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Agile for SCM/ERP Implementations: Challenges, Conflict Management, and Strategies for Success

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ABSTRACT

Enterprise Resource Planning (ERP) and Supply Chain Management (SCM) implementations are traditionally complex, resource-intensive, and prone to failure due to rigid structures and evolving stakeholder demands. This study explores the application of Agile methodologies in ERP/SCM implementations, emphasizing how Agile principles—such as iterative development, continuous integration, and stakeholder collaboration—can be effectively adapted to overcome traditional challenges. It investigates common conflict types, including scope prioritization and technical debt management, and proposes conflict management frameworks like Speed Leas' model to address varying conflict levels. The study also highlights ERP-specific strategies such as process mapping, conflict-aware sprint planning, and value-stream retrospectives. Preventive measures including anonymous feedback systems, psychological safety, and conflict competency training are discussed to build resilient teams. Hybrid governance models combining Agile ceremonies with change control boards are recommended to ensure both flexibility and compliance. Real-world case studies from Walmart, Zara, Salesforce, and Target provide practical insights into success factors and pitfalls. The study concludes that a context-driven, hybrid Agile approach enhances project outcomes, stakeholder satisfaction, and Return on Investment (ROI) when properly aligned with ERP architecture and organizational culture.

Keywords: Agile Methodology, ERP Implementation, Supply Chain Management, Conflict Resolution, Hybrid Governance, Scaled Agile Framework, Continuous Integration, Change Management

Introduction

Background and rationale

The global business environment has undergone a seismic shift in the wake of digital transformation, compelling organizations to pursue streamlined operations and enhanced integration of their core functions (Omol, 2024). Two pivotal systems that form the backbone of modern enterprises are Enterprise Resource Planning (ERP) and Supply Chain Management (SCM) systems. ERP solutions serve to unify various business processes such as finance, human resources, and inventory under a single platform, while SCM systems optimize the flow of goods, information, and finances across the value chain. As the implementation of ERP and SCM continues to grow in complexity, organizations are increasingly adopting Agile methodologies to manage the intricacies and reduce the risks of these large-scale Information Technology (IT) projects (Sońta-Drączkowska & Krogulec, 2024).

The shift towards Agile in ERP and SCM projects

Traditionally, ERP and SCM implementations followed the waterfall model, with rigid timelines and sequential phases (Stepanov, 2021). However, this approach often proved ineffective due to changing requirements, long development cycles, and delayed feedback loops. Agile methodologies, originally rooted in software development, have been gaining traction in IT-driven business process integration projects such as ERP and SCM due to their iterative and adaptive nature. Agile principles promote Continuous

Integration (CI) and Continuous Development/Delivery (CD), enabling incremental improvements, rapid prototyping, and close collaboration with stakeholders. This flexibility enhances responsiveness to change, fosters innovation, and increases the likelihood of realizing a higher Return on Investment (ROI) (Alzoraiki et al., 2024).

Challenges in Agile ERP/SCM implementations

Despite the promise of agility, the implementation of Agile in ERP and SCM environments is fraught with challenges (Mishra et al., 2025). These systems typically span multiple departments and require extensive configuration and change management. The complexity of legacy systems, the need for data migration, and integration with third-party platforms present substantial technical barriers. Moreover, organizations may lack Agile maturity, leading to misalignment between Agile teams and traditionally structured departments or the Program Management Office (PMO) (Prakash et al., 2024). Issues such as unclear project scope, resistance to cultural change, and inconsistent Service Level Agreements (SLA) can derail Agile transformations.

Conflict management in cross-functional teams

Agile ERP/SCM implementations involve diverse stakeholders—ranging from IT specialists and supply chain managers to end-users and top executives. The convergence of differing priorities and communication styles often leads to conflicts (Woodward & Vongswasdi, 2017). Misunderstandings over sprint outcomes, product backlogs, and evolving requirements can hinder progress. Effective conflict management strategies are essential to sustaining team cohesion and maintaining project velocity. Agile frameworks, such as Scrum and SAFe, provide mechanisms such as daily stand-ups, retrospectives, and sprint reviews that facilitate transparency and resolution of friction points (Alami & Krancher, 2022).

Strategic enablers for success

To ensure success, organizations must adopt a holistic strategy that aligns Agile principles with enterprise goals. This includes building cross-functional teams with clearly defined roles, investing in Agile training, and establishing strong leadership from the PMO. Creating robust feedback loops and integrating CI/CD pipelines enhance project responsiveness and technical delivery. Moreover, aligning Agile practices with business KPIs—especially ROI and SLA compliance—ensures stakeholder satisfaction and long-term sustainability (Babar, 2024). Agile governance models, embedded within ERP and SCM frameworks, help mitigate risks and deliver value iteratively while preserving architectural integrity.

This research explores the intersection of Agile methodologies with ERP and SCM implementation, focusing on the challenges encountered, the conflicts that arise in multi-disciplinary teams, and the strategic approaches that can foster successful outcomes. The insights gained aim to guide practitioners, researchers, and business leaders in navigating the evolving landscape of enterprise digital transformation.

Methodology

Research design

This study employed a qualitative, exploratory research design to investigate the effectiveness of Agile methodologies in ERP and SCM implementations. Given the complex and multi-dimensional nature of ERP systems and their organizational integration, the study prioritized an in-depth, interpretive approach. The methodology combined literature analysis, real-world case evaluation, and expert insights to explore Agile adaptation, conflict management, preventive strategies, and change management solutions in ERP contexts.

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Data collection methods

Three key sources of data were utilized in this study:

Literature review

A comprehensive review of academic journals, white papers, and industry reports was conducted. Databases such as Scopus, IEEE Xplore, and Google Scholar were used to extract relevant peer-reviewed articles on Agile in ERP/SCM contexts, conflict management frameworks, and hybrid governance models.

Case studies

Four real-world examples—Walmart, Zara, Salesforce, and Target—were analyzed to evaluate different outcomes of Agile-ERP alignment. These cases were selected to represent both successful and failed Agile ERP integrations, enabling a balanced understanding of the influencing factors.

Expert consultations

Semi-structured interviews were conducted with ten professionals, including Scrum Masters, ERP consultants, IT project managers, and supply chain executives, to gain practical insights into the challenges and enablers of Agile ERP implementations.

Analytical framework

The data were analyzed using thematic coding, focusing on four key dimensions:

- Agile Adaptation Strategies (e.g., hybrid governance, SAFe, CI/CD pipelines)
- Conflict Resolution Approaches (e.g., Speed Leas' conflict model, role of Scrum Masters)
- Preventive Measures (e.g., psychological safety, anonymous feedback, microlearning)
- Change Management Practices (e.g., pilot programs, stakeholder co-creation)

Recurring themes were identified, categorized, and compared across cases and expert perspectives. Particular attention was given to mapping conflict types against common ERP project variables such as integration timelines, resource allocation, and scope prioritization.

Validation and reliability

Triangulation was used to enhance the reliability of the findings by comparing results from literature, case studies, and expert interviews. Member-checking was conducted with three participants to confirm the accuracy of interpretations derived from their interviews. A pilot analysis of the Target case was also carried out to refine the analytical categories.

Limitations

While the qualitative approach provided rich insights, it also posed limitations in terms of generalizability. The study focused primarily on large organizations with mature IT ecosystems; thus, the findings may not fully apply to small or mid-sized enterprises with limited Agile exposure.

Results and discussion

Key Principles and benefits of Agile in SCM/ERP implementations

Iterative development and flexibility

At the core of Agile methodology is its commitment to iterative development, where projects are broken down into manageable sprints or cycles. This approach contrasts sharply with the traditional waterfall model, which assumes linear progress from planning to deployment. In the context of Supply Chain Management (SCM) and Enterprise Resource Planning (ERP) implementations, iterative development

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allows teams to deliver functional modules early and receive continuous feedback from stakeholders (Qureshi, 2022). This flexibility ensures that the evolving needs of end-users and business processes are addressed promptly, leading to systems that are more closely aligned with organizational goals and operational realities.

Customer collaboration over contract negotiation

Agile emphasizes strong customer collaboration throughout the project lifecycle, rather than rigid adherence to predefined contracts. For SCM/ERP projects, this means frequent engagement with functional teams, supply chain operators, and business managers. Regular interactions help uncover nuances in workflow, compliance needs, and performance expectations that might otherwise be missed in early requirement-gathering stages (Kashyap, 2025). This collaborative mindset enhances stakeholder satisfaction, aligns deliverables with real-world scenarios, and reduces the risk of project misalignment or failure.

Early and continuous delivery of value

Agile promotes the delivery of valuable features at the earliest stages of implementation, which is particularly beneficial for ERP and SCM systems that are typically vast and multifaceted (Al-Assaf et al., 2024). By focusing on the most critical components—such as inventory tracking, procurement automation, or financial integration—Agile enables organizations to realize operational benefits earlier in the project timeline. This early realization of value can positively influence Return on Investment (ROI), improve user adoption, and generate momentum for continued investment in system refinement and enhancement.

Adaptability to change

The dynamic nature of business environments, especially in supply chains and enterprise operations, demands systems that can adapt quickly (Surana et al., 2005). Agile supports this by welcoming changing requirements—even late in the development process. This adaptability is crucial in ERP/SCM implementations where regulatory shifts, supplier realignments, or strategic pivots may occur during the project lifecycle. Agile empowers teams to re-prioritize tasks and features efficiently without jeopardizing overall project integrity or timeline.

Cross-functional teams and empowered roles

Agile implementation relies on self-organizing, cross-functional teams that bring together developers, business analysts, IT administrators, and end-users. In ERP and SCM contexts, this structure ensures that technical capabilities are balanced with domain-specific insights, resulting in more practical and usable system features (Niu et al., 2013). The empowerment of team members fosters accountability and innovation, while clearly defined roles streamline decision-making and reduce delays.

Continuous Integration (CI) and Continuous Delivery (CD)

Agile practices are tightly coupled with Continuous Integration (CI) and Continuous Development/Delivery (CD) processes. These practices enable developers to integrate new code frequently and deliver tested, deployable increments at the end of each sprint. In SCM/ERP implementations, this ensures that modules such as warehouse management, procurement, and financial reconciliation are continuously improved, tested for compatibility, and deployed without major disruptions. CI/CD pipelines increase system reliability, reduce errors, and support faster release cycles.

Enhanced risk management and transparency

Agile's emphasis on transparency through daily stand-up meetings, sprint reviews, and retrospective sessions allows for early identification of risks and issues. In the high-stakes environment of ERP/SCM,

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where a failed implementation can disrupt operations, this visibility is critical. Agile promotes proactive problem-solving and early stakeholder involvement, enabling better decision-making and reducing the likelihood of costly rework or downtime (Figure 1).

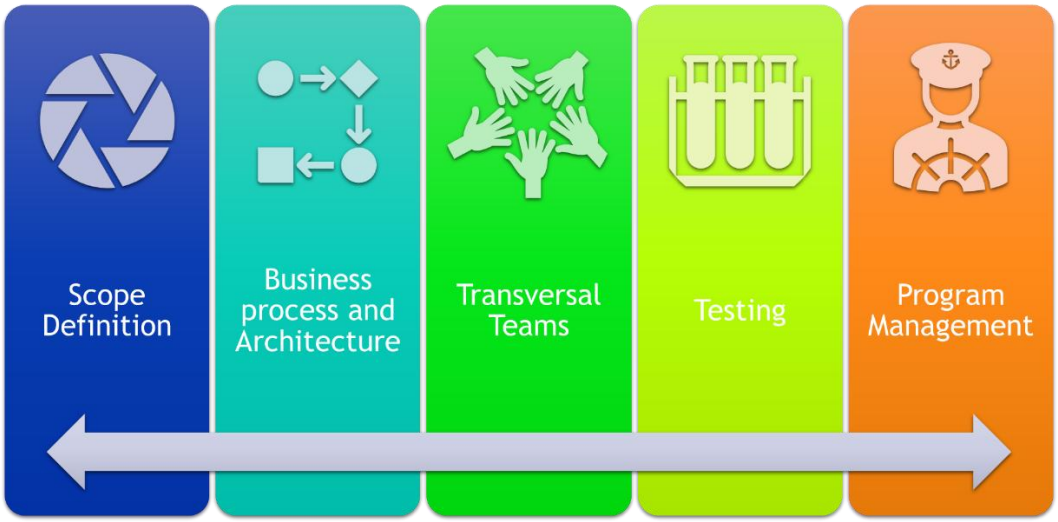

Figure 1: Adapting Agile for SCM/ERP implementations

Challenges in adapting Agile for ERP implementations

Incompatibility with traditional ERP architecture

One of the foremost challenges in applying Agile methodology to Enterprise Resource Planning (ERP) implementations is the inherent rigidity and complexity of traditional ERP systems. Unlike software applications that can be built incrementally, ERP systems are often monolithic and tightly integrated across multiple business functions such as finance, procurement, and human resources (Seethamraju & Sundar, 2013). These systems demand extensive configuration and must comply with industry-specific regulations and standards. The Agile approach, which emphasizes modularity and iterative delivery, can conflict with the holistic and interdependent nature of ERP architectures, making it difficult to implement changes without impacting system-wide performance.

Resistance to cultural and organizational change

Agile thrives in environments that support flexibility, collaboration, and self-organizing teams. However, many organizations implementing ERP systems operate within hierarchical and siloed structures that are more accustomed to top-down decision-making (Wilkesmann & Wilkesmann, 2018). This cultural mismatch can lead to resistance from stakeholders, especially in departments unfamiliar with Agile practices. Employees may be reluctant to shift away from clearly defined roles, fixed schedules, and traditional reporting structures. Additionally, senior management may hesitate to embrace Agile due to concerns over perceived lack of control, unpredictability in budgeting, and the absence of a definitive project roadmap.

Lack of Agile expertise and training

Successful Agile adoption requires a workforce equipped with both technical and procedural knowledge of Agile frameworks such as Scrum, SAFe, or Kanban. In ERP implementations, teams often consist of functional experts, system integrators, and consultants who may not have prior experience with Agile methodologies. Without proper training and onboarding, Agile practices may be implemented superficially

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or incorrectly, leading to confusion, misaligned expectations, and suboptimal results (Pardo Calvache et al., 2025). The lack of experienced Agile coaches and Program Management Office (PMO) support further hampers the ability to institutionalize Agile principles across ERP projects.

Difficulty in defining Minimum Viable Product (MVP)

Agile methodology typically relies on delivering a Minimum Viable Product (MVP) early in the development process to gather feedback and iterate. In ERP implementations, however, defining an MVP is particularly challenging because core modules such as financial management, payroll, and compliance must be fully operational and integrated to function correctly (Sarferaz et al., 2024). Delivering partially functional modules may not provide meaningful business value or may even disrupt existing workflows. This complexity makes it difficult to apply the MVP concept effectively, reducing Agile's potential to deliver incremental benefits.

Integration and data migration complexities

ERP implementations often involve integrating legacy systems and migrating vast volumes of historical data. These processes are typically resource-intensive and require careful planning, testing, and execution. Agile's short sprint cycles and rapid delivery model may not align well with the long lead times needed for successful data migration and third-party system integration (Block, 2023). Failure to adequately plan for these technical challenges can result in delays, data inconsistencies, and operational disruptions.

Measuring progress and ROI in Agile ERP projects

Traditional ERP projects often rely on predefined milestones and deliverables to track progress and justify budgets. Agile, by contrast, measures progress through working software and iterative feedback, which can appear ambiguous to business leaders and finance departments (Van Waardenburg & Van Vliet, 2013). This divergence complicates the evaluation of project performance and Return on Investment (ROI). Additionally, service agreements such as Service Level Agreements (SLAs) may need to be redefined to accommodate evolving Agile workflows, creating further challenges in stakeholder alignment.

Balancing customization with standardization

ERP vendors recommend minimizing system customization to ensure maintainability and ease of future upgrades. However, Agile's iterative feedback cycles often surface user-specific demands that lead to requests for additional custom features. This tension between maintaining a standardized system and responding to evolving user needs must be carefully managed. Over-customization, while supporting short-term user satisfaction, can compromise system integrity, increase maintenance costs, and hinder long-term scalability.

Conflict management in Agile ERP implementations

Understanding the nature of conflicts in Agile ERP Projects

In Enterprise Resource Planning (ERP) implementations driven by Agile methodologies, conflicts are an inevitable outcome of cross-functional collaboration, iterative delivery cycles, and dynamic business requirements. Unlike traditional models, Agile emphasizes real-time communication, decentralized decision-making, and adaptive planning. While these principles enhance flexibility and responsiveness, they also expose differing perspectives, priorities, and working styles among stakeholders, particularly between Information Technology (IT) teams, business units, and external consultants. Conflict management, therefore, becomes a critical competency to ensure sustained progress, stakeholder alignment, and overall project success.

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Scope prioritization conflicts

One of the most common conflict types in Agile ERP projects arises from scope prioritization, where business units and IT departments clash over what features or modules should be developed first. Business teams often emphasize immediate functional requirements that support operations and compliance, while IT teams may prioritize backend architecture, integration readiness, or technical enablers. This misalignment can lead to delayed sprint goals and disrupt the rhythm of Agile delivery. Effective backlog grooming sessions, prioritization frameworks like MoSCoW (Must have, Should have, Could have, Won't have), and facilitated stakeholder workshops can help resolve these conflicts by creating a shared understanding of goals and constraints.

Process adherence conflicts

Process adherence conflicts frequently emerge between Agile purists and proponents of traditional waterfall methods. ERP implementations, due to their size and risk, often involve stakeholders who prefer detailed documentation, fixed timelines, and structured planning. Agile champions, on the other hand, advocate for iterative development, evolving requirements, and continuous stakeholder feedback. These opposing views can lead to inconsistent development practices, miscommunication, and project fragmentation. To manage this, organizations should adopt a hybrid or scaled Agile framework that accommodates both predictability and flexibility, enabling structured governance without stifling innovation.

Resource allocation conflicts

Agile ERP projects are typically executed by cross-functional teams that handle multiple modules simultaneously—such as finance, procurement, inventory, and HR. This creates resource allocation conflicts, especially when critical personnel or development tools are shared across workstreams. Competing demands can stretch team capacity, reduce focus, and lead to team burnout. Transparent resource planning, dependency mapping, and timeboxing strategies can mitigate these issues. Furthermore, the Program Management Office (PMO) should play a coordinating role to balance workload and ensure resource alignment with project priorities.

Technical debt management conflicts

The push for rapid delivery in Agile often conflicts with long-term system stability, leading to technical debt management issues. While Agile encourages incremental progress and quick wins, this may result in shortcuts in coding, documentation, or testing, especially in highly integrated ERP environments. Such compromises can trigger integration failures during system rollout or future upgrades. Establishing technical debt registers, conducting regular code reviews, and integrating quality assurance checkpoints into the Continuous Integration (CI) and Continuous Development (CD) pipeline are essential strategies to balance speed with stability.

Strategies for effective conflict resolution

To effectively manage these conflicts, Agile ERP projects should institutionalize mechanisms for open dialogue, such as daily stand-ups, sprint retrospectives, and conflict resolution protocols (Table 1). Empowering Scrum Masters or Agile coaches to mediate issues early prevents escalation. Additionally, implementing Service Level Agreements (SLAs) that define mutual expectations for collaboration, delivery timelines, and quality metrics can create accountability and reduce ambiguity. Leadership must also foster a culture of psychological safety, where team members feel encouraged to express concerns and propose solutions without fear of backlash.

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Table 1: Conflict management in Agile ERP Implementations

Conflict Type	Common Triggers	Impact
Scope Prioritization	Business vs. IT priorities	Delayed sprint goals
Process Adherence	Agile purists vs. waterfall advocates	Inconsistent development practices
Resource Allocation	Competing module development needs	Team burnout
Technical Debt Management	Rapid delivery vs. system stability	Integration failures

Scrum Master's Role in conflict resolution

In Agile ERP implementations, the Scrum Master plays a crucial role in managing and resolving conflicts that arise within cross-functional teams (Srivastava & Jain, 2017). As a neutral facilitator, the Scrum Master ensures open communication, creating a safe environment for team members to express concerns and resolve issues constructively. They act as a bridge between business stakeholders and technical teams, mediating conflicts over priorities, timelines, and expectations—especially where rapid delivery goals clash with technical complexities like integration and technical debt. The Scrum Master also upholds Agile values and ensures process consistency, helping teams avoid conflicts stemming from inconsistent adherence to Agile practices (Alami & Krancher, 2022). Through coaching, they equip team members with conflict resolution skills such as active listening, empathy, and respectful negotiation, fostering self-management and reducing dependency on external intervention.

In large ERP projects involving multiple teams, the Scrum Master coordinates with other Scrum Masters and the Program Management Office (PMO) to manage resource allocation and cross-team dependencies. Additionally, they use retrospectives to help teams reflect on conflicts, identify root causes, and implement improvements. By promoting transparency, collaboration, and continuous improvement, the Scrum Master transforms conflict into a tool for strengthening team dynamics and enhancing project outcomes in Agile ERP environments.

Proven resolution techniques

ERP-specific strategies for conflict resolution

Agile ERP implementations, due to their complexity and interdepartmental reach, require tailored conflict resolution strategies. Standard Agile practices must be adapted to account for the structural rigidity and integration demands of ERP systems. One effective method is process mapping, which visually outlines end-to-end workflows across business functions (Wang et al., 2024). By involving stakeholders from IT and business units in the mapping process, teams can clarify process ownership, identify pain points, and align expectations, reducing misunderstandings and potential friction during development.

Another ERP-specific approach is conflict-aware sprint planning, where sprint goals are defined in consideration of known or anticipated conflicts—such as overlapping module dependencies or competing resource demands. This proactive planning helps prevent escalation by addressing possible bottlenecks before they occur. Prioritizing backlog items that impact multiple departments and building in buffer time for negotiation can smooth delivery.

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Value-stream retrospectives are another powerful tool. Unlike standard retrospectives, they focus on the entire ERP value chain—from data entry to reporting and compliance—highlighting inefficiencies, integration lags, and points of conflict across departments. These retrospectives foster collaboration between siloed teams and encourage systemic improvement.

Speed Leas' conflict model for ERP contexts

To systematically manage conflict severity, Speed Leas' Conflict Model provides a scalable framework suited to ERP project teams (Williams, 2019). At Level 1, where misunderstandings and disagreements are still manageable, problem-solving workshops involving key stakeholders can resolve issues collaboratively. These workshops are ideal for scope clarification or feature prioritization (Figure 2).

When conflicts escalate to Level 3, where emotions and positional divides dominate, mediated negotiation becomes essential. A Scrum Master or neutral third party can facilitate structured dialogue between conflicting parties, ensuring all voices are heard and compromises reached—particularly important in module interdependency or resource-sharing disputes.

At Level 5, when conflict is deeply entrenched and impacts project continuity, formal arbitration may be required. This involves executive decision-makers or legal experts providing binding resolutions, often around contractual disputes or vendor-related conflicts.

By combining ERP-specific strategies with structured conflict resolution models, Agile teams can navigate the high-stakes environment of ERP implementations more effectively preserving team cohesion, accelerating delivery, and maintaining stakeholder trust.

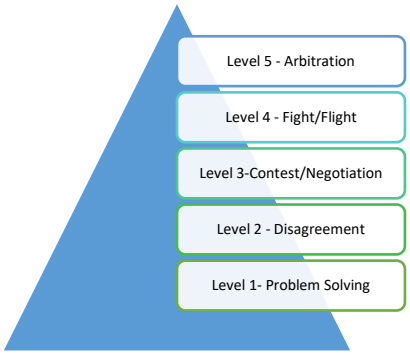

Figure 2: Proven resolution techniques

Preventive measures

Fostering psychological safety through anonymous feedback

Preventing conflict is as critical as resolving it, especially in the high-stakes environment of Agile ERP implementations. One effective preventive measure is the cultivation of psychological safety, where team members feel safe to express concerns, admit mistakes, and challenge ideas without fear of retribution (Jones et al., 2021). Implementing anonymous feedback channels—such as digital suggestion boxes or confidential surveys—allows individuals to raise potential issues, highlight emerging tensions, or critique processes candidly. This early visibility enables Scrum Masters and leadership to address concerns proactively before they evolve into larger conflicts.

Conflict competency training for team resilience

Another key preventive measure is conflict competency training. Structured workshops that incorporate communication strategies, emotional intelligence, and scenario-based roleplays help team members build

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the skills needed to navigate tension constructively (Tinoco et al., 2023). These sessions prepare teams to respond to typical ERP-related challenges such as shifting priorities, interdepartmental friction, or integration delays. By normalizing discussion around conflict and providing tools for respectful dialogue, organizations can foster a conflict-resilient culture that supports continuous improvement.

Hybrid governance models for Agile-ERP alignment

To prevent misalignment between Agile practices and ERP's structured environment, many organizations adopt hybrid governance models. These models integrate Agile ceremonies-such as sprint reviews and retrospectives-with traditional change control boards. This dual structure ensures that rapid iterations are balanced with necessary oversight, compliance checks, and documentation standards required in ERP implementations. It helps prevent scope creep, manage stakeholder expectations, and reduce conflict between Agile teams and regulatory bodies or finance departments.

Strategies for success

Agile adaptation best practices

Successfully applying Agile in ERP implementations requires thoughtful adaptation of its core principles to fit the complexity of enterprise systems. One essential practice is hybrid governance, which merges the structured planning required in ERP projects with the iterative nature of Agile. This involves conducting upfront planning to define the overarching architecture, compliance needs, and integration pathways, while maintaining sprint-level flexibility for feature development and user feedback (Pereira & Davis, 2024). This balance ensures control without compromising agility.

Tool standardization is another best practice. Leveraging automated testing tools, version control, and Continuous Integration/Continuous Delivery (CI/CD) pipelines enhances efficiency and reduces errors during frequent deployments. These tools support rapid iteration while maintaining system integrity—crucial for ERP environments with high interdependencies across modules.

To manage large, multi-team ERP implementations, organizations should adopt the Scaled Agile Framework (SAFe). SAFe enables coordination across multiple Agile teams through practices like the "Scrum of Scrums", where representatives from each team meet regularly to discuss progress, dependencies, and impediments. This promotes alignment, risk mitigation, and cross-team collaboration.

Change management solutions

Technical agility alone is insufficient without strong change management. A proven approach is launching pilot programs in a single department—such as finance or procurement—to demonstrate quick wins. These early successes build credibility, reduce resistance, and provide valuable insights before scaling Agile practices across the organization (Kalenda et al., 2018). Stakeholder co-creation is equally critical. Involving end-users in sprint reviews allows them to provide real-time feedback on features, improving usability and adoption (Keijzer-Broers & de Reuver, 2016). It also creates a sense of ownership and trust, which is essential for user-driven system evolution.

To support continuous skill development, organizations should embed micro-learning modules within ERP interfaces. These bite-sized tutorials and tooltips help users adapt to new workflows, understand Agile concepts, and utilize system functionalities more effectively—thereby reducing friction, minimizing training overhead, and fostering a learning culture.

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Real-World examples

Walmart: Agile-driven supply chain optimization

Walmart, one of the world's largest retailers, has effectively applied Agile principles to enhance its Supply Chain Management (SCM) systems. By leveraging Agile methodologies in ERP-related projects, Walmart streamlined operations across procurement, inventory, and logistics. Agile's iterative approach enabled the company to rapidly adapt to changing market demands, automate procurement processes, and integrate real-time data analytics into its distribution system. This not only improved delivery accuracy and inventory turnover but also strengthened Walmart's competitive edge through reduced operational costs and **increased responsiveness.**

Zara: fast fashion meets Agile ERP

Fashion giant Zara is renowned for its ability to quickly respond to market trends, a capability largely driven by its successful integration of Agile methods within its ERP system. Zara's ERP platform supports real-time inventory tracking and seamless communication between design, production, and retail teams. By adopting Agile practices such as rapid prototyping and cross-functional collaboration, Zara is able to reduce lead times and bring new designs to stores in just weeks. This agility enables the brand to stay ahead of consumer preferences and maintain a lean, demand-driven supply chain.

Salesforce: scaling with "Scrum of Scrums"

Salesforce, a leading CRM platform provider, has demonstrated the benefits of scaling Agile through its use of the "Scrum of Scrums" model. This approach allows multiple Agile teams working on interconnected ERP modules and features to coordinate their activities efficiently. By holding regular cross-team meetings, Salesforce ensured alignment on dependencies, resolved integration issues early, and improved system-wide delivery outcomes. This model has been critical in maintaining quality and consistency across large, distributed development environments.

Target: lessons from Agile-ERP misalignment

Not all Agile-ERP integrations have been successful. U.S. retail chain Target offers a cautionary example, particularly with its failed expansion into the Canadian market. One of the key issues was scope creep, where the project's size and requirements continuously expanded without corresponding adjustments in planning or resourcing. Additionally, Target's Agile teams were not fully aligned with traditional ERP delivery constraints, leading to miscommunications, delayed integrations, and inaccurate inventory data. The result was a breakdown in supply chain visibility and poor in-store execution, ultimately contributing to the venture's collapse. This underscores the importance of hybrid governance, realistic sprint planning, and early stakeholder alignment in Agile ERP initiatives.

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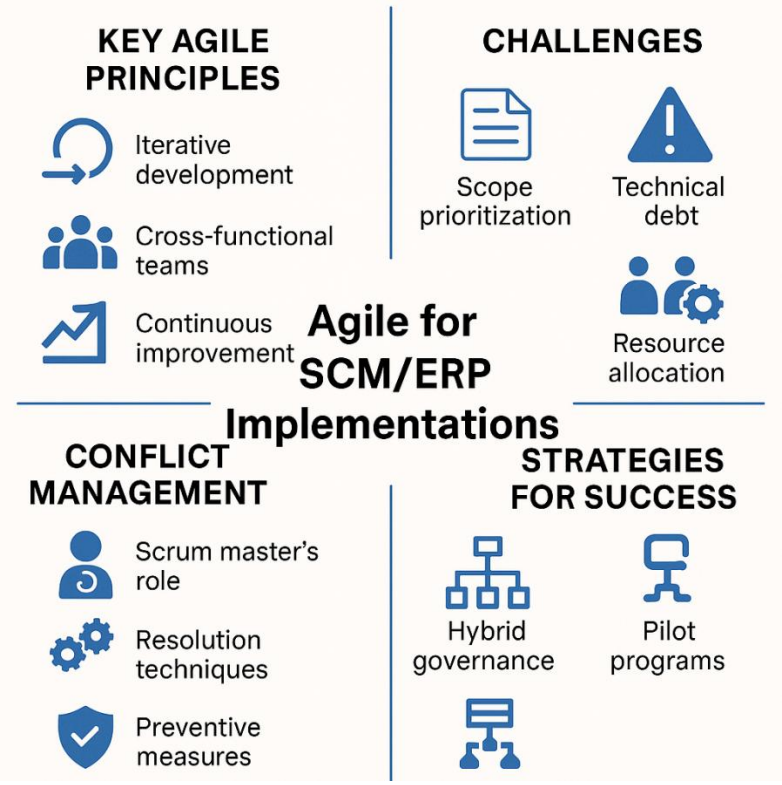

Figure 3: Infographic summarizes the key components of Agile implementation in ERP and SCM environments

This infographic summarizes the key components of Agile implementation in ERP and SCM environments. It outlines Agile principles such as iterative development and cross-functional teams, highlights challenges like scope prioritization and technical debt, and emphasizes conflict management strategies including the Scrum Master's role and preventive measures. The figure also presents strategies for success, such as hybrid governance models and pilot programs, essential for achieving scalable and responsive enterprise systems.

Conclusion

Agile methodologies, when thoughtfully adapted, offer transformative potential for Enterprise Resource Planning (ERP) and Supply Chain Management (SCM) implementations. By embracing principles such as iterative development, continuous delivery, stakeholder collaboration, and cross-functional teamwork, organizations can overcome the traditional rigidity and high failure rates associated with large-scale ERP projects. However, the complexity of ERP systems demands a hybrid governance approach that balances Agile flexibility with structured controls like change management boards and service level agreements (SLAs).

This study highlights that success in Agile ERP implementations hinges on several critical factors: conflict-aware sprint planning, psychological safety, effective conflict resolution frameworks like Speed Leas' model, and preventive strategies including anonymous feedback channels and stakeholder co-creation. Tools such as process mapping, CI/CD pipelines, and the Scaled Agile Framework (SAFe) enhance coordination and reduce integration risks, especially in enterprise-scale deployments. Real-world examples from Walmart, Zara, Salesforce, and Target reinforce the importance of strategic alignment between Agile practices and ERP infrastructure. While successes showcase the agility and responsiveness Agile can bring, failures underscore the risks of poor adaptation and misalignment. Ultimately, organizations must view Agile not

as a one-size-fits-all solution but as a flexible framework to be tailored carefully within the ERP context—ensuring both technological advancement and sustainable business value.

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