

Advances in Project Management Series¹

Through the knowledge lens: KM adventures in project-land²

By Judy Payne, Eileen J. Roden, Steve Simister

Knowledge management (KM) is a holistic, cross-functional approach focused on ways organisations create and use knowledge to improve outcomes (Association for Project Management 2019; BSI 2018). KM has been around as a discipline and organisational practice since the early 1990s but is still a relatively new concept in project environments. Although KM is widely practised in project work, managers don't always recognise the knowledge aspects of their work and tend to treat KM as a series of discrete activities rather than as a way of making project work produce better outcomes in different contexts. What is labelled 'KM' is often not KM at all – and the real KM is hidden.

Does this matter? We think it does. KM adds value and can contribute significantly to project, programme and portfolio success – and project management is missing out on it. KM experience and thinking from beyond the project management world can change this, but only if managers recognise the knowledge and KM aspects of their work.

The ideas in this article are based on a new book *Managing knowledge in project environments* (Payne, Roden and Simister, 2019), which looks at project work through a knowledge lens and explores how knowledge contributes to success. The book argues that actively considering and managing the knowledge aspects of project work leads to better organisational outcomes – and provides a framework for understanding and improving KM in different organisational contexts. The article briefly introduces the framework of KM principles, KM context and KM scope; then applies the knowledge lens to take a deeper look at the interplay between three of the context factors: strategic KM purpose, project delivery method and project type.

1. KM principles, the KM context and KM scope

1.1 KM principles

Seven KM principles capture the *why* of managing knowledge: the fundamentals of KM that apply to KM the world over – not just to KM in project environments. The principles and

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underlying fundamentals are summarised in Table 1 and covered in more detail in *Managing knowledge in project environments* (Payne, Roden and Simister, 2019).

Table 1: KM principles and underlying KM fundamentals

KM PRINCIPLE	UNDERLYING KM FUNDAMENTALS
<p>Principle #1 <i>Be clear about what you want to achieve with KM</i></p>	<ul style="list-style-type: none"> • Knowledge is intangible and has no inherent value • KM adds value by making sure knowledge contributes to what matters to organisations and projects • Two <i>Strategic KM purposes</i> reflect the way knowledge adds value: the use of existing knowledge and the creation of new knowledge
<p>Principle #2 <i>Develop working definitions of knowledge and KM</i></p>	<ul style="list-style-type: none"> • There are no universally accepted definitions of knowledge or KM • Three perspectives on knowledge: ‘thing’, ‘knowing’ and ‘doing’ thinking lead to different KM approaches and practices • Knowledge can be explicit or tacit and individual or collective • ‘Thing’ thinking is essentially information management (IM)
<p>Principle #3 <i>Be clear about the difference between KM and IM</i></p>	<ul style="list-style-type: none"> • KM is more than IM • Knowledge can’t be shared simply by transmitting it • Shared understanding is reached through interaction between people • IM is used in KM but it isn’t the same thing • Knowledge should flow, not be collected as stocks of information
<p>Principle #4 <i>Create different working environments for different kinds of knowledge work</i></p>	<ul style="list-style-type: none"> • Knowledge can’t be managed directly and people can’t be forced to do KM, so KM in practice focuses on creating working environments that motivate people to engage in KM • KM tools and techniques won’t work unless people are motivated to engage in KM • The ideal environments for using existing knowledge and creating new knowledge are different • All organisations and projects need to use existing knowledge and create new knowledge • The two kinds of knowledge work and their supporting environments are often separated to avoid sending mixed messages to workers

<p>Principle #5 <i>Focus on the big KM picture rather than the detailed KM tools and techniques</i></p>	<ul style="list-style-type: none"> • KM is everyone’s responsibility, but requires leadership • Some knowledge needs to be shared, some needs to be protected • Knowledge is both sticky and leaky • KM can be formal or informal • In the flow KM is better than above the flow KM • Demand driven KM is more effective than supply driven KM, but less efficient in the short term • Technology is more than an enabler of KM – it enhances KM • Rich, face-to-face communication is not always the best
<p>Principle #6 <i>Experiment, use feedback and adapt</i></p>	<ul style="list-style-type: none"> • KM is complex • Managing knowledge is iterative, evolutionary and adaptive • Different levels of learning support KM in different situations
<p>Principle #7 <i>Beware of elephant traps</i></p>	<ul style="list-style-type: none"> • Common KM pitfalls are related to Principles #1 to #6 • Disciplines related to KM and alternative names for KM can cause confusion

1.2 The KM context

Different kinds of knowledge (and therefore project) work require different working environments and different KM activities (Principle #4). The working environment is heavily influenced by the way projects are managed, the way knowledge is managed, and, to some extent, by the KM activities themselves. We call these overlapping influences the *KM context* (see Exhibit 1) and further define it using clusters of context factors: things that make a difference to the success of KM.

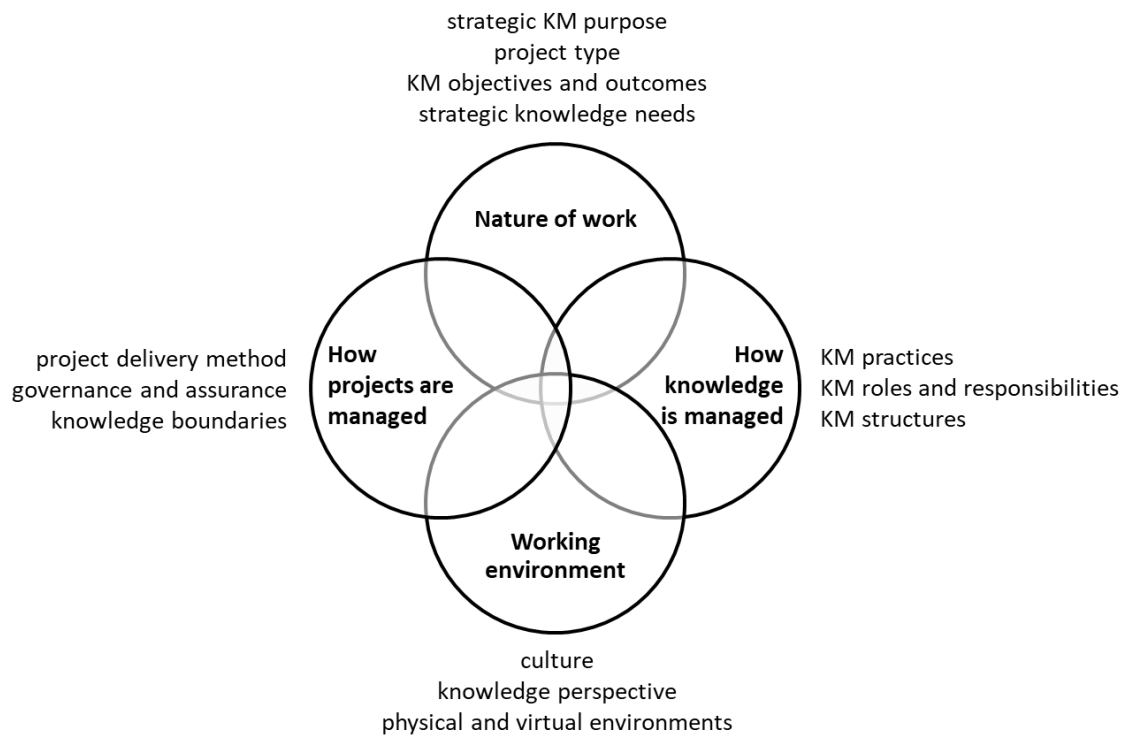


Exhibit 1: The KM context: clusters and factors. Source: Authors.

The context factors and clusters are the *how* of managing knowledge in project environments: the basis of a KM strategy for project work. The ‘how’ focuses on project management decisions about the nature of the work and the supporting environment (Principle #4) and KM decisions such as the characteristics of KM practices (Principle #5).

The common thread running between the clusters is people. Decisions made in all four clusters affect the motivation and ability of people to work effectively. The success of KM in project environments depends on alignment between the four clusters. The individual context factors are the levers a KM actor can pull to create or improve alignment and increase the chances of KM contributing to project success. The individual context factors are summarised in Table 2.

Table 2: Summary of context factors

	CONTEXT FACTOR	DESCRIPTION	MOST USEFUL AT
NATURE OF WORK	Strategic KM purpose	How KM adds value: using existing knowledge or creating new knowledge	All levels
	Project type	Classification of projects or project stages based on how much is known about what to aim for and how to get there	Project level and above
	KM objectives and outcomes	What you are trying to achieve with KM	All levels
	Strategic knowledge needs	Organisational objectives and targets related to knowledge	Organisational and portfolio levels
HOW PROJECTS ARE MANAGED	Project delivery method	The way a project is delivered: linear, iterative or hybrid project lifecycles	<ul style="list-style-type: none"> Project level and above
	Governance and assurance	The degree to which standard ways of working empower or constrain what happens in practice	Project level and above
	Knowledge boundaries	Administrative, professional, social and political barriers that prevent the flow of knowledge	All levels
WORKING ENVIRONMENT	Culture	The nature of working relationships and the value placed on knowledge and learning	All levels
	Knowledge perspective	The perspective on knowledge and KM: thing, knowing or doing thinking	All levels
	Physical and virtual environments	The physical and virtual working environments and how they are used	All levels
HOW KNOWLEDGE IS MANAGED	KM practices	The high level characteristics of the way people create, share and use knowledge	All levels
	KM roles and responsibilities	Leadership, consultants and PMOS	Project level and above
	KM structures	Tangible elements of KM: definitions, standard terminology, policies, accreditation against standards	Organisational and portfolio levels

The factors, clusters and the way they work together can be used to understand an existing situation, to improve KM in existing projects and programmes, as an input to planning new projects and programmes and to manage knowledge across a whole portfolio.

Ignoring KM for a moment, *how projects are managed* and the *working environment* should match the *nature of the work* being carried out.

This principle is already built into project management practices and is common sense to project managers. You wouldn't choose an iterative, emergent delivery method for a project to build six identical houses to a standard design: this would be poor alignment between the way projects are managed and the nature of work. In a session to brainstorm options for a project, you wouldn't lock stakeholders in a dark basement and stand over them with a whip: this would be poor alignment between the nature of work and the working environment.

Including *how knowledge is managed* is an extension of this thinking that focuses attention on the knowledge dimension of project management. Considering how knowledge is managed is a way of making better project management decisions, not an additional task that makes project management decisions more difficult.

1.3 KM scope

KM can be applied at any level in a project environment: to an activity within a project, to a project stage or programme phase, to a whole project or programme, a portfolio, a whole organisation, or between two or more organisations.

The KM actor needs to define the KM scope. Although KM scope describes the level at which KM is applied, it is not always the level at which the KM actor is working. What is included in the KM scope is a judgement based on the KM actor's project management role, sphere of interest and sphere of influence. The three do not necessarily coincide.

The KM scope should be within the sphere of influence of the KM actor. If the KM actor's sphere of interest is wider than the actor's sphere of influence, there might be opportunities to widen the sphere of influence through relationships with influential stakeholders. Sometimes there will be little choice: a project team member might have to take activity-level KM opportunities when they arise; a projects director might have already identified the need to introduce KM across a whole portfolio.

Note that KM scope is different from the starting point for KM. Introduction of portfolio-wide KM can start with a single project or programme, but will be approached from a wider perspective than KM in a single project or programme.

The KM principles apply whether you are working on KM in a single project or across multiple organisations, but the way the principles are applied and the way the context factors are used changes as the scope becomes more strategic.

Different context factors and clusters are useful at different levels. At the activity level in an existing project, it is enough to identify the desired KM outcome, choose a KM activity that will lead to the desired outcome, and create a local working environment that supports the activity. Some iteration will be needed between these three elements. It is not necessary to create KM roles and responsibilities or KM structures such as definitions of knowledge and KM – but the KM actor does need an understanding of the perspective on knowledge that will lead to the desired outcome. At the portfolio level, the KM actor needs to consider KM roles and responsibilities and KM structures, and will be more concerned with providing guidance on how to identify activity-level KM outcomes than with doing it themselves.

2. Context factor: Strategic KM purpose

Strategic KM purpose describes how KM adds value by influencing the way existing knowledge is used and the way new knowledge is created. Strategic KM purpose matters because it defines the nature of the work that the rest of the KM context (how projects are managed, how knowledge is managed and the working environment) has to support.

The strategic KM purpose of a single activity within a project is usually obvious. An activity to generate options for a project is creating new knowledge; an activity to build a pre-fabricated structure is using existing knowledge. Sometimes there is a choice: the layout of furniture and equipment in an office can be produced by starting from scratch or by copying the layout from another floor.

At the project level, things become more complicated. Almost all projects create new knowledge *and* use existing knowledge. New knowledge is usually needed to understand what the project is going to achieve and how it will be managed. When the project outputs are delivered, a different kind of knowledge ('doing' knowledge) has to be created by users of the outputs, so that they understand how to use them.

In a single project, KM actors therefore need to decide how to create supporting contexts for both kinds of knowledge work. One way of doing this is to adopt a separation strategy (Principle #4) in which the creation of new knowledge is separated from the use of existing knowledge through structure or through time. Dividing the project into stages in a linear, sequential lifecycle (often referred to as a waterfall approach) is a separation strategy. The knowledge about what the project is going to achieve and how it is to be managed is created through development of the business case and project management plan, and the execution stage involves using this knowledge by following the plan. When the outputs are delivered, change managers and users create knowledge of how to use them in a benefits realisation stage.

If the knowledge about what the project is going to achieve cannot be worked through at the start of a project, for example because the organisation's external environment is changing rapidly, an alternative is to allow the missing knowledge to emerge during the project. This might lead to an iterative approach (often referred to as agile) which cycles rapidly between creating

new knowledge about requirements and using this knowledge to deliver outputs. Users and other stakeholders are typically much more involved throughout iterative projects, so are able to create the knowledge needed to use the outputs as they emerge. An iterative, emergent approach is the alternative to a separation strategy: knowledge is created and used almost simultaneously all through the project.

2.1 Project Work as a Separation Strategy

Project working is itself a way of separating activities through structure. An organisation's portfolio is separate from business as usual, and projects and programmes are separate from each other.

The existence of projects and programmes is an opportunity to create working environments that are different from business as usual – an opportunity to apply a different set of rules and develop different behavioural norms. Unfortunately, this doesn't always happen. A business as usual culture that works for using existing knowledge might spill over into innovation projects and programmes, and policies designed for efficiency might be applied to creative projects.

Projects, programmes and business as usual should have different working environments *by design*. This is an important KM consideration for KM actors such as PMO members working at the portfolio level.

3. Context factor: Project delivery method

Linear and iterative approaches are often considered as two distinct project delivery methods. If we unpick the built-in assumptions about knowledge and KM associated with each, it becomes clear that this is not the case: almost all projects need elements of both.

3.1 Linear and iterative lifecycles as two extremes

The assumptions about knowledge and KM in linear and iterative project lifecycles are summarised in Table 3. We have used extremes to highlight the differences in the assumptions.

Table 3: Knowledge and KM in extreme linear and iterative project lifecycles

	EXTREME LINEAR LIFECYCLES	EXTREME ITERATIVE LIFECYCLES
Description:	Linear, sequential approach in which projects move through initiation, planning, execution and closure. Each stage is completed before the next can begin.	Iterative, emergent and adaptive approach in which work is progressed through a series of sprints. Requirements emerge and evolve throughout the project, while subsets of requirements are taken through design and delivery.
Knowledge perspective and assumptions:	<p>‘Thing’ thinking.</p> <p>Knowledge isn’t so much created as found in the heads of project managers and stakeholders.</p> <p>Knowledge is static.</p> <p>At the start of each stage, the knowledge needed to complete it already exists.</p> <p>Knowledge doesn’t change during the project.</p>	<p>‘Knowing’ and ‘doing’ thinking.</p> <p>Knowledge is created through social interactions (‘knowing’) and through practical experience (‘doing’).</p> <p>Knowledge is dynamic.</p> <p>None of the knowledge needed to complete the project exists at the start.</p> <p>Knowledge should be allowed to develop throughout the project.</p>
Strategy for knowledge creation and use:	Separate the work into stages. Knowledge of what the project is going to achieve and how the outputs will be delivered is gathered up front, then used in the execution stage.	Integrate knowledge creation and use. New knowledge is created and used in each sprint.
How knowledge of using project outputs is created:	Change management for benefits realisation after the outputs are delivered.	Hands-on user experience of outputs as they are delivered.
Typical approach to KM:	Codification of knowledge into documents.	Frequent face-to-face interaction between project team and stakeholders.
Stakeholder involvement:	Highest in the early stages. Stakeholders contribute knowledge as part of requirements gathering.	High throughout. Stakeholders provide feedback on outputs as they emerge.
Knowledge boundaries:	Boundaries to knowledge flow exist between stages.	Boundaries to knowledge flow often exist between the project and management.

It is clear from Table 3. that neither extreme works. In knowledge terms, many of the assumptions and practices associated with linear lifecycles practices are questionable:

- the knowledge needed to complete the project doesn’t always exist at the start
- knowledge is not static: changes in the organisation’s environment lead to changes in requirements

- knowledge cannot be captured completely in documents
- if knowledge of how to use outputs isn't created until a project is complete, it is too late (or too expensive) to modify the outputs.

These criticisms of linear project lifecycles are used to argue in favour of iterative lifecycles, but some of the iterative lifecycle assumptions and practices are questionable too:

- some of the knowledge needed to complete the project usually does exist at the start
- knowledge created during the project doesn't necessarily need to be developed from start to finish
- simultaneously creating new knowledge and using existing knowledge requires flexible, committed people and skilled leadership
- many organisations lack the capability to cope with iterative lifecycles.

3.2 The best of both worlds

Many organisations are far more comfortable and capable of delivering projects with linear lifecycles. Modifications to linear lifecycles are already widely used to overcome the questionable knowledge assumptions and practices: the project lifecycle is extended to include benefits realisation, users are involved early in projects, and mechanisms exist for changing project scope.

Delivering projects in stages provides the opportunity to separate the creation of new knowledge from the use of existing knowledge: each stage can focus on one or the other. Different working environments can be designed to support the knowledge work in different stages. Separation through time is built in, and can be emphasised through structure. In project stages where knowledge needs to be created, iteration can be injected through KM practices. Iteration is good for creating new knowledge because of the environment associated with iterative projects: self-managed teams, relative autonomy and frequent face-to-face contact.

The downside of delivering projects in stages is that it creates knowledge boundaries: barriers to the flow of knowledge between stages. These need to be overcome through KM.

None of this is an argument against adopting an iterative lifecycle for entire projects. Organisations that have the capabilities to manage iterative lifecycles should use them when they support the nature of the project. Organisations that work in fast-changing environments might benefit from developing such capabilities. Iterative lifecycles should be used for the right reasons, though. Not just because the developers prefer the relative freedom of allowing knowledge to emerge throughout the project, not because of pressure to 'start the project' and definitely not as an easy option when the knowledge required for a project isn't obvious. Some of these ideas are explored further in the next context factor: project type.

4. Project type

Project type is a classification that can provide insights into the strategic KM purposes of different projects. It can be used to decide when, over the lifecycle of a project, new knowledge needs to be created and existing knowledge used. It can be used to decide on a linear or iterative project delivery method – or, more helpfully in many cases, a combination of the two.

Projects can be classified into four types based on a combination of how much stakeholders know about what the project is aiming for (the ‘what’) and how much they know about how to get there (the ‘how’). Several versions of this classification exist. Exhibit 2 is based on Eddie Obeng’s (2002) classification. The ‘known’ and ‘unknown’ labels make it clear that project management thinkers have for many years recognised the importance of knowledge in making decisions about how to manage projects.

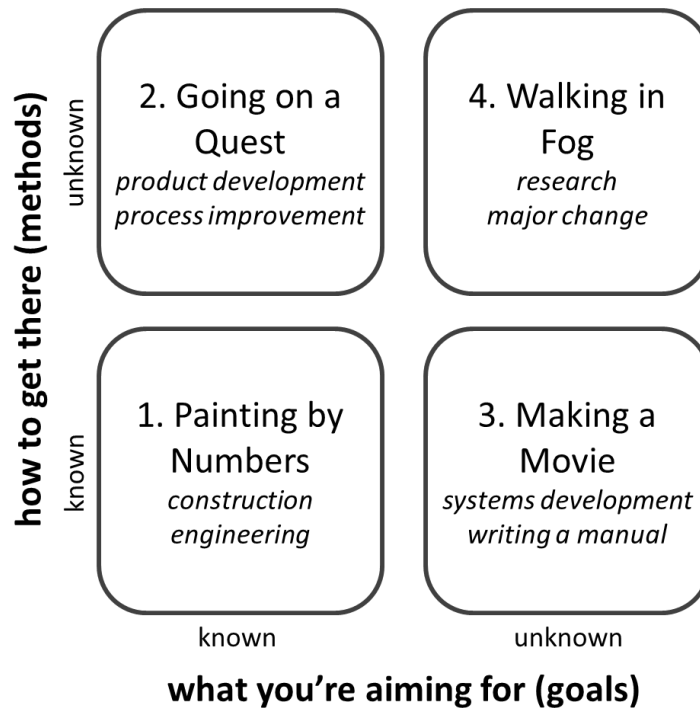


Exhibit 2: Project types. Source: Authors (adapted from Obeng, 2002).

Projects typically move through more than one type during their lifecycle. Only projects that start out in the painting by numbers quadrant can be completed using existing knowledge. Any project with an ‘unknown’ element requires some knowledge creation before the project can be completed. Effective KM can propel projects from walking in fog to going on a quest or a making

a movie, or from a quest or movie to painting by numbers. All projects need to get to the painting by numbers quadrant eventually – even if it is just for a few days.

4.1 Walking in fog

Projects that start with the team walking in fog are those where you know something needs to change, but no-one is sure exactly what it is or how they are going to get there. Foggy projects are usually things the organisation hasn't done before and are typically initiated because of a change in the organisation's environment, such the 2016 referendum in which the UK voted to leave the European Union.

Walking in fog projects have to create the missing knowledge about what it is that needs to change *and* about how the team is going to get there. The temptation is to jump straight into an iterative lifecycle because there are so many unknowns, but this isn't necessarily the best strategy. The hard work of creating the missing knowledge needs to be done at some point, and an iterative approach is no excuse for avoiding it. If the missing knowledge can be created up front, the project will be more effective and more efficient.

An alternative strategy is to focus initially on clarifying the 'what' so the project turns into a quest. The transition from walking in fog to a quest project is typically managed in small, iterative steps to edge towards clarity in the initiation stage of the project. This requires the commitment of stakeholders and KM processes that enable them to explore potentially conflicting requirements and perspectives to generate multiple options, then reach agreement. The initiation stage is likely to be intense and might be long. The KM actor needs to create a working environment of trust, flexibility and autonomy so that the stakeholders can create a shared vision they can all sign up to. Practices and controls designed for projects that use existing knowledge will not work here!

This strategy works only if the requirements can be clarified in time to work out the 'how' and deliver the benefits when they are needed. If the 'what' is likely to change (as in a project to prepare an organisation for the UK leaving the European Union), following this strategy will turn the initiation stage into a tail-chasing exercise and nothing will change. An iterative approach for the whole project is a possible solution in this scenario. An alternative is to proceed with several options simultaneously so that stakeholders gain practical experience ('doing' knowledge) of them – and then decide on which option(s) to take forward.

4.2 Making a movie

Movie projects are those where you know the methods to apply, but don't know exactly what you are going to end up with. The movie analogy is perfect: there are well known processes, but the end product emerges with time and its success can't be judged until the movie reaches the box office.

Because movie project teams are experienced in following a method (using existing knowledge) the temptation is to focus immediately on activity scheduling. What is actually needed is time in the initiation stage to create some of the missing knowledge about the outputs. This is an iterative process in which the project team generates ideas and seeks feedback from users and other stakeholders. Iteration is needed in the initiation stage, not for the whole project.

The initial focus could be on developing one or more pilot or prototype outputs with limited functionality so that users can try them out. Once the user requirements are fully understood, the work can proceed as a painting by numbers project.

At HR Wallingford in the late 1980s, a multidisciplinary project produced the first ever simulation model of an urban drainage system. The team had to design a user interface, and knew exactly how to go about creating it, but couldn't ask users what it should be like because the users had no idea what it *could* be like. The team imagined what the user interface could be like and produced a user manual before any coding took place. Users' feedback on the manual was then used to plan the detailed activities to complete the project.

The KM actor needs to give the team freedom to generate ideas and prototypes, support the team in understanding and incorporating feedback, then switch to painting by numbers mode.

4.3 Going on a quest

Quest projects are those where the aim is clear from the start, but it isn't clear how the project is going to get there. Process improvement and new product development projects typically start as quests. Foggy projects can turn into quests when they clarify what it is they are trying to do.

The project can't simply be planned, because the knowledge of how to deliver it doesn't exist. The missing knowledge needs to be created through an iterative process of generating and evaluating options – as for a movie project, but focusing on the 'how' rather than the 'what'. If this can be done in the initiation stage, the project turns into a painting by numbers one. If it can't be done, the project can proceed in phases where the team works out how deliver components of the product or process. This can lead to adoption of an iterative lifecycle for most of the project, or to a programme where some components are delivered in parallel.

To clarify the 'how' the KM actor needs to create an environment that supports knowledge creation and support the team through KM processes such as brainstorming to generate options, and workshops to evaluate them.

4.4 Painting by numbers

Painting by numbers projects are those where you are sure about what you're aiming for and know how to get there – from the start or because a quest, movie or walking in fog project has clarified unknowns.

Projects that start and end in the painting by numbers quadrant are those where the project team or organisation is repeating something that has been done before, such as building a new housing development with standard house types.

Wherever the project started, once it is in the painting by numbers quadrant it focuses on using existing knowledge. The project can be delivered using a linear lifecycle with detailed activity scheduling.

The KM actor has to create an environment that supports the use of existing knowledge: control, order and standard processes. Information management is used to support knowledge management, typically through supply driven KM processes based on codified knowledge. Informal and demand driven KM processes are needed to supplement this approach and ensure shared understanding of the project.

4.5 Separate or integrate?

Any project that starts with an unknown has to create the missing knowledge before it can be completed. This takes time, commitment of the team and stakeholders, a supporting environment and appropriate KM processes and activities – wherever it happens. Once the missing knowledge has been created, it needs to be used to complete the project. This requires a different supporting environment and different KM processes and activities.

In project environments where people are used to linear lifecycles designed for painting by numbers projects that succeed by using existing knowledge, creating knowledge is hard work. It is necessary to create a working environment that people will initially find unusual and uncomfortable. You can't avoid the hard work, but you can make it easier to manage by placing knowledge creation in a single project stage. This is separating knowledge creation from the use of existing knowledge through time.

The different environments for the two kinds of knowledge work can also be separated through structure – in two ways. The first is a change in leadership, by having one manager for the creative, early stages of projects and a second manager for the execution stage that focuses on using existing knowledge. The two leaders can adopt different styles and the change of leader is a signal to team members that something has changed. Ideally the project should include a long handover period where both managers are involved: to provide continuity and avoid loss of knowledge between stages. The second is to separate the early stages of projects from execution completely, by making one team responsible for business case and project plan development and another for execution. Although this makes it easier to create different working

environments with different people, it can create knowledge boundaries between the two groups and leave the team responsible for execution without the in-depth knowledge they need.

The alternative to separation is to integrate the two kinds of knowledge work by adopting an iterative lifecycle for all or most of the project. This is best suited to situations where the ‘what’ of a project is likely to change because of a volatile external environment, not because stakeholders might change their minds. Unless your organisation has mastered the art of jumping between the two different kinds of knowledge work on a daily basis, separation is easier. If you want to develop the flexible capabilities needed for iterative working, introducing some iteration in the initiation stage is a good place to start.

4.6 Pressure to ‘start’ the project

Project managers are often under pressure to ‘start’ the project, in other words get to the execution stage. We can’t emphasise enough that the pre-execution stages are *part of the project*. Creating missing knowledge up-front takes time, but if it can be done, it should be – even if it makes the initiation stage longer than the execution stage.

At the programme and portfolio levels, decisions about how to create new knowledge and use existing knowledge can be standardised to some extent so that projects are easier to plan and support – and so that everyone knows what to expect.

Supermarket X classifies projects as routine or innovation projects. Routine projects are those where they are confident they can create the necessary knowledge quickly at the start. Innovation projects are those where they realise a lot of knowledge needs to be created and it will take longer. Both are delivered with a linear lifecycle. In routine projects, the initiation stage is typically short and the execution stage is longer. In innovation projects, the initiation stage is longer to allow time for knowledge creation before the shorter execution stage. For each class of project, everyone knows what to expect, which makes it easier for everyone involved to plan and support the work.

Sometimes it is tempting to jump to execution before the missing knowledge has been created, or to adopt an iterative lifecycle because that will fill all the knowledge gaps and you can say you have started the project. The missing knowledge still has to be created, and it is still going to take time, commitment and a supporting environment.

5. Is that all there is to KM?

No, there’s a lot more. Our exploration has focused on using the knowledge lens and three of the context factors to understand and make decisions in the early stages of projects. KM doesn’t

end there – it should be planned and applied throughout project and programme lifecycles, and used to overcome the difficult knowledge boundary between project closure and benefits realisation.

We refer you to *Managing knowledge in project environments* for further explanation of KM principles, the KM context, how to identify hidden KM throughout the project lifecycle, how to build KM into a single project and portfolio-wide KM.

For a high-level explanation of the KM must-haves in any organisational context, see the first ever international standard on KM *BS ISO 30401 Knowledge management systems: requirements* (BSI, 2018). For a summary of KM in project work, see the seventh edition of the APM Body of Knowledge (2019).

Finally, don't believe everything you read about KM. KM thinking and practice has changed significantly over the last 30 years, and much of the available information is out of date. Even recently published material is sometimes rooted in out of date thinking. Project management is at last catching up with current KM thinking. Don't get left behind!

References

Association for Project Management (2019). *APM body of knowledge*. 7th edn. Princes Risborough, UK: Association for Project Management.

British Standards Institution (2018). *BS ISO 30401: Knowledge management systems: Requirements*. London, UK: BSI.

Obeng, E. (2002). *Perfect projects*. Beaconsfield, UK: Pentacle Works The Virtual Media Company.

Payne, J., Roden, E.J. and Simister, S. (2019). *Managing knowledge in project environments*. Abingdon, UK: Routledge. <https://www.routledge.com/Managing-Knowledge-in-Project-Environments/Payne-Roden-Simister/p/book/9781472480279>

About the Authors



Dr Judy Payne

United Kingdom



Dr Judy Payne works as an independent consultant, practitioner, reluctant academic and educator specialising in knowledge management, collaborative working and learning. Her work is positioned firmly on the boundaries between academia and practice. Not the most comfortable place to be, but there's such a huge gap between the two that there's a lot of bridging to be done. Judy chairs the BSI Knowledge Management Standards Committee and is a member of the ISO working group that developed the Knowledge Management standard published in 2018. She co-founded and co-chairs the APM Knowledge SIG. She contributed new knowledge management sections to APM Bok7, the sixth edition of the Project Management Institute's PMBOK® Guide and the Axelos P3O® Manual – and is the author of articles published in journals including KM Review, Organisations and People, Strategic HR Review, Assets, Project, and HR Magazine. With Vanessa Randle, Judy also produces short whiteboard animation videos including a series of 'Courageous Conversations' published by APM.



Eileen J Roden

United Kingdom



Eileen Roden is an experienced PMO and PPM Consultant. She works with individuals and organisations, often at Executive level, to improve their delivery capability. She works across a wide range of industry sectors including transport, finance, pharmaceuticals, defence, utilities and the public sector. As Lead Author of P3O® Best Management Practice, Eileen is a recognised expert in the implementation and development of PMOs and influencer in the development of the PMO profession. Her work includes the establishment of the leading PMO training organisation – PMO Learning, building on the success of the sister companies of PMO Flashmob and the PMO Conference. Her passion for all things PMO is underpinned by 17 years practitioner experience, 14 years consultancy and training experience along with a range of academic and professional qualifications.



Dr Steve Simister

United Kingdom



Dr Steve Simister is a consultant and university lecturer in project, programme and portfolio management. His specialism is in assisting clients to scope and define project requirements within a strategic business need framework. He has experience of most business sectors and has been involved in all stages of project lifecycles.

Steve is deputy chair of MS2 the BSI committee for project management. He has contributed to various ISO standards on project management including ISO:21500.

He is a Chartered Project Professional with APM and co-founded the APM Knowledge SIG.