



Agile project management: Integrating DSDM into an existing PRINCE2® environment

Keith Richards, Chief Executive, KRC



White Paper
January 2013

Contents

1	The purpose of this White Paper	3
2	The strengths of PRINCE2	3
3	A brief summary of DSDM	4
4	The contrasting styles of DSDM and PRINCE2	5
5	The rationale behind integrating PRINCE2 and DSDM	6
6	The strengths of using DSDM in a PRINCE2 environment	7
7	How to integrate the two approaches	8
8	Conclusion	9
	About the author	10
	Further information	10
	Acknowledgements	10
	Trademarks and statements	10

1 The purpose of this White Paper

Since the turn of the century there has been a dramatic rise in projects using 'agile' techniques and approaches. This started in the IT sector but is now seen throughout the project management arena. Many organizations are employing agile disciplines at programme level, as well as at 'the coal face', as the popularity of this approach continues to grow.

The purpose of this White Paper is to describe the benefits of running PRINCE2® in tandem with DSDM in order to help an organization to quickly establish or enable its own agile capability.

Importantly, it also outlines how this combination is one of the best and safest ways to implement an agile approach, which many organizations fail to do correctly.

Primarily, this White Paper has been written for people who are currently working in a PRINCE2 environment and would like the option of executing some or all of their projects in a more agile way. However, the paper will also be of benefit to any organization which is looking to replace or upgrade its own project management approach or 'body of knowledge' (e.g. PMBOK®), and which regards this topic as current best practice.

The White Paper covers the rationale for this combination, the mechanics of combining PRINCE2 and DSDM, and a summary of the most significant concepts to get right.

This document supersedes a similar paper which was published in 2010.

2 The strengths of PRINCE2

It is vital to understand that combining PRINCE2 with DSDM is not just about giving PRINCE2 an agile capability. It is much more important than that. It allows an organization to go about creating a robust and fully scalable agile capability in a controlled way. PRINCE2 should not be seen as a blocker to agile; in fact, it is quite the opposite – it is an enabler, allowing agile to happen in a disciplined manner.

It achieves this in a variety of ways. For example, PRINCE2 is particularly strong in the areas of project governance and project management. It provides an overarching structure of governance to a project by establishing a Project Board, which directs the Project Manager using 'management by exception'. This fits well with the agile ethos of empowerment.

The key interests on a project can then give direction when required, in the knowledge that they have created a safety zone for the Project Manager, having established the appropriate stage boundaries and tolerance levels.

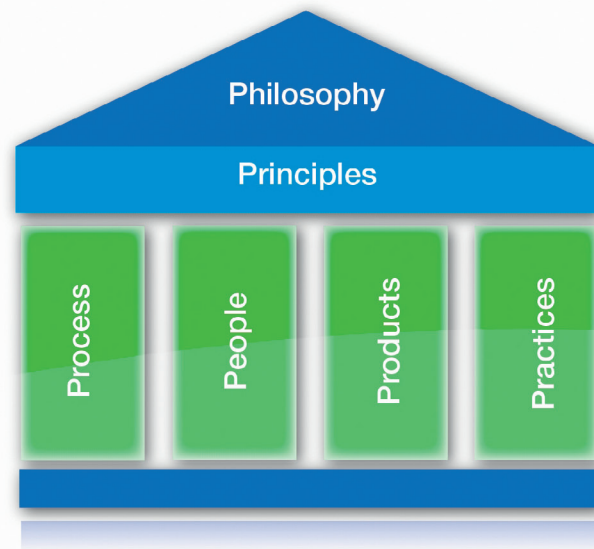


Figure 1 The components of DSDM

Governance is further enhanced by positioning the Business Case as the driving force of the project. This links favourably with DSDM, although this concept is ominously missing from many of the lighter agile approaches.

The Project Initiation Documentation (PID) is a widely recognized document which ensures that a project has correctly completed a controlled start and is now ready to commit a significant amount of resources to product delivery. The degree of agility the Project Manager is to use needs to be included in the PID and agreed by the Project Board.

PRINCE2 has a very strong focus on getting the quality of the final deliverable to the appropriate standard. Disciplines are built into PRINCE2 from the very outset and are carried on into the detail of each product or sub-product. Therefore, when reacting to change in an agile way, PRINCE2 provides the safeguards to ensure that quality criteria are met.

The use of Work Packages enables PRINCE2 to allow work at the delivery level of the project to become self-contained, empowered and (to a degree) self-organizing. These Work Packages could contain one or more 'timeboxes', which is how DSDM works at the detailed level.

PRINCE2 is widely regarded as a common standard which enables projects in the public or private sector to be executed with a common understanding of the processes and terminology used. Incorporating DSDM into PRINCE2 enhances this by providing further common understanding.

When integrating PRINCE2 and DSDM, all of these strengths stay in place to enable a truly scalable approach to agile project delivery.

3 A brief summary of DSDM

DSDM is an agile project management and delivery framework that aims to deliver the right solution at the right time. It focuses on the early delivery of real benefit to a business, user or customer whilst ensuring that the project remains strategically aligned.

The framework has been created over many years by the members of a not-for-profit organization called the DSDM Consortium. The first version of DSDM appeared in 1994 and has evolved since then to become a leading-edge approach to project management. DSDM stands for Dynamic Systems Development Method – a name that shows the framework’s heritage in the building of IT systems. Nowadays, DSDM is used in both IT and non-IT applications and is more widely referred to simply as DSDM.

DSDM is made up of a set of guiding principles, a project lifecycle with a flexibly defined set of products, clearly defined roles and responsibilities, and a set of best-practice techniques to enable product delivery.

The principles of DSDM

DSDM has a set of eight guiding principles that create an ethos or mindset to enable projects to be delivered in the most effective way possible. These principles represent a way of working and they support the overall philosophy of DSDM.

The eight principles are:

- Focus on the business need
- Deliver on time
- Collaborate
- Never compromise quality
- Build incrementally from firm foundations
- Develop iteratively
- Communicate continuously and clearly
- Demonstrate control.

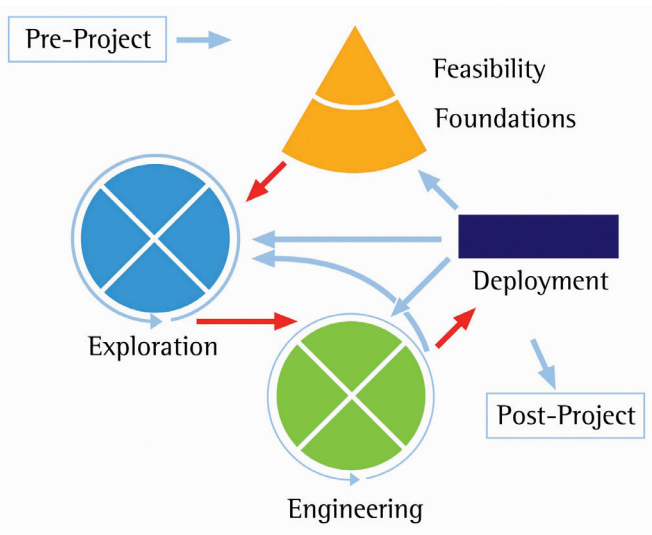


Figure 2 The DSDM lifecycle

The DSDM lifecycle allows a project to go through a controlled start to a point where the understanding of the project is good enough to start building the solution iteratively and incrementally.

The lifecycle diagram shown in Figure 2 is affectionately known as the ‘cheese and pizzas’ diagram. The cheese represents a two-phase sequential start, where firm foundations for the project are laid from all viewpoints.

The pizzas represent a product-focused delivery approach, where iteration and partial deliveries of the solution are encouraged. Ideally, these deployments (using the pizza delivery box!) would be into a live working environment where possible.

Throughout this lifecycle, a fully scalable set of products are created and evolve through to project completion.

The DSDM roles

DSDM defines 13 roles, each of which has a set of responsibilities. These are structured in such a way that any stakeholder in a project can be represented. They cover senior-level governance and management roles, delivery-level roles and other peripheral roles (see Figure 3).

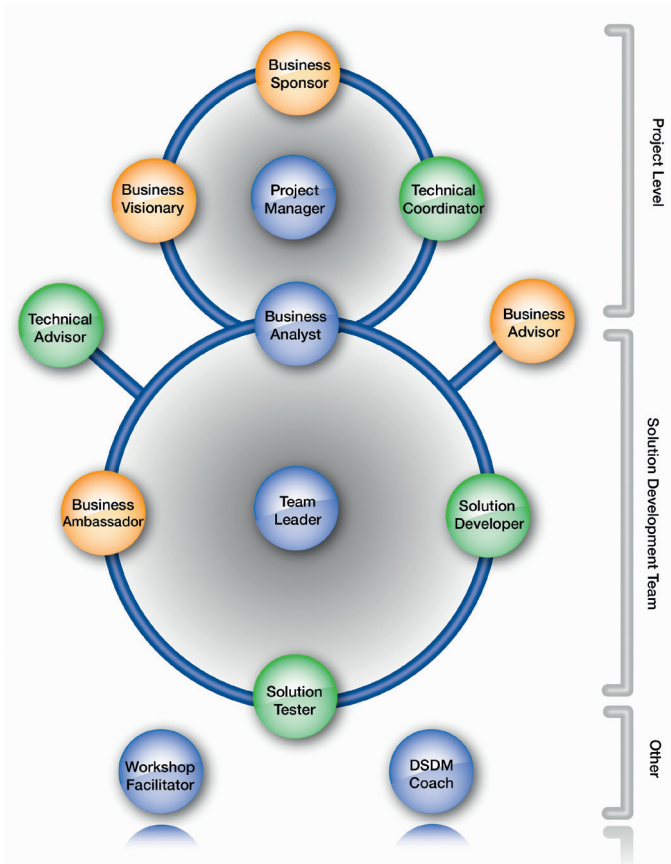


Figure 3 DSDM roles

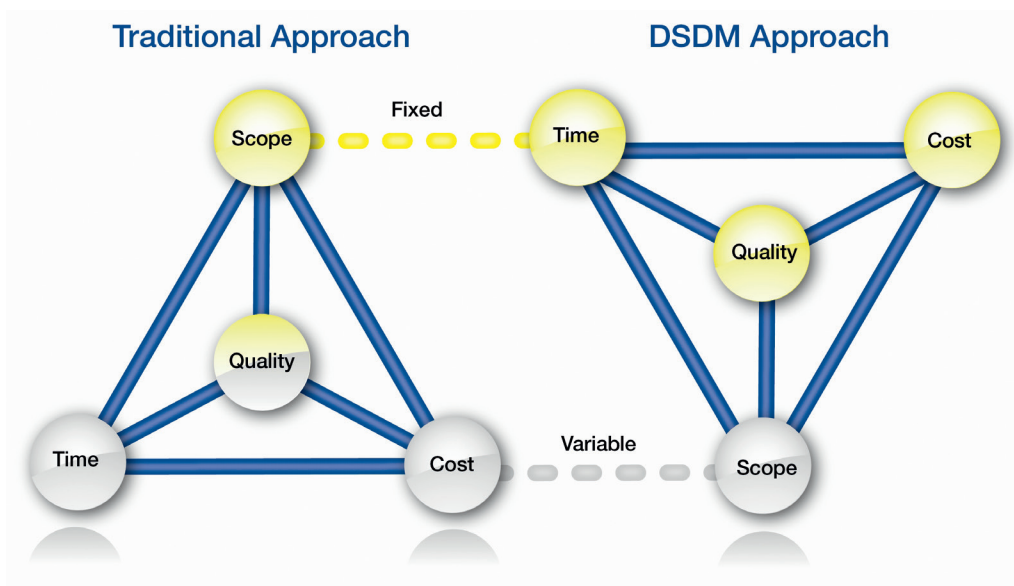


Figure 4 Traditional vs DSDM approach

The DSDM key techniques

DSDM has been created collaboratively over many years and has evolved using industry best practice. A series of techniques has been identified as being extremely beneficial, if not essential, with respect to on-time delivery of a fit-for-purpose solution.

These techniques promote and enable faster and more accurate communication whilst maintaining control of the project at all levels.

The five key techniques are:

- Timeboxing
- MoSCoW Prioritization
- Facilitated workshops
- Modelling
- Prototyping.

4 The contrasting styles of DSDM and PRINCE2

When choosing a method for an organization or a project, it is often the very essence of the approach that is the overriding factor in making the choice. For example, methods are selected because they 'have strong governance' or 'a light touch' or 'it's the industry standard'.

Decisions should be made with much more thought than this. When looking at either DSDM or PRINCE2 there is a need to understand some of the fundamentals of each approach, which are often quite contrasting. Rather than causing friction, however, these contrasts actually feed off each other and create a very powerful and flexible synergy.

Time and cost versus scope

PRINCE2 was originally built around the traditional 'iron triangle' of time, cost and quality, where time and cost are managed (or varied) in order to bring a project to a successful conclusion. DSDM, however, has always fixed both time and cost in order to manage (or vary) scope. This leads to the ability to hit deadlines over the short, medium or long term, come what may. Figure 4 shows the two contrasting approaches.

In today's commercial environment, demand for on-time delivery or fast time to market necessitates the use of agile approaches. DSDM addresses this directly, whereas PRINCE2 does so in a more indirect fashion. (PRINCE2, however, has taken this more into account since its 2009 release, which recognized the need for more guidance when using scope tolerance.)

Predictive versus convergent

PRINCE2 is often seen as a method where a lot of 'upfront' work is performed. Further to this, it is often felt that the more that can be done upfront, the better this is for a project.

However, this is certainly not always the case and it is important to decide how much thinking and analysis should be carried out on a project before commencing product delivery.

The choice here is based on how much to predict in advance about the required solution and how much to let emerge during the project. DSDM deliberately lets the low-level detail of a project come out later, rather than sooner, in order to achieve a more accurate solution.

However, DSDM does not do this without establishing firm foundations from which to allow the project to converge on an accurate solution.

Many agile approaches go further than ‘convergence’ and promote ‘emergence’. These are the particularly lightweight, low-ceremony approaches with little or no governance. Although they can be used for low-level product delivery, they are not project management methodologies *per se*.

Governance, project management and product delivery

The strengths of PRINCE2 lie in its structures for project governance and project management. However, the method does not provide any structures or guidance at all for delivering products and sub-products.

DSDM, by contrast, covers all three levels. The difference is that, while DSDM has a wider scope and can be classed as a project management and delivery method, it is lighter at the project governance level, where PRINCE2 is particularly strong.

Synergies

When integrating PRINCE2 with DSDM, these contrasts provide an organization with flexibility and give it the ability to set up a project with the correct ‘gearing’ – that is, to run it in the best way to suit the prevailing context and conditions.

A lot of these decisions are based around selecting the correct level of governance and ceremony. At project initiation there will be questions such as ‘Do we run this as a full-on PRINCE2 project or do we use some of DSDM for this?’

It is not a question of ‘either/or’ – more a case of how much or how little.

Agile Governance	PRINCE2
Agile Project Management	PRINCE2/DSDM
Agile Solution Delivery Techniques	DSDM

Figure 5 Integrating PRINCE2 and DSDM at the different project levels

5 The rationale behind integrating PRINCE2 and DSDM

There are many reasons why integrating DSDM into a PRINCE2 environment is beneficial. Some of these stem from counteracting negative perceptions about PRINCE2 and others stem from the addition of important project management elements that are outside the scope of PRINCE2.

PRINCE2 is often perceived as being bureaucratic, prescriptive and fundamentally linear (or waterfall) in its composition and execution. However, this is not strictly true; these problems are

the result of how PRINCE2 has been implemented in an organization. Integrating DSDM into a PRINCE2 environment addresses these issues directly.

To operate in an agile way, there is a need to adopt certain behaviours, techniques and processes. These are found in DSDM and can be seamlessly integrated into the PRINCE2 methodology.

Discipline and rigour

What is commonly overlooked when moving to agile is the need for discipline and rigour. This is where PRINCE2 creates a very strong platform from which to explore agility and ‘being agile’. Put simply, there are two sorts of agile: ‘agile with rigour’ or ‘fragile agile’. The DSDM approach alone provides enough discipline to ensure that a project has the appropriate level of rigour in place. However, PRINCE2 provides more, and this can be very powerful when scaling up the agile concept for use on large projects involving hundreds of people.

So, if an organization has already embedded PRINCE2 into its working practices, then it is in a good position to leverage the benefits of agile project management.

Being on time

Fundamental to working in an agile way is the need to hit deadlines over the short, medium and long term. Agile processes are built and geared to this way of working, usually with fixed resources. The techniques used to achieve this are different from those typically used in traditional project management environments. DSDM brings these into PRINCE2 automatically when the two methods are combined.

Embracing change

Agile approaches see change as inevitable and often desirable. It is a way of ensuring that a more accurate solution is created. The aim of a method like DSDM is to enable change to happen quickly, yet in a controlled manner. Therefore, working practices need to be put in place that will allow certain requirements to emerge later, rather than sooner, yet still ensure that the final product is declared fit for purpose. Again, combining PRINCE2 with DSDM can achieve this.

Don’t reinvent the wheel!

Creating a robust agile approach can be achieved in several ways. However, if an organization already has sound governance disciplines in place through the use of PRINCE2 and wants to quickly create an agile alternative to use where necessary, then there may be little merit in ‘reinventing the wheel’. DSDM can be used and an organization can hit the ground running with its agile capability.

6 The strengths of using DSDM in a PRINCE2 environment

There are several specific strengths that DSDM brings to projects combining PRINCE2 with DSDM. These strengths come into play when PRINCE2 doesn't provide this kind of function or is potentially weak in one area when seen in an agile context.

Customer focus

Much of DSDM focuses on the customer viewpoint. (Some organizations use the term 'business' or 'user' instead of 'customer'.) DSDM is referred to as being 'customer-centric', whereas PRINCE2 would be regarded as more 'management-centric'. There is a lot of customer focus in PRINCE2 but proportionately there is a much greater emphasis in DSDM.

Built around scope tolerance

DSDM turns traditional thinking on its head when managing the key controls on a project. It fixes time, cost and quality, and allows the features being delivered (or scope) to be actively managed. It sees this as the safest or smartest way to work. This ensures that the benefits of hitting deadlines are achieved, whilst protecting the quality of the solution being delivered.

Supports iterative and incremental product development

The DSDM lifecycle promotes iteration. This is essential on projects where there is a need to understand the detail of the final product, which will usually be complex or unclear. It also allows a degree of experimentation and creativity to take place.

Furthermore, DSDM aims to provide early return on investment (ROI) by delivering parts of the final product as soon as it can whenever this is possible. This early delivery also provides 'real' feedback, which can be incorporated into later deliveries and which allows the solution to move into service in a way that is easier to manage.

Provides team structures at the product delivery level

When working in an agile way it is imperative to achieve customer engagement and involvement at the detailed level ('at the coalface'). PRINCE2 only provides the Team Manager role; DSDM's organizational structure goes much lower down and provides a set of roles for product delivery which represents both the technical (supplier) side and the customer side.

Creates an agile ethos

Part of working in an agile way is about behaviours and culture. DSDM has a set of principles that are enshrined in the ethos of a team. Every stakeholder on a project signs up to these principles, which have to be actively managed because they are fundamental to the successful use of agile.

This manifests itself in the fact that the DSDM style of delivery is highly collaborative. Team structures at the delivery level are mixed, enabling greater understanding and speedier communication. Change at the detailed level is handled dynamically in a way that accepts the fact that the detail often emerges during the project and cannot be predicted at the outset.

Promotes techniques to support rich communication

Communication problems are often cited as the biggest single issue when reviewing a project. Therefore, DSDM advocates the use of a set of techniques which it regards as best practice in order to achieve a rich communication environment.

Facilitated workshops are typically used throughout a DSDM project in order to produce high-quality outputs in a short space of time. They need to be run correctly; if this is done, the result is fast lines of communication, greater understanding and stronger ownership of outputs.

Modelling is used extensively in DSDM to help improve the understanding of any text-based documentation. 'A picture is worth a thousand words' and DSDM shifts a lot of document-driven communication into a more visual form, to reduce misinterpretations and simplify messages.

Prototyping also moves the communication to faster, clearer channels and provides a lot of validation information as well. DSDM classifies prototypes into different categories in order to manage the expectations of the different viewpoints of the project's stakeholders.

Ease of integration

Integrating PRINCE2 with DSDM provides several benefits to successful project delivery. It is important to realize that creating an agile capability from within PRINCE2 does not require a restructuring of the method. Neither is it difficult to do. Put simply, there is no need to reinvent the wheel in order to get the best of both worlds. To create a robust, fully scalable agile capability, use the existing structures of PRINCE2 and integrate DSDM into and below it.

The two approaches are very similar in structure, so, where there is duplication, this needs to be removed in order to play to the relative strengths of each approach.

The two approaches integrate seamlessly, and having a DSDM option allows organizations using PRINCE2 to have a choice in the way they execute a project. All projects are unique but they also have similarities and running PRINCE2 with DSDM allows an organization to choose the way in which it wishes to run a particular project.

On some occasions an organization will need to run a project with very strong governance and little room for manoeuvre. There could be cultural or contractual reasons for this. In other

situations, a project may exist in a more collaborative relationship and this can be harnessed to take advantage of a more agile approach to converge on an accurate solution.

7 How to integrate the two approaches

Integrating DSDM into a PRINCE2 environment is reasonably straightforward in that the two approaches are built in a similar way and can be described as coming from the same stable. They both use Product Descriptions, their lifecycles can be mapped to each other easily and they have similar organizational structures. Therefore, when combining the two, there is no need to duplicate or compromise. All that is needed is to take additional concepts and components from DSDM and install them into the structure of PRINCE2.

When doing this, it is important to blend the contrasting cultures of PRINCE2 and DSDM in the best way possible, so that flexibility and dynamism can exist from within a structure of stability and control.

Process model/lifecycles

The overall mapping of PRINCE2 and DSDM with respect to governance (or 'direction'), management and delivery is driven by the specific needs of each project. Governance and project management can be carried out traditionally or with a more agile setting. Either way, DSDM can be used at the delivery level.

Both PRINCE2 and DSDM use a two-step project start, and these phases map on to each other, with DSDM providing a wider view of the customer and technical domains.

The DSDM pizzas sit happily inside each PRINCE2 stage and timeboxing can help with this to ensure that stage boundaries are on time.

The PID

The Project Initiation Documentation (PID) can be embellished with extra information provided by DSDM. The PID will also contain a definition of how agile will be used on the project. This is covered under 'project controls' and links directly to how the project will be governed.

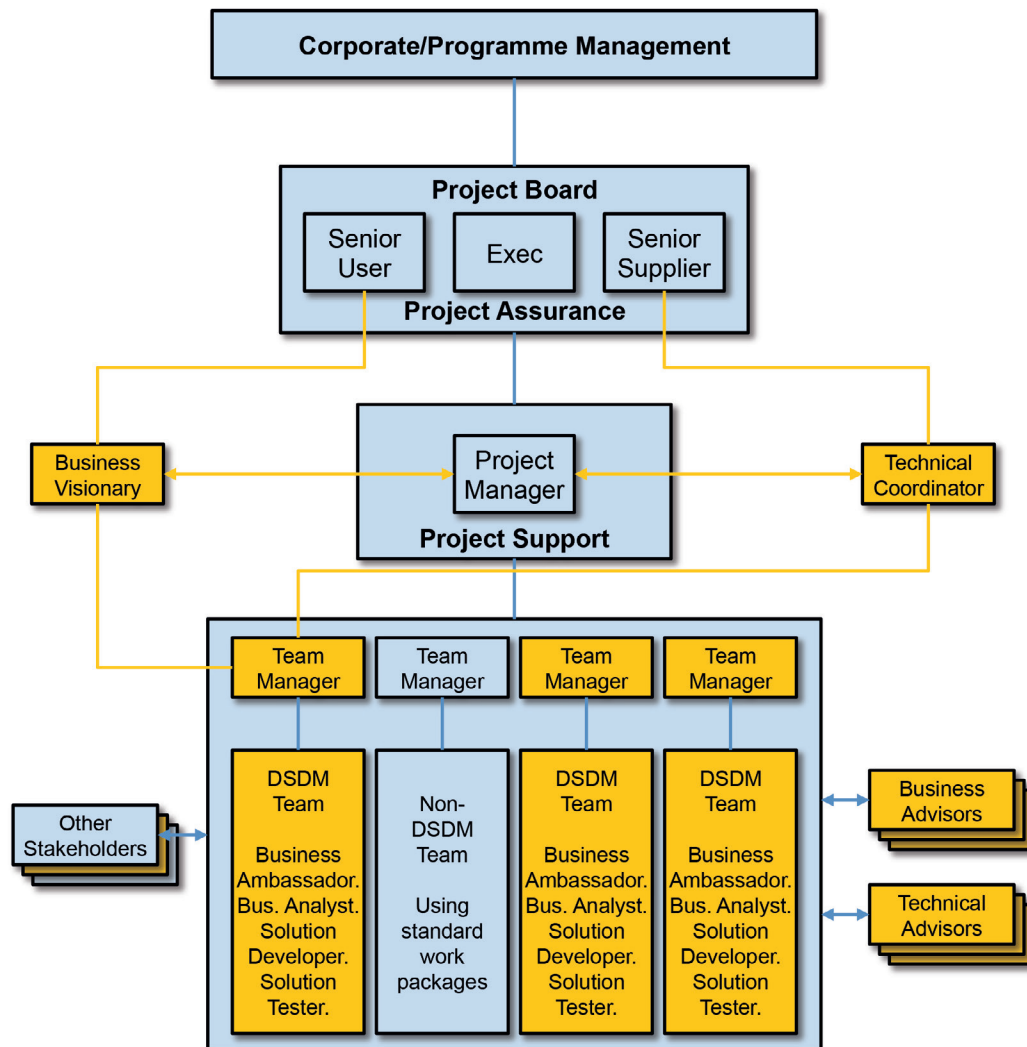


Figure 6 PRINCE2 and DSDM combined organizational structure

Enabling iterative and incremental product delivery

Although PRINCE2 does not prevent projects from delivering in an iterative and/or incremental way, it does not explicitly support it. Integrating the DSDM lifecycle into PRINCE2 allows this to happen.

Working iteratively and delivering incrementally can easily be 'plugged into' PRINCE2 at the Stage Plan level and at the Work Package level as well.

Organizational structure

The DSDM organizational structure goes lower down than the project management team in PRINCE2. The two structures map easily and DSDM provides several customer and supplier roles which operate at the project delivery level.

Figure 6 shows how the DSDM roles (in orange) complement the standard PRINCE2 organizational structure. The DSDM roles of Business Visionary and Technical Co-ordinator dovetail particularly well as Project Assurance. At the Work Package level there may be teams working in an agile way and other teams working in a more traditional way.

Timeboxing and MoSCoW

Timeboxing is perhaps the most powerful tool in the armoury of DSDM. It operates after the controlled start and ensures that a project stays on track over the short term, thereby ensuring that it stays on track over the longer term.

With PRINCE2 this can be operated within a Work Package or a group of Work Packages.

The technique works by reducing the content of a timebox in order to protect the quality of the deliverable being created and the deadline by which it is due. All of the features or work to be done in a timebox are prioritized using the MoSCoW system. Items are classified as Must haves, Should haves, Could haves or Won't haves (this time).

This way of working is essential when using agile. It is also essential when there is a situation in which time and cost are fixed, i.e. they have zero tolerance in PRINCE2 terms.

Shifting from 'documentation driven' to 'communication driven'

There is always a need to create documents on a project but, when working in an agile way, it is important that the focus is on using the best communication channel available and not letting the process become document driven.

DSDM provides several techniques to enable a faster and more accurate understanding of the problem and the developing solution.

Facilitated workshops can be used at any time on a project, but they can be particularly useful during the controlled start, in order to get a project up and running.

Modelling and prototyping can be used throughout the project. Because they are very visual in nature, they help to magnify the basic understanding of the textual information available.

Product-based planning

A focus on products when planning is a fundamental concept in both PRINCE2 and DSDM. The dependencies created by this approach can be fed straight into timebox scheduling and the assignment of Work Packages. Adding timeboxing to PRINCE2 forces the issue when a Project Manager needs to know what the project status really is. The project is either on time or it goes into exception.

8 Conclusion

Project management methods and techniques have evolved over several decades and the advent of agile is part of this evolution. In today's marketplace there is a clamour for on-time delivery of the right thing at the right price, without compromising the quality of the final deliverable.

Both PRINCE2 and DSDM are firmly established as being battle-hardened and have stood the test of time.

With most organizations looking at their own project management processes and investigating the agile 'option', there is a need to make this move carefully. The integration of PRINCE2 and DSDM offers numerous advantages, with little or no downside.

There are important elements to get right when making this transition or when enhancing any existing capability. The following paragraphs examine some of these elements.

Assess the culture

How easy will it be to shift the hearts and minds of the people working on projects? Some organizations by their very nature are conservative, whilst others are quite radical. Incorrectly identifying the prevailing attitudes towards agile will result in poor take-up or even rejection of any new practices.

Appropriate implementation

A common mistake made in the project management arena is to blame a particular approach for the failings of one or more projects. The most likely cause of any problems is that the approach has been implemented incorrectly. When used appropriately, both PRINCE2 and DSDM work, either separately or as a hybrid.

Therefore, the correct implementation of PRINCE2 with DSDM is essential to its success – as are the appropriate support functions (e.g. project support, training, mentoring and reviewing).

How are people communicating?

Irrespective of the method used, communicating information, knowledge and understanding is the nerve system of a project. It is essential to get this right. Agile approaches put a lot of emphasis on this area, and this can help when PRINCE2 has been implemented in a bureaucratic way or where there is a culture of documentation. This often arises in a culture of blame or fear. A successful implementation of PRINCE2 with DSDM will open up communication channels and create the rich communication environment that will help any project.

Agile or fragile?

One of the biggest misconceptions about agile is that it is all about empowerment, collaboration and being flexible. Although these concepts are part of agile and are very desirable, a lot more needs to be in place for a project to be successful.

Terms such as Business Case, due diligence, governance and controlled start are not normally associated with agile, but they need to be – and if PRINCE2 is combined with DSDM this mindset allows an agile approach to thrive in a controlled and structured context.

About the author

Keith Richards is the founder and director of Keith Richards Consultants (KRC), a company which specializes in using agile approaches to improve the way organizations manage projects and business change.

Keith has over 30 years' experience in IT and project management. He is a board member of the DSDM Consortium, an accredited DSDM Practitioner and Trainer, an accredited PRINCE2 Practitioner and an IAF Accredited Facilitator.

Keith has worked across all industry sectors and has been involved with a wide range of clients, from SMEs to large government organizations.

Specializing in the leading-edge approach of combining agile with PRINCE2, Keith is the author of the book *Agile Project Management* (published by TSO).

In 2007, Keith led the team that created DSDM Atern, the latest version of the DSDM framework. In 2010, he was involved in the development of *Agile Project Management: the new training course and qualification* from APMG-International.

In October 2011, Keith was awarded 'Most Valuable Agile Player UK' at the Agile Awards in London – an award recognizing a decade of thought leadership, innovation and, above all, delivery.

Contact: k.richards@agilekrc.com

www.agilekrc.com

Further information

Accreditation and certification

PRINCE2 and DSDM have similar paths and structures of professional qualification. Many of those in the agile community prefer to avoid independent certification because it is counter to their perception of 'free spirited' agile.

However, most organisations nowadays require a certain level of reassurance that individuals have reached a certain standard.

Agile Project Management (AgilePM) accredited by APMG is a specific qualification that is available at Foundation and Practitioner level and is based upon the DSDM framework. It is aimed at the project management community in general, whether experienced in traditional approaches (such as PRINCE2) or not.

<http://www.apmg-international.com/en/qualifications>
<http://www.dsdm.org/>

Acknowledgements

Sourced by TSO and published on www.best-management-practice.com our White Paper series should not be taken as constituting advice of any sort and no liability is accepted for any loss resulting from use of or reliance on its content. While every effort is made to ensure the accuracy and reliability of the information, TSO cannot accept responsibility for errors, omissions or inaccuracies. Content, diagrams, logos and jackets are correct at time of going to press but may be subject to change without notice.

© Copyright TSO. Reuse of this White Paper is permitted solely in accordance with the permission terms at <http://www.best-management-practice.com/Knowledge-Centre/White-Papers/>

A copy of these terms can be provided on application to Best Management Practice White Paper Permissions, TSO, St Crispins, Duke St, Norwich, Norfolk NR3 1PD, United Kingdom.

Trademarks and statements

The Swirl logo™ is a trade mark of the Cabinet Office

PRINCE2® is a registered trade mark of the Cabinet Office

DSDM is a registered trade mark of Dynamic Systems Development Method Limited

Best Management Practice is the overarching brand that umbrellas multiple Cabinet Office best practice products. The internationally renowned portfolio is adopted as best practice through high quality training, publications, software tools and consultancy for portfolio, programme, project, risk, value and service management disciplines.