



AN APPROACH TO IMPROVE AGILE ADOPTION WITHIN ORGANIZATIONS

Abstract

Agile methodologies are gaining popularity among organizations looking to reduce time to market and execute changes faster. However, implementing agile calls for organization-wide changes in mindsets and ways of working if it is to succeed. This paper examines the topmost business, technical and operational challenges to implementing agile in organizations using complex packaged ERPs like SAP. It also provides clear steps to overcome these challenges, thereby helping organizations maximize value from their investments in agile transformation.

Introduction

Many organizations are adopting agile for its proven benefits of reduced time to market, early watch, fail fast, and deeper stakeholder involvement during product development. While these outcomes are attractive to enterprises, implementing agile is a challenge due to several reasons.

Agile is more of a philosophy than a process or tool. Consequently, it comes with significant resistance to change. Old ways of working, mindsets, perceived technical challenges, and constraints of time or capacity must be replaced with new thinking. Agile teams are structured very differently, and stakeholders play different roles. Software development processes also change, and development teams must adapt to this. For example, existing processes like requirements documents and their traceability are irrelevant among agile teams where the emphasis is on doing things iteratively with "just enough" confidence. This is a wide departure from traditional models where the focus is on gaining complete clarity before initiating development.

To embrace the agile mindset, stakeholders must change their ways of working and philosophies across three different levels:

- Business
- Technical
- Operational

The following sections delve into the challenges involved in each of these three levels and recommend steps to address them. These recommendations are based on Infosys experience and best-practices when implementing agile projects for leading global organizations.

To embrace the agile mindset, stakeholders must change their ways of working and philosophies across three different levels:

- Business
- Technical
- Operational

1. Changing the business perspective

The topmost business challenges faced when implementing agile can be broadly classified into five areas:

- A. Resistance to change
- B. Low business participation
- C. The myth that 'agile is only for IT'
- D. Incorrect requirements slicing
- E. High cost of change

1.A. Resistance to change

Most sponsors and users of IT projects have preset ways of working that make it difficult to adapt to change. This is compounded by risk aversion and lack of clarity on the benefits of agile. There is also the false idea that one can save time by exiting the project after providing the business requirements.

Our experience has shown that being hasty during the requirements gathering phase leads to extra time being spent during the testing phase because the requirements must be discussed again. Use of incomprehensible jargon and the introduction of new project execution roles

without proper training and background can lead users to distance themselves from project execution, leading to resistance.

The way forward

- **Create a comprehensive organization-wide change management plan** that covers mandatory training on agile ways of working and its benefits along with workshops that demonstrate the different ceremonies of agile
- **Encourage sharing of positive experiences and case studies** by business stakeholders and internal agile champions to improve understanding of agile implementations. If the organization has no prior experience with agile, then invite companies or consultants to share their stories
- **Regularly publish success stories** that focus on deliverables, breakthrough moments, cost savings, quality, etc., to create a positive mindset and motivate the larger enterprise community to embrace agile methodologies
- **Highlight and display parameters** like end-user experience and long-term value beyond the obvious benefits of effort and cost savings to increase awareness and adoption



1.B. Low business participation

Usually, the initial requirements are not always clear or granular. Business stakeholders often do not see value in participating during the initial software design and build assuming that there may be too many changes to the solution. There is also limited knowledge on the benefits achieved through steady business participation and the concept of operating as “one team”. The lack of authority in decision-making further reduces participation of business stakeholders. They may not be the direct beneficiaries of the delivered solution and, hence, shy away from active participation. Another common assumption is that solutions are too technical with terminologies that are difficult for business users to understand. Due to the rigid demarcation of IT and business roles for the software build, business stakeholders do not see the deliverable as a mutually beneficial product.

The way forward

- **Use design thinking and prototyping** to get an early view of the solution. This increases visibility, thereby encouraging active participation
- **Prepare a stakeholder value map** early on in the project to identify and involve direct beneficiaries in the solution build
- **Engage support from the project team** to convert the technical solution document into one that can be easily understood by business stakeholders
- **Empower product owners** to take decisions on different aspects of technical design
- **Ensure flexible budget and timelines** so that stakeholders can explore new methodologies for project execution

1.C. The myth that ‘agile is for IT’

In many organizations, IT is expected to deliver projects with minimum involvement of business users. However, sparse business user involvement in agile projects can lead to under-delivery or incomplete delivery, frustrating the requestor and leading to higher cost due to rework. Another misconception is that, since business user involvement is necessary, agile enables IT to push their accountability onto business users. These false ideas and poor user experience arise from failure to achieve the true benefits of agile, leading to a negative mindset.

The way forward

- **Conduct awareness sessions** that showcase the benefits of agile execution and highlight the importance of business involvement. When promoted by senior leadership, this improves user participation
- **Promote agile ceremonies** and methodologies in pure business (non-IT) projects. By positioning agility as a strategic organizational goal, business stakeholders will be encouraged to build new agile capabilities and initiatives by themselves

1.D. Incorrect requirements slicing

Typically, user stories are broken down by functional or technical areas, leading to user stories being treated as isolated work packages.

The way forward

- **Assign well-trained or experienced professionals** to write user stories. For example, product owners who have insight into end-to-end business workflows
- **Clearly define** the acceptance criteria and the storyline

1.E High cost of change

In SAP, frequent changes and redefining business processes tend to be prohibitive from a cost perspective, impeding experimentation. The main reasons for this are the modular structure of SAP coupled with highly specialized consultants who focus only on their core expertise. Moreover, each change has its own regression impact.

The way forward

- **Drive innovation in small, independent chunks** that can be managed easily from business as well as technical perspectives owing to their relatively independent nature
- **Enable cross-skilling of resources**, particularly in workstreams where the skills are easily transferable such as SD-MM, MM-PP, MM-Ariba, Functional + ABAP, etc.
- **Invest in automated testing** and build a regression testing suite

These five areas must be holistically covered in any organizational change management program when adopting agile to create a positive mindset among business users.

2. Changing the technical perspective

Product development for a packaged application differs from a bespoke one. In packaged applications, each requirement has to be customized on top of a pre-delivered massively cross-referenced ERP system. This entails knowing the application first and then understanding gaps between the pre-configured solution and the business requirements. The common technical challenges faced when using agile methodology for SAP projects are:

- A. Inability to execute multiple releases
- B. Need for cross-functional skills
- C. Versioning challenges due to architectural limitations
- D. Lengthy impact assessments
- E. Heavy documentation

2.A. Inability to execute multiple releases

Most organizations consider any requirement as a single 'big' story that needs to be delivered in one iteration. This is the biggest mindset change needed.

The way forward

- **Business users should break up their requirements into smaller ones** to reduce the cross-functional requirements. This can be achieved to a certain extent with the help of IT teams
- **Create independent solution blocks** by grooming and refining the stories from the business and technical perspectives. These blocks can then be delivered by independent teams, thus eliminating the need for cross-functional teams
- **Prioritize technical considerations** over business considerations if it helps shorten go-to-market timelines



Cross functional ERP:
Provides lot of benefits but brings in challenges in implementation

- Complex solutions
- Interdependencies
- Cross functional impacts
- Expensive and time consuming

2.B. Need for cross-functional skills

SAP has multiple modules focusing on different business processes like sales and distribution, financial accounting and controlling, production planning, material management, quality management, etc. The IT teams helping in the implementation and maintenance of SAP have always had a clear demarcation of skills with dedicated specialists for each of these modules. Thus, development is mostly handled by a different set of consultants skilled in advanced business application programming (ABAP).

The way forward

- **Include individuals with cross-functional skills or techno-functional skills** similar to a full-stack consultant in other technologies within the IT team. This can be an expert in the sales and distribution module with ABAP skills who can analyze impact and enable implementation faster and with greater accuracy. These cross-functional skills, when enhanced with business process knowledge, can help rapidly execute user stories.

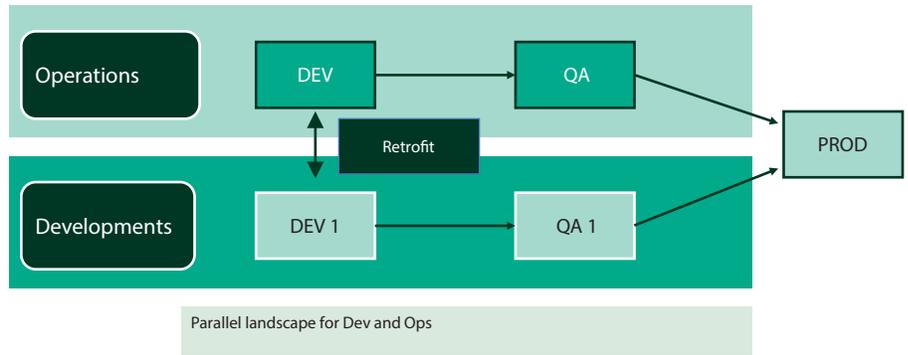
2.C. Versioning challenges due to architectural limitations

One of the common challenges in SAP projects is the inability of multiple developers to work on the same piece of code (known as an 'object' in SAP). The object is unavailable or locked until it completes the software development lifecycle (SDLC). So, before a new change can begin, the earlier one must be in the production environment. This restricts the number of requirements/projects that can be executed in parallel, resulting in the organization losing valuable time.

The way forward

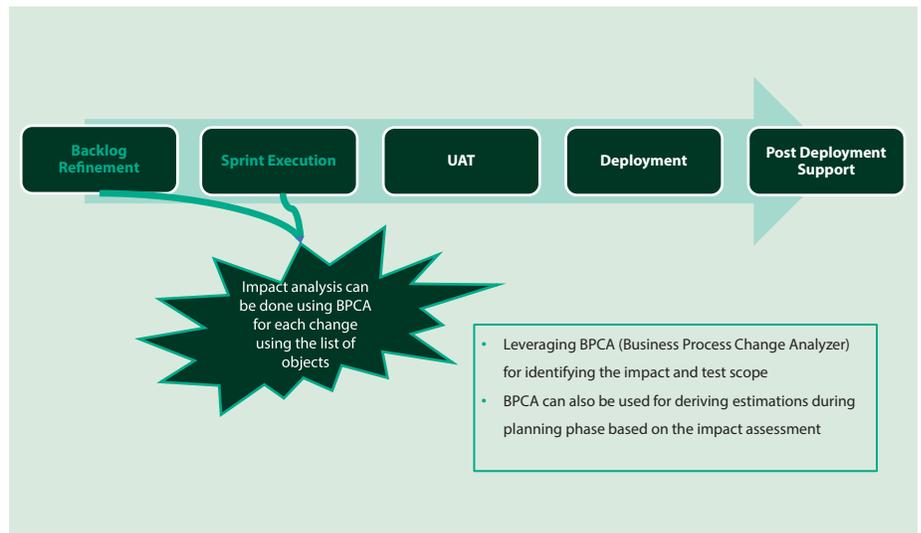
- **Leverage release management** to plan changes and avoid any conflict arising from multiple projects needing the same object
- **Establish a release management group** or a change approval board to prioritize business needs and decide on who gets ownership of the object
- **Make code modularization a priority** among IT development teams to reduce dependency on specific objects

- **Provision parallel environments**, one for small enhancements and bug fixes and another for major projects. This approach may call for additional effort when retrofitting the changes and keeping the systems in sync
- **Equip developers with the right functionalities in solution manager** like CSOL (cross system object lock), and retrofit programs like /SDF/ OBJ_TR_COMP, and /SDF/OBJ_OVERLAP to identify conflicts and resolve them during the build, thereby ensuring that only correct versions are pushed into production



2.D. Lengthy impact assessments

Any software change requires a proper impact assessment. In SAP, impact assessments take a long time due to ingrained package complexities such as interdependencies or cross functional use of a solution across multiple processes in an organization. Typically, longer impact assessments mean reduced agility.



The way forward

- **Establish a good knowledge base** of the implemented solution and create detailed business process maps to accelerate impact assessments
- **Use tools/solutions like BPCA** in SAP Solution Manager, Infosys Panaya, etc. to accelerate the process and improve accuracy

2.E. Heavy documentation

Every project involves extensive, elaborate and unique documentation that is developed during the lifecycle of the project. Though these documents are needed in the long-term, creating them is a time-consuming activity and a hindrance to agility.

The way forward

- **Use lean documentation to provide a high-level overview of the solution**, particularly for shorter go-to-market timelines. Project owners can choose to eliminate detailed documentation or make it a post-implementation activity
- **Employ ALM tools to track solution details**, requirement traceability, etc., during the implementation phase. These can also be referred to when preparing the final documentation
- **Leverage the in-built documentation feature in ABAP editor** along with the inline comments capability within the code to simplify documentation

3. Changing the operational perspective

'Agile operations' can be considered as an umbrella term when referring to the application of agile principles and methods for SAP development projects in an organization. Some of the key operational challenges that arise while adopting agile methodology are:

- A. Managing the scope of agile
- B. Dealing with multiple approvals
- C. Enabling a one-team culture with remote collaboration
- D. Delivering a shippable product in each sprint

3.A. Managing the scope of agile

Defining the scope of agile contracts is always challenging. Even though agile welcomes change to requirements in each iteration, uncontrolled flexibility can sometimes spiral into 'scope creep', bloating a project beyond its initially defined plan.

The improper articulation of the agile epics can cause a cascading effect on user stories, burying the actual business objective of the project. Some of the other reasons for scope creep include losing sight of the business objective during the refinement process, inability to visualize the end-product earlier, and missing key requirements due to lack of technical grooming during the feasibility phase. Epic user story refinement and prioritization without technical grooming results in an expectation mismatch, compromising the ability to deliver a shippable product in each sprint.

The way forward

- **Designate a representative for business, technical and operational streams** in the pre-assessment phase to ensure that the high-level epic user stories reflect the overall business objective of the project
- **Leverage effective modelling through process maps or network diagrams** to give stakeholders early insights into the final product or solution. In some projects, a proof of concept demonstrating a working prototype can help confirm the solution's feasibility
- **Refine and agree on the technical feasibility** once the user stories are prioritized before proceeding with the sprint execution activities

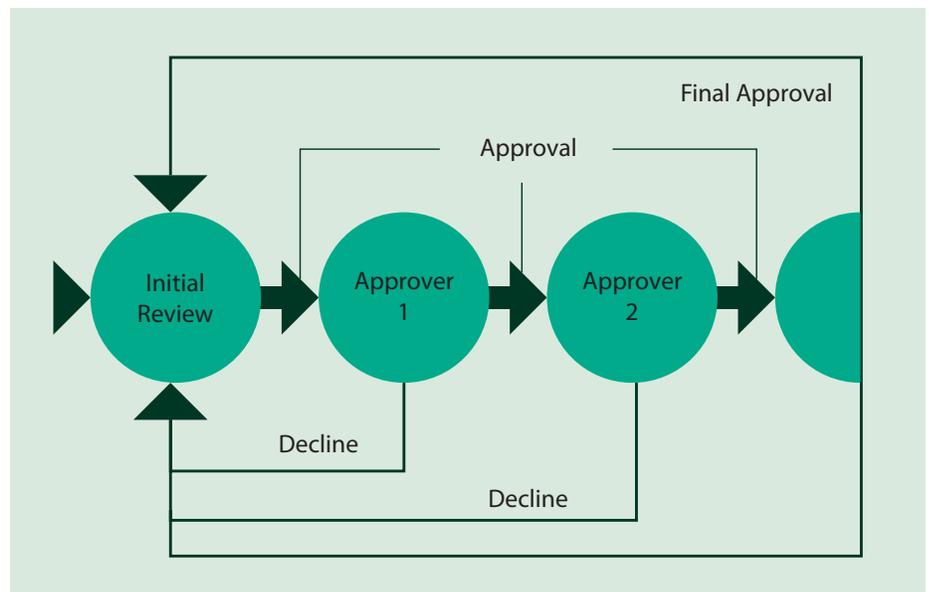
3.B. Dealing with multiple approvals

Numerous approval steps slow down the delivery pace, impeding releases.

Sequential and multiple cross-functional approvals can be time-consuming. Moreover, multiple design documents increase complexity, further delaying approval.

The way forward

- **Merge business, technical and operational owners on a single platform** to generate consensus in the feasibility phase, thereby securing cross-functional approvals.
- **Ensure quick design reviews for every version change** during the sprint execution so that the governance team is always apprised of the latest design upgrades
- **Consolidate multiple document formats**, like user requirement and solution design, into a single document to reduce the overall turnaround time for approval



3.C. Enabling a one-team culture with remote collaboration

An agile team is all about communication and collaboration. These are essential traits for agile team members. However, a distributed agile framework involves multiple roles and modules scattered across multiple locations. This can lead to low cohesiveness and collaboration difficulties. It also breeds poor communication that may result in a mismatch among expected product deliverables, creating unnecessary rework.

The way forward

- Arrange for a formal meet-and-greet session, preferably physically or via video calls, where team members can get acquainted with each other. Regular face-to-face interactions over video further help break the ice
- Celebrate successful completion of milestones as a team by sharing videos or photographs with remote team members to foster team building
- Leverage video-enabled collaboration tools for project-related discussions that can be recorded for reference
- Engage in regular team calls to field and clarify doubts, encourage team participation and problem solving. Capture minutes of meeting for all interactions to eliminate discrepancy and confusion

3. D. Delivering a shippable product in each sprint

Infosys has observed significant challenges when delivering shippable products in SAP projects. The key reasons for this are poor focus on the sprint goals when delivering committed story points and the lack of proper data set-up while executing tests. Proper test data is essential for faster testing with adequate coverage.



The way forward

- Monitor tasks daily and use a sprint burndown chart to keep the sprint on track
- Ensure that demo sessions are clear and understandable to the intended audience and that they meet the acceptance criteria
- Use close follow ups during daily stand-up meetings to get approvals on completed user stories and move the stories to the 'done' stage
- Allocate time to properly plan end-to-end data requirements when more than one party or system is involved. Identifying scenarios as well as test data are crucial to create a robust and quality shippable product

The above operational challenges can be addressed with collaborative ALM and communication tools. Establishing a supportive culture to foster a one-team culture with shared team goals is vital for agile project success. Adopting agile principles with the right mindset in a disciplined manner is needed at every stage to ensure timely project delivery. Streamlined approval processes will ensure budget and manpower are being utilized efficiently while awaiting feedback.

Conclusion

Organizations trying to adopt agile ways of working must first drive mindset change among all stakeholders. Unlike traditional SDLC, agile projects require equal participation by business users. Proper data planning, requirement mapping, software changes prioritization, tool usage, etc., are mandatory within agile projects. Holistic organizational change management for adopting agile will deliver long-term business benefits and growth.

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