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Business Intelligence and Data Warehousing
Taking an agile approach to implementation

An agile approach for implementing Business Intelligence and Data Warehousing (BI/DW)

A more agile approach to project implementation can help deliver better outcomes

BI/DW solutions should be implemented in an agile way

Organisations need flexible BI/DW capabilities to meet changing analytical requirements and opportunities. Too often, however, these plans are undermined by waterfall approaches to implementation that are out of character with the agile and flexible capability they want to achieve. BI/DW projects have a different risk and reward profile to standard transactional application and Enterprise Resource Planning projects. They exhibit the following characteristics:

• Greater breadth, depth and complexity of data, while having simpler and shallower processes

• Used by more senior and demanding stakeholders

• A great degree of learning and discovery that can alter the project's priorities and scope

• A high risk that users will circumvent a BI/DW application that doesn't meet their needs.
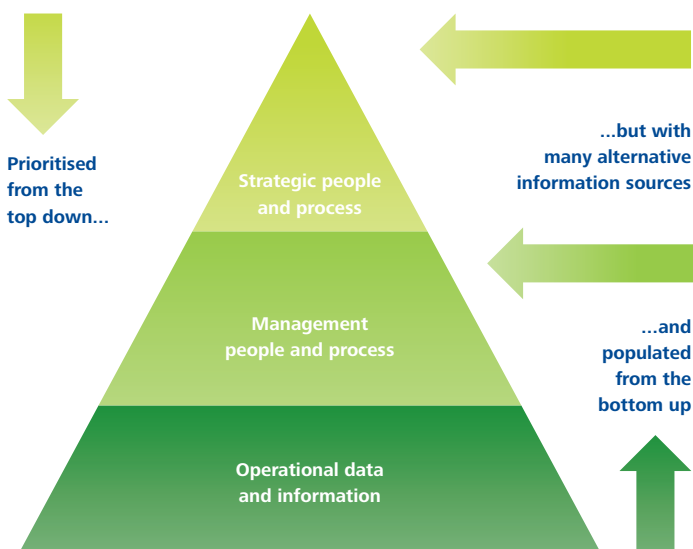
A standard waterfall project approach that doesn't take account of these differences is often a major contributor to project failure. Teams adopting waterfall methodologies for BI/DW projects frequently encounter a range of problems, including:

• Failing to deliver functionality for long periods

• Alienating the user base through uncollaborative and ineffective project processes

• Discovering key data quality or technical problems late in the implementation cycle

• Getting bogged down in change request processes instead of delivering

• Sacrificing quality and functionality while project effort and budget is consumed by low-value activities.

The problems with traditional waterfall methods for BI/DW

Waterfall methods are characterised by three attributes that cause problems on BI/DW initiatives. Firstly they involve lengthy upfront requirements gathering exercises that generally provide limited architecture or design value. In some cases these exercises involve gathering masses of past-tense reporting requirements whist not addressing valuable future key decision making needs.

Secondly, they tend to be overly serialised and hence delays can build up rapidly when things don't go according to plan. This tendency to heavily serialise creates intolerance toward change requests leading to the dismissal of important demand signals – all because the project approach is inflexible.

Thirdly, they mistake measures such as generation of documentation deliverables and percentage completion of test cases as being the most valuable indicators of progress. This leads to an imbalance of project effort on low-value work at the expense of delivering working software.

Senior stakeholders drive priorities but can circumvent dysfunctional BI/DW systems

Prioritised from the top down...

Strategic people and process

Management people and process

Operational data and information

...but with many alternative information sources

...and populated from the bottom up

Business team members get the opportunity to feedback in real-time

Taking an agile approach – how Deloitte can help

Deloitte has learned some important lessons and developed effective techniques in our years of helping companies around the world to implement flexible and agile BI/DW capabilities on time and on budget.

• **Match the approach to your culture and circumstance** – Agile approaches range from 'BI/DW friendly' waterfall approaches to fully agile approaches. The right approach depends upon a combination of factors and questions such as:
  – What are the political, cultural and skills considerations?
  – Is the project a 'greenfield' development or a revamp of existing BI/DW capability?
  – Is the BI/DW environment on the transactional critical path?
  – Are multiple large projects in-flight, or is the BI/DW the dominant project?
  – Is the BI/DW project part of a larger program?

• **Understand and socialise the aggregate risks inside and outside the project** – Projects sometimes take a 'siloed' view of risk – unwittingly imposing greater risk elsewhere within the organisation by adoption of inefficient project control mechanisms in the name of managing project-specific risk. The aggregate risks should be socialised with key stakeholders so they can help make a call on the appropriate level of risk mitigation across the formal and informal BI/DW environments.

• **Develop, evaluate and demonstrate rapidly, iteratively and collaboratively** – Team structures, skill combinations, planning approach, work package structure and tools should all contribute to promote rapid, and iterative functionality implementation. The business team members get the opportunity to feedback in real-time and the technical project team members control their risk through rapid validation of the full technical stack and design matched against production data.

• **Top down/bottom up approach** – An effective way to rapidly and iteratively blueprint, prototype and build is the top-down/bottom-up approach. This approach helps break the serialisation and heavy, low-value requirements gathering that beset waterfall approaches.

• **Ensure that the architecture and technology are both agile** – A project run in an agile manner without the appropriate architecture, technology and design will degenerate into an inflexible and low-performance solution as changes are applied. The project team and leadership needs to strike the optimum balance of ensuring the foundations are progressively laid – or remediated in an existing BI/DW environment – whilst simultaneously providing rapid delivery and eliminating or minimising rework.

Some of the lessons above are straightforward and well known, but are not well followed. They bear repeating and advocating. Others involve a keen understanding of balancing project, business and technology imperatives in a different way to achieve a far superior outcome.

Deloitte's Enterprise Information Management practice has genuine depth of experience in development, implementation, architecture, strategy and review of BI/DW environments. We understand the issues and solutions from a holistic perspective, including the business, project, IT, and support viewpoints. In addition to leading advisory services, we can also provide skilled staff and management to implement a BI/DW project of any scale in a collaborative and agile manner.

Deloitte also has access to world-class, global capabilities across strategic and operations, human capital, technology advisory, online and mobile design and development, financial advisory services, tax, and risk management. We use an integrated approach in providing services to help our clients in their efforts to connect their information management initiatives with their overall business strategy.

Top down – Bottom Up Approach

Business strategy KPIs

Rapid iterative build

Data availability Technology capability
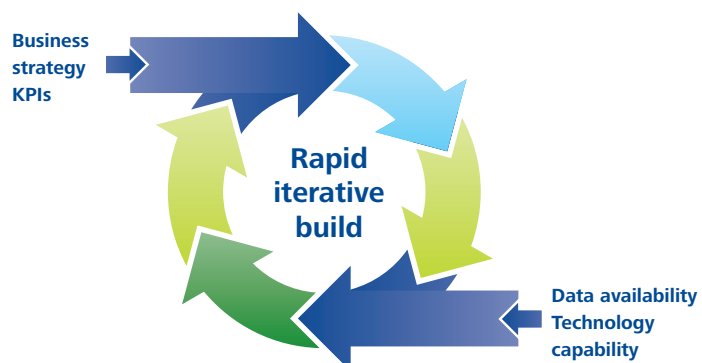
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