsi/financial-performance/2021/the-british-standards-institution-annual-report-and-financial-statements-2020.pdf>

The Knowledge Management Process

1. *Creation:* At this step, a PBO would find and catalogue any new or existing knowledge that is advantageous towards the strategy, operations and development of the organisation.
2. *Storage:* During this stage, a knowledge management system is used to host and sort knowledge so it can be accessed when needed.
3. *Sharing:* Making the indexed knowledge available to those who seek it and the processes in which they can share their own knowledge. Team leaders should encourage and incentivise knowledge exchange on a regular basis.

At various stages of a project, managers must address questions about obtaining and maintaining knowledge³.

How is communication conducted among various members of the project team?

Organisational communication can be split into structured vs. unstructured communication. An example of a structured form would be the use of Gantt charts. This will be sent across various teams who are then able to communicate progress across the organisation. Unstructured forms include meetings that take place to brainstorm or for question and feedback purposes.

What types of knowledge from a project can be forwarded to others?

³ Disterer, G. (2002). *Management of project knowledge and experiences*. *Journal of Knowledge Management*, 6(5), 512–520.

If KM initiatives are followed throughout a project, there will be a wealth of knowledge that can be forwarded to others. Some examples include knowledge of the best tools to use, techniques to solve problems and quality control findings. This gained experience should be shared and documented in a knowledge bank in order to benefit future projects where team members may come across the same problem types.

What can we improve in the next project?

A post-project review should take place, with an evaluation to assess the success and efficiency of the project, followed by Lessons Learned reports, whose aim is to identify any improvements to be made. These may include:

- Improved safety methods
- Better communication between teams
- Improved planning
- Mistakes that can be avoided
- Effective strategies to increase efficiency

What are the particular complications during a project that can inhibit knowledge collection, and how can these be managed?

Tacit knowledge takes up a large portion of knowledge within construction. This is gained over years of experience and tends to lead to better job opportunities for the person who holds it. In an already competitive landscape, this knowledge is often being kept secret with a fear of affecting one's position if shared. Refusal to share is a complication that an incentive system can manage



Knowledge Management Tools

Knowledge Management tools aid in the exchange of knowledge within an organisation. They act as facilitators, ensuring that information flows are managed to optimise the value and use of knowledge within an organisation. Intranets and content management systems, for example, guarantee that all parties have access to the vital information they require to function at their best.

Document Management System (DMS): These contain digital documents, such as PDFs, word documents and pictures. It forms a centralised storage system that organisation members can access. These files, being digital, allow staff a simpler method of retrieving vital information when needed. It will enhance employee workflows with benefits, including:

- Drawing and schematics being protected from physical damage/the risk of being lost
- Accessible from multiple devices in different locations simultaneously
- Improved information flows between different teams

Content Management Systems (CMS): These are web-based programs that allow users to modify and publish content. Often mistaken with document management systems, CMSs handle other media formats, including audio and video. This provides a PBO with a system that allows easier access to important meetings and videos of on-site issues.

Intranets: These are private networks that operate entirely within an organisation, often housing the DMS and CMS. They act as a hub to communicate, store information and provide tools to enhance work performance. Due to cloud hosting, internal teams and 3rd parties can stay connected throughout a project whilst being distant geographically. It enhances collaboration and works towards the goal of knowledge sharing and management.



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