Agile Project Management:
Integrating DSDM Atern into an existing PRINCE2™ environment

Keith Richards, Director, Keith Richards Consulting

KEITH RICHARDS
CONSULTING

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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 originally started in the I.T. sector but has now achieved widespread use throughout the whole of the project management arena. Many organizations are now employing agile disciplines at programme level as well as at 'the coal face' as its popularity continues to grow.

The purpose of this white paper is to describe the benefits of running PRINCE2 in tandem with DSDM Atern in order to help an organization to quickly establish or enable their 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, the 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, this paper can also be of benefit to any organization looking to replace or upgrade their own project management approach or 'body of knowledge' (e.g. PMBOK), who regard this topic as current best practice.

The white paper is structured into three parts which cover the rationale for this combination, the mechanics of how to combine them and a summary of the most significant concepts to get right.

This white paper supersedes a shorter version which was published in 2007.

The strengths of PRINCE2

It is vitally important to understand that combining PRINCE2 with DSDM Atern 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 quite the opposite – it is an enabler, it allows agile to happen in a disciplined way.

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' which 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.

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

The PID (Project Initiation Documentation) is a widely recognised 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 a 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-organising. These Work Packages
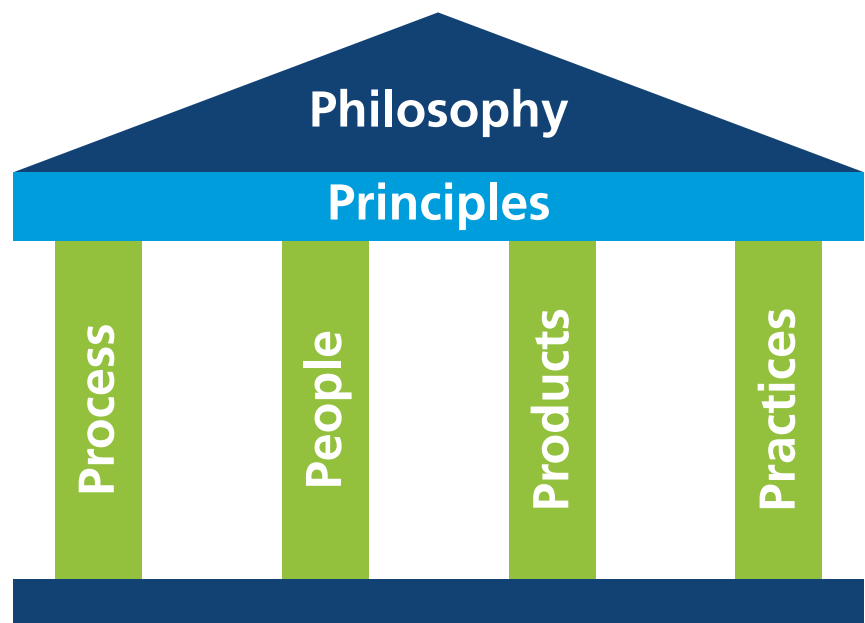

Diagram 1: The structure of DSDM Atern

could contain one or more 'timeboxes' which is how DSDM Atern 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 Atern into PRINCE2 enhances this by providing further common understanding.

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

A brief summary of DSDM Atern

DSDM Atern 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 Atern 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 Atern

DSDM Atern has a set of eight guiding principles that create an ethos or mindset to enable projects to be
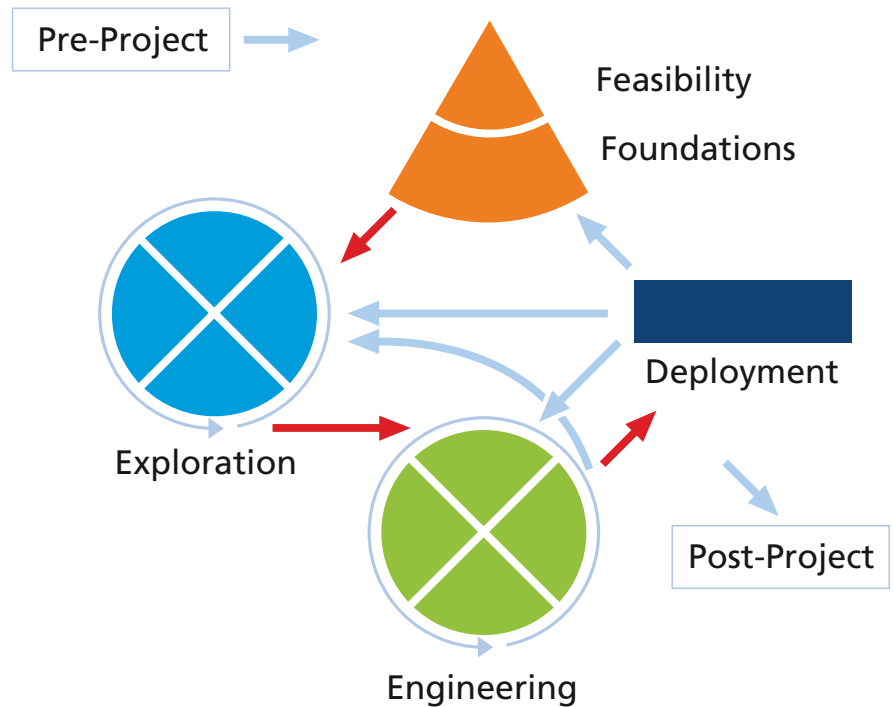

Diagram 2: The DSDM Atern Lifecycle

delivered in the most effective way possible. These principles represent a way of working and they support the overall philosophy of DSDM Atern.

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

The DSDM Atern lifecycle allows for 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 is affectionately known as the 'cheese and pizza' diagram whereby the cheese represents a two phase sequential start where the firm foundations are laid for the project from all viewpoints.

The pizzas represent a product focused delivery approach where iteration and partial deliveries of the solution is 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 Atern Roles

12 roles are defined within DSDM Atern and each one has a set of responsibilities. They are structured in such a way that any stakeholder on a project can be represented. This covers senior level governance and management roles, delivery level roles and other peripheral roles.

The Roles are:

Project Level	Team Level	Other
Business Sponsor	Team Leader	Business Advisor
Business Visionary	Business Ambassador	Workshop Facilitator
Project Manager	Business Analyst	Atern Coach
Technical Co-ordinator	Solution Developer	
	Solution Tester	

Diagram 3: The DSDM Atern Team Organization
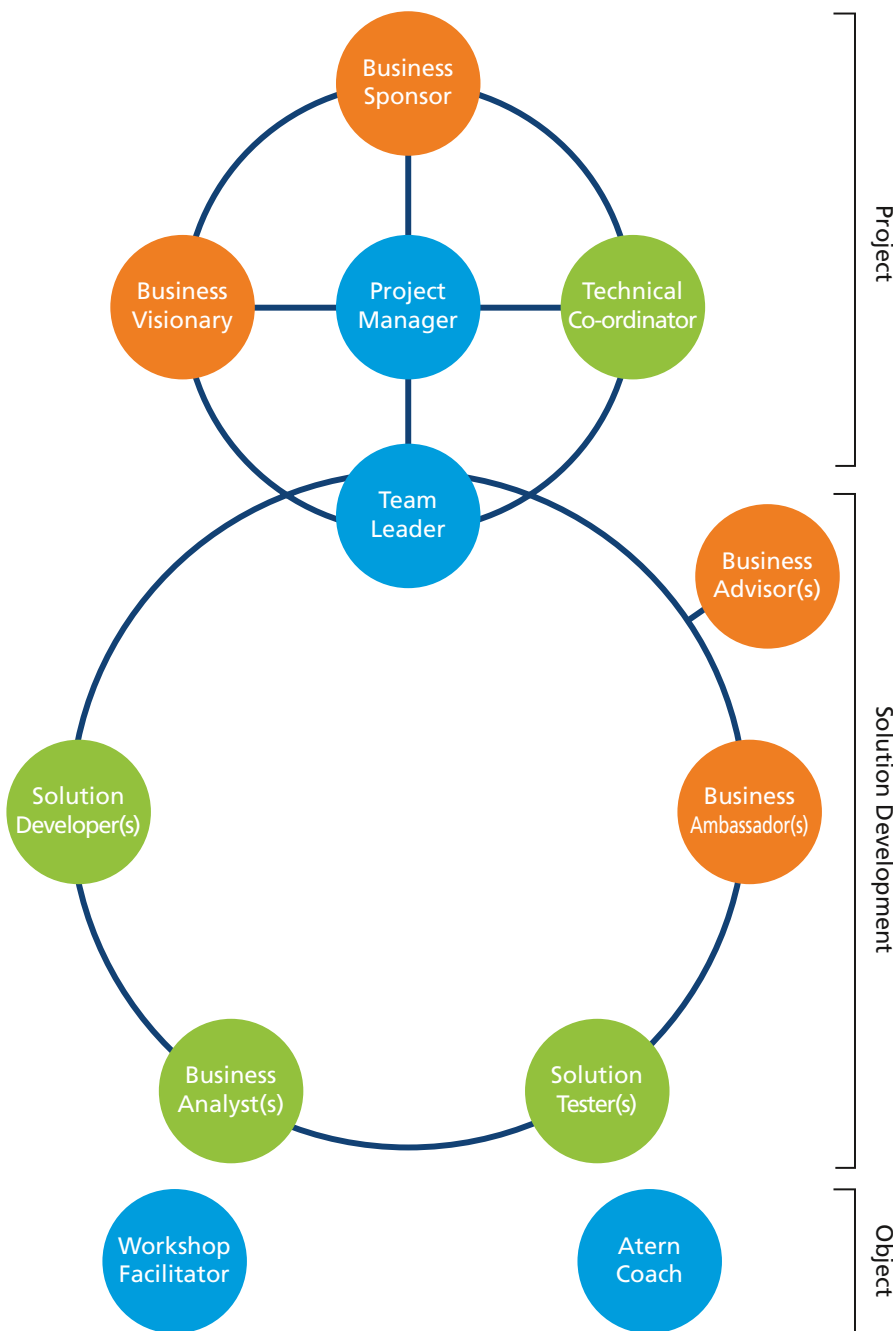
The DSDM Atern Key Techniques

DSDM Atern has been created collaboratively over many years and has evolved using industry best practice. A series of techniques have 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 Prioritisation
- Facilitated Workshops
- Modelling
- Prototyping.

The contrasting styles of DSDM Atern 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 and when looking at either DSDM Atern or PRINCE2 there is a need to understand some of

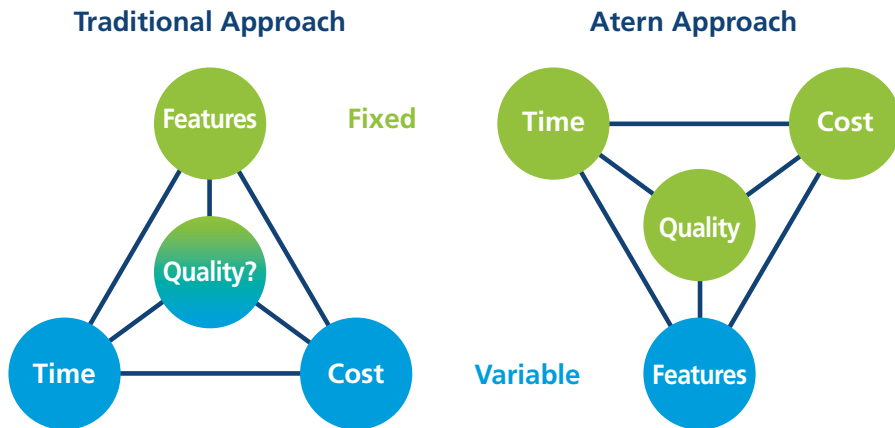## Traditional Approach

Atern Approach

Diagram 4: Approaches

the fundamentals of each approach and these two methods are often quite contrasting. However, rather than causing friction 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 Atern however has always fixed both time and cost in order to manage (or vary) scope instead. This leads to the ability to hit deadlines over the short, medium or long term come what may.

In today's commercial environment the need for on time delivery or fast time to market is necessitating the use of agile approaches in order to achieve this. DSDM Atern directly addresses this whereas PRINCE2 does so in a more indirect fashion although it is taking it more into account with the 2009 release where it recognizes there may be 6 tolerance areas (Time, Cost, Quality, Scope, Risk and Benefits), PRINCE2 sets +/- limits around each planned target before escalation is required.

Predictive versus Convergent

PRINCE2 is often seen as a method where a lot of 'upfront' work is performed and 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 an important decision to make on a project as to how much thinking and analysis should be carried out 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 Atern deliberately lets the low level detail of a project come out later rather than sooner in order to get a more accurate solution.

However, DSDM Atern 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 it does not provide any structures or guidance at all for delivering products and sub-products.

DSDM Atern however covers all three levels. The contrast is that although DSDM Atern 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 Atern these contrasts provide an organization with flexibility and give it the ability to set a project up with the correct 'gearing' – that is to run it in the best way to suit the prevailing context and conditions.
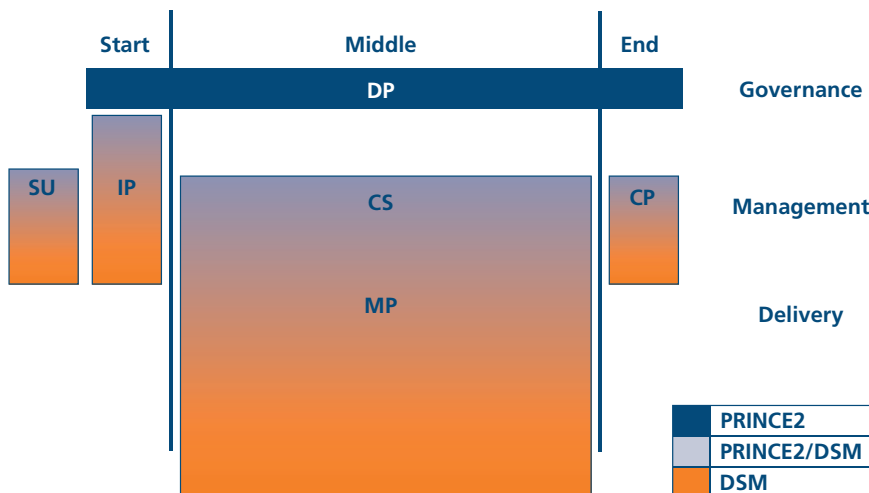

Diagram 5: Integrating PRINCE2 with DSDM Atern

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

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

The rationale behind integrating PRINCE2 and DSDM ATERN

There are many reasons why integrating DSDM Atern into a PRINCE2 environment is beneficial. Some of these stem from counteracting negative perceptions about PRINCE2 and others from adding in 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 and these problems are the result of how PRINCE2 has been implemented into an organization. Integrating DSDM Atern 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 Atern 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 Atern approach alone provides enough disciplines 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 to those typically used in traditional project management environments. DSDM Atern 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 a more accurate solution is created. The aim of a method like DSDM Atern is to enable change to happen quickly yet still in a controlled manner. Therefore working practices needs to be put in place that will allow for certain types of requirements to emerge later rather than sooner, yet still ensure that the final product is declared fit for purpose. Again, combining PRINCE2 with DSDM Atern 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 by using PRINCE2 and wants to move quickly to creating an agile alternative to use where necessary then there may be little merit in 'reinventing the wheel'. DSDM Atern can be used and an organization can hit the ground running with its agile capability.

The strengths of using DSDM Atern in a PRINCE2 environment

There are several specific strengths DSDM Atern brings to projects combining PRINCE2 with DSDM Atern. 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

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

Built around scope tolerance

DSDM Atern 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 the benefits of hitting deadlines are achieved whilst being able to protect the quality of the solution being delivered.

Supports iterative and incremental product development

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

Also, DSDM Atern aims to provide early ROI (return on investment) by delivering

parts of the final product as soon as it can whenever this is possible. This also provides 'real' feedback which can be incorporated into later deliveries and 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 get customer engagement and involvement at the detailed level ('at the coalface'). PRINCE2 only provides the Team Manager role; the DSDM Atern 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 Atern has a set of principles that are enshrined in the ethos of a team. Every stakeholder on a project signs up to these and they have to be actively managed as they are fundamental to the successful use of agile.

This manifests itself in the fact that the DSDM Atern style of delivery is highly collaborative. Team structures at the delivery level are mixed enabling a 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.

Promoting techniques to support rich communication

Communication problems are often cited as the biggest single issue when reviewing a project. Therefore DSDM Atern 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 Atern project in order to produce high quality outputs in

a short space of time. They need to be run correctly and if done so this creates fast lines of communication, greater understanding and stronger ownership of outputs.

Modelling is used extensively in DSDM Atern to help improve the understanding of any text based documentation. 'A picture is worth a thousand words' and DSDM Atern 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 Atern 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 Atern provides several benefits to successful project delivery. It is important to realise that to create 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 Atern 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 Atern 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 Atern allows an organization to choose the way in which they wish to run a particular project.

On some occasions they will need to run a project with very strong governance and little room for manoeuvre. There could be cultural or contractual reasons for this. However, in other situations a

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

How to integrate the two approaches

Integrating DSDM Atern into a PRINCE2 environment is reasonably straightforward in that both 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 Atern and install them into the structure of PRINCE2.

When doing this it is important to blend the contrasting cultures of PRINCE2 and DSDM Atern 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 Atern 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 Atern can be used at the delivery level.

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

The DSDM Atern 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 by extra information provided by DSDM Atern. The PID will also contain a definition of how agile will be used on the project. This is covered under 'project controls' and directly links to how the project will be governed.

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

Diagram 6 shows how the DSDM Atern roles (in yellow) complement the standard PRINCE2 organizational structure. Using the DSDM Atern roles of Business Visionary and Technical Co-ordinator to act as Project Assurance dovetails particularly well. 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

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

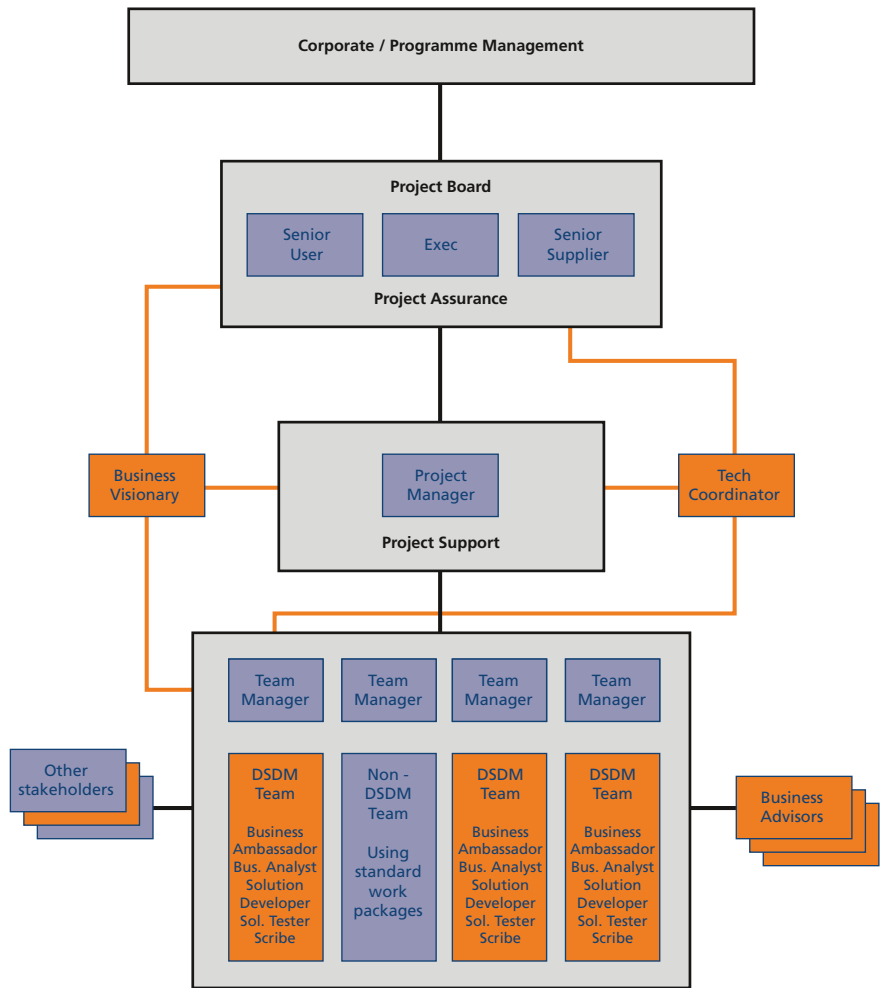With PRINCE2 this can be operated within a work package or group of work packages.

Diagram 6: PRINCE2 and DSDM Atern combined organizational structure

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 prioritised using the MoSCoW system. Items are classified as being 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 where 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 Atern 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 although during the controlled start they can be particularly useful in order to get a project off to a good start.

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

Product based planning

Focusing on products when planning is a fundamental concept in PRINCE2 and DSDM Atern. The dependencies created by this approach can be fed straight into timebox scheduling and the assignment of work packages. Bringing in timeboxing to PRINCE2 forces the issue when it comes to a project manager needing to know what the project status really is. The project is either on time or it goes into exception.

Conclusion

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

Both PRINCE2 and DSDM Atern 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 and the integration of PRINCE2 and DSDM Atern offers numerous advantages with little or no downside.

There are important elements to get right when making this transition or enhancing any existing capability, for example:

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 to agile will result in a 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 was that the approach had been implemented incorrectly. When used appropriately, both PRINCE2 and DSDM Atern work, either separately or as a hybrid.

Therefore the correct implementation of using PRINCE2 with DSDM Atern is essential to its success along with the appropriate support functions (e.g. project support, training, mentoring, 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 in this area and this can help where PRINCE2 has been implemented in a bureaucratic way or there is a culture of documentation. This often arises where there is a culture of blame or fear. A successful implementation of PRINCE2 with DSDM Atern 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, there is a lot more you need to have in place to be successful.

Terms like business case, due diligence, governance and controlled start are not normally associated with agile but they need to be - and by combining PRINCE2 with DSDM Atern this mindset allows for an agile approach to thrive in a controlled and structured context.

Further information

Accreditation and certification

PRINCE2 and DSDM Atern have similar paths and structures in becoming

professionally qualified. A lot of the agile community prefer to avoid independent certification as it is counter to their perception of 'free spirited' agile.

Acknowledgements

Author

Keith Richards
Director
Keith Richards Consulting

Trademarks and statements