Mapping Core Practices in Disciplined Agile Delivery (DAD) to ISO 9001:2015 Requirements

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Abstract

Organizations adopting agile frameworks often struggle to maintain compliance with ISO 9001:2015 Quality Management Systems – Requirements, particularly during certification audits where evidence of conformance is mandatory. From an ISO 9001 auditor's perspective, this tension reflects a fundamental challenge: agile practices prioritize flexibility, minimal documentation, and rapid iteration, while ISO 9001 enforces structured processes, documented information, and traceability. This study addresses that challenge by investigating how Disciplined Agile Delivery (DAD), a governance-oriented agile framework, can be aligned with ISO 9001 requirements without compromising agility. The research employs a Multivocal Literature Review (MLR), incorporating both academic and practitioner sources, and applies Reflexive Thematic Analysis (RTA) to synthesize insights. Guided by Process Compliance Theory, the study conceptualizes the mapping of DAD practices to ISO 9001 clauses as a hybrid governance approach, embedding compliance checkpoints and documentation enhancements within DAD's adaptive structure. This theoretical framework explains how organizations can operationalize compliance through adaptive mechanisms rather than rigid controls. The findings identify six DAD practice pillars, namely Full Delivery Lifecycle, Focus on Process Goals, Defined Roles and Responsibilities, Agile Governance, Context-Sensitive Practice, and DevOps and Enterprise Awareness. This study also demonstrates their varying degrees of alignment with ISO 9001 clauses. Practical adaptations, such as lightweight documentation strategies and integrated compliance reviews, are proposed to bridge gaps. By combining auditor-informed insights with theoretical framing, this study contributes a structured mapping framework and actionable recommendations for organizations seeking to maintain agility while achieving ISO 9001 certification.

Keywords

ISO 9001, Disciplined Agile Delivery, DAD, Compliance, Practice Adaptation

Introduction

Organizations adopting agile frameworks often face significant challenges when reconciling flexibility with the structured compliance requirements of ISO 9001:2015. From an ISO 9001 auditor's perspective, these challenges are not merely procedural but reflect a deeper tension between adaptive delivery models and prescriptive quality standards. Agile methods emphasize rapid iteration, minimal documentation, and team autonomy, whereas ISO 9001 demands documented evidence, defined roles, and traceable processes to ensure auditability and certification credibility. This tension frequently surfaces during audits, where agile teams struggle to demonstrate compliance without reverting to heavyweight practices that undermine agility.

To interpret this problem, the study applies Process Compliance Theory (PCT), which explains how organizations balance formal compliance obligations with adaptive practices. ISO 9001 represents a prescriptive compliance model, while Disciplined Agile Delivery (DAD) offers a governance-oriented yet flexible approach. By framing the research through this theory, the study positions its mapping as a hybrid governance strategy that embeds compliance checkpoints and documentation enhancements

within DAD's iterative structure. This perspective highlights that compliance, instead of being rigid, can be operationalized through adaptive mechanisms that preserve agility while satisfying certification requirements. The research thus addresses a critical gap for practitioners and auditors seeking to maintain agility in quality-critical environments.

Background

This section examines the foundational literature surrounding DAD and ISO 9001 and how applying the PCT helps interpreting the problem surrounding the effort to reconcile them in the context of certification audit.

Disciplined Agile Delivery (DAD)

Disciplined Agile Delivery (DAD), introduced by Scott Ambler and Mark Lines in 2012, addresses gaps in early agile methods like Scrum and XP, which focused mainly on development and lacked guidance on architecture, governance, and DevOps (Ambler & Lines, 2018). Originating from insights at IBM Rational in 2008, DAD was designed as a hybrid, goal-driven, people-first, and learning-oriented framework that supports the full delivery lifecycle from inception to deployment. It integrates practices from Scrum, Kanban, Lean, Agile Modelling, Agile Data, and the Unified Process, making it suitable for scaling agile while maintaining flexibility (Ambler & Lines, 2018).

DAD evolved into the broader Disciplined Agile (DA) framework in 2015, adding layers such as Disciplined DevOps, DA IT, and DA Enterprise to support continuous delivery and business agility (PMI, n.d.). By 2018, it matured into the Disciplined Agile Toolkit, emphasizing Guided Continuous Improvement through goal diagrams and decision points. PMI's acquisition of DA in 2019 expanded its reach and integration with project management standards, reinforcing its role in enabling context-sensitive agility at scale (PMI, n.d.). DAD supports full delivery lifecycles, typically comprising Inception (planning and alignment), Construction (incremental development), and Transition (testing and deployment) (PMI, n.d.). It offers five lifecycle variants to suit different contexts, ensuring adaptability for diverse teams and domains. Central to DAD are 24 process goals that span across all phases, guiding teams through key activities like scope exploration, technical strategy, quality improvement, and production readiness. Each goal includes decision points and practice options, allowing teams to tailor their Way of Working (WoW) based on context (Ambler & Lines, 2018). This flexibility is critical for aligning agile practices with compliance standards such as ISO 9001, which demand traceability and governance. By combining structured guidance with adaptability, DAD enables organizations to scale agile without sacrificing control or quality.

ISO 9001:2015 Quality Management Systems

ISO 9001:2015 Quality Management Systems - Requirements is the latest revision of the globally recognized standard for Quality Management Systems (QMS), designed to help organizations meet customer and regulatory requirements while driving continual improvement and customer satisfaction (International Organizations for Standardization, n.d.). ISO 9001 is part of the ISO 9000 family, originating from post-World War II efforts to standardize quality practices (Sharma, 2025). Its roots lie in the British Standard BS 5750 (1970s), which influenced the first ISO 9001 release in 1987. Early versions were highly prescriptive, emphasizing documented procedures and compliance. The 1994 update reinforced preventive action but remained bureaucracy heavy (Sharma, 2025).

The 2000 revision marked a major shift to a process-based approach, focusing on customer satisfaction, leadership, and continuous improvement. ISO 9001:2008 refined language for clarity, while ISO 9001:2015 introduced risk-based thinking, flexibility in documentation, and alignment with organizational context and strategy (International Organizations for Standardization, n.d.). It adopted the Annex SL structure for integration with other standards like ISO 14001 and ISO 45001 (International Organizations for Standardization, 2025). Today, ISO 9001 continues to evolve, addressing globalization, digital transformation, and sustainability.

According to the ISO organization, ISO 9001:2015 is built on seven principles:

- Customer Focus: Meeting and exceeding expectations
- Leadership: Establishing unity of purpose
- Engagement of People: Empowering employees
- Process Approach: Managing activities as processes
- Improvement: Driving continual enhancement
- Evidence-Based Decision Making: Using data for decisions
- Relationship Management: Strengthening stakeholder ties

Process Compliance Theory: Concept and Foundations

Process Compliance Theory (PCT) addresses how organizations reconcile formal compliance obligations with adaptive operational practices. It emphasizes that compliance is not merely a static checklist but a dynamic process requiring continuous alignment between regulatory standards and organizational workflows. In regulated environments, compliance ensures adherence to laws, standards, and internal policies, mitigating risks and maintaining operational integrity. Scholars argue that compliance frameworks must evolve beyond rigid enforcement to incorporate flexibility, enabling organizations to adapt without compromising accountability or auditability (Davis, 2025).

The theory posits three core principles:

- Normative Alignment: Processes must conform to external standards (e.g., ISO 9001) while supporting organizational objectives.
- Adaptive Mechanisms: Compliance should be embedded within iterative workflows rather than imposed as post-process checks.
- Traceability and Accountability: Evidence of conformance must be demonstrable through documented information and governance checkpoints, even in agile contexts (Castellanos Ardila et al., 2022).

Process Compliance Theory in Agile – ISO 9001 Integration

In quality-critical domains, compliance frameworks such as ISO 9001 demand structured documentation, defined roles, and risk-based thinking. Studies highlight that organizations often struggle to integrate these requirements into agile environments, where minimal documentation and rapid iteration dominate. PCT provides a framework for designing hybrid governance models that embed compliance within adaptive practices, reducing friction during audits and certification processes (Knisley, 2025).

Recent literature explores how agile frameworks can coexist with ISO 9001 by adopting compliance-oriented adaptations. Adam (2023) and related works propose embedding compliance checkpoints into agile ceremonies and using lightweight documentation strategies to satisfy ISO requirements without undermining agility. These approaches align with PCT's emphasis on balancing flexibility and formal conformance, conceptualizing compliance as an integrated, iterative activity rather than a rigid constraint (Adam, 2023).

Process Compliance Theory provides a tool to interpret the tension between DAD and ISO 9001:2015 in this research. It posits that compliance is not a static requirement but a dynamic process that must balance normative obligations with operational adaptability. From this perspective, ISO 9001 represents a prescriptive compliance model, whereas DAD signifies adaptive governance. The challenge lies in reconciling these paradigms without compromising either agility or auditability. Applying PCT, the integration of DAD and ISO 9001 can be conceptualized as a hybrid governance approach, embedding compliance checkpoints and lightweight documentation within iterative workflows.

Methodology

Objectives and Research Questions

The objectives of this research are as follows: (1) Identify DAD core practices; (2) Map them to ISO 9001 clauses; (3) Propose adaptations for compliance. The research questions formulated for the research are as follows:

RQ1 - What are the themes of core practices prescribed or commonly used in DAD?
RQ2 - How do the practice themes align with ISO 9001:2015 requirements?

RQ3 - What adaptations or extensions to scale agile (e.g. DAD and/or SAFe) practices have been proposed to meet ISO standards?

3.2. Method

The study presented in this paper employed an MLR to investigate the alignment between DAD practices and ISO 9001:2015 Quality Management Systems - Requirements. The MLR approach was chosen because it integrates both academic sources (white literature) and practitioner-oriented materials (grey literature), offering a comprehensive perspective that bridges theory and practice. Unlike traditional Systematic Literature Reviews (SLRs), the MLR includes industry reports, professional blogs, and case studies alongside peer-reviewed research, ensuring that insights reflect both scholarly rigor and real-world applicability (Kitchenham & Charters, 2007; Garousi et al., 2019).

The review followed a structured protocol aligned with PRISMA guidelines to ensure transparency and reproducibility (Page et al., 2021). A detailed search strategy was developed using Boolean operators to construct search strings for three research questions: identifying DAD core practices, mapping these practices to ISO 9001 clauses, and exploring proposed adaptations for compliance. Searches were conducted across major academic databases such as IEEE Xplore, ACM Digital Library, Scopus, and ScienceDirect, complemented by manual searches of grey literature from reputable sources including PMI and ISO websites.

Figure 1

Search strings used in the Selection of Literature

("Disciplined Agile Delivery" OR "Disciplined Agile" OR "DAD") AND ("ISO 9001:2015" OR "ISO 9001" OR "Quality Management Systems" OR "Quality Management" OR "QMS") AND ("mapping" OR "alignment" OR "compliance")

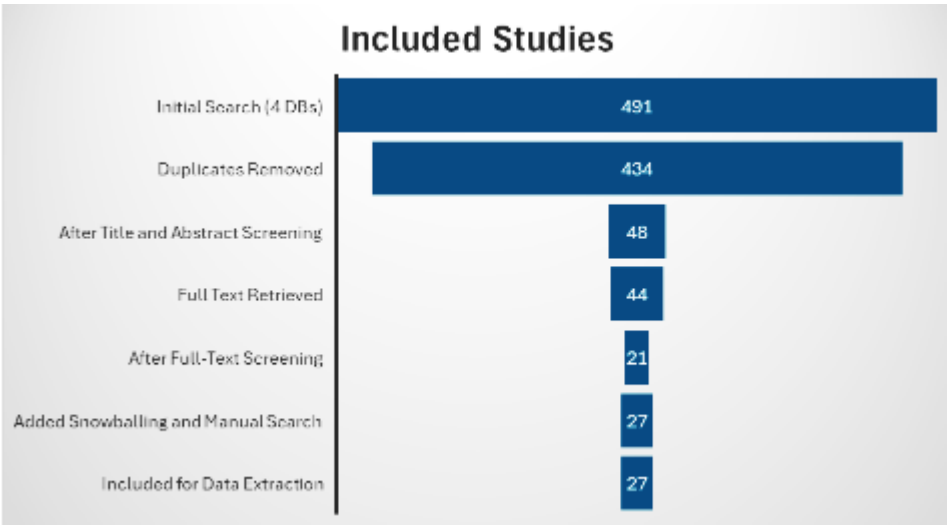
("Disciplined Agile Delivery" OR "Disciplined Agile" OR "DAD") AND ("ISO 9001:2015" OR "ISO 9001" OR "Quality Management Systems" OR "Quality Management" OR "QMS") AND ("integration" OR "alignment" OR "comparison")

Note: The search key strings designed to retrieve the literature.

Clear inclusion and exclusion criteria guided study selection. Literature was included if it discussed Scaled Agile (SAFe or DAD) practices, ISO 9001 requirements, or agile–ISO integration and was published between 2005 and 2025 in English. Studies irrelevant to ISO compliance, opinion pieces, or incomplete texts were excluded. After duplicate removal and initial screening of titles and abstracts, full-text reviews were conducted. Quality assessment applied a scoring framework based on producer credibility, methodological clarity, objectivity, novelty, and impact.

Figure 2

Selection of Literature



Note: Converging numbers of the literature selection process.

Data Extraction and Theme Development

Data extraction was performed using a structured form designed to capture publication details, agile practices, ISO clauses, and quality scores. Coding followed the Annex SL structure of ISO 9001 to ensure systematic mapping. Attributes were iteratively refined to identify emerging themes.

The extracted data was then synthesized using Reflexive Thematic Analysis (RTA), which involved coding, theme development, and iterative refinement (Braun & Clarke, 2020). Themes were aligned with the research questions, and mappings were categorized as direct, partial, or non-aligned.

Process Compliance Theory to Guide the Mapping

The mapping of DAD practice pillars to ISO 9001 requirements was guided by PCT, which frames compliance as a dynamic process rather than a rigid constraint. This theoretical framework influenced the interpretation of alignment by emphasizing the need for hybrid governance that embeds compliance mechanisms within adaptive workflows.

By applying PCT, the mapping was closer to interpretive insight where ISO 9001 requirements were not treated as external constraints but as normative obligations that can coexist with agile adaptability. This perspective informed recommendations such as lightweight documentation strategies and embedded compliance reviews which ensures audit readiness without sacrificing agility. PCT thus provides both a conceptual foundation and practical rationale for categorizing alignment types (direct, partial, potential conflict) and proposing targeted adaptations.

Findings

RQ1: DAD Core Practices

The data analysis process consolidated raw codes extracted from the literature into higher-level themes through iterative refinement. Following the RTA (Braun & Clarke, 2020), initially, individual codes representing agile practices, ISO compliance elements, and adaptation strategies were captured during data extraction. These codes were then grouped into conceptual clusters based on functional similarity, such as risk management, governance, documentation, and lifecycle practices. Through successive iterations, these clusters were mapped to themes aligned with the research questions. This structured approach ensured traceability from granular data points to synthesized themes, enabling

systematic identification of alignment types (direct, partial, or conflict) and supporting the development of adaptation strategies.

Table 1

Data Analysis Sample

Data Code (Iteration 1)	Data Code (Iteration 2)	Themes
SCUM/XP: Daily Standups', 'Lean: Perfect Quality', 'System Process Framework: Continuous improvements via audit findings', 'Lean: Quality Tools (for example: Root Cause Analysis)', 'SCRUM/XP: Customer-driven requirements', 'SCRUM/XP: Product Owner Review', 'Process Control (Requirements', 'Lean: FMEA (Process & Design)', 'Kaizen, Scorecard', 'Lean: PDCA Cycle', 'Lean: Obeya Room', 'Iterative Improvement Cycle', 'SCRUM/XP: Annual reviews and audits', 'Output-Based Performance Evaluation', 'Visual Scorecard', 'Quality Commitment', 'Lean: Bechmarking', 'Lean: Formal Meetings and Brainstorming', 'System Process Framework: Effort tracking with JIRA', 'Backlog updates for comformity', 'SCRUM Documentation: Risk Analysis Report', 'Lean: Significant figures and Data analysis', 'SCRUM/XP: SPRINT Goals, Retrospectives and Team Metrics', 'SCRUM: Sprint Review and Retrospective', 'SCRUM: Face-to-face communication', 'Retrospectives as Management Review', 'Resources, Rules, Coordination, Reviews) ', 'SCRUM/XP: Process improvement through agile retrospectives', 'SCRUM/XP: Continues Improvement', 'SCRUM Documentation: Sprint Review/Retrospective', 'Lean: FMEA', 'Feedback Loop', 'SCUM/XP: Sprint Review Meetings', 'XP: Customer Acceptance Test', 'SCRUM:Risk Management (implicit in Scrum)', 'System Process Framework: Incident and change management', 'Model-Driven Approach: Release plan extension and ceremony registry', 'XP: On-Site Customer Prototyping', 'System Process Framework: Sprints', 'Lean: MSA, SPC, Capability Studies', 'Model-Driven Approach: Daily and retrospective meetings', 'align with PDCA cycle', 'Model-Driven Approach: Backlog specification and refinement', 'Lean: A3 Problem Solving', 'Risk Analysis and Mitigation', 'Six Sigma, Root Cause Analysis', 'Lean: Pareto Charting', 'Lean: Visual Management', 'System Process Framework: Quality Metrics', 'Lean: Continuous Improvement', 'SCRUM:Sprint Review & Retrospective', 'SCRUM: Continuous improvement', 'SCRUM: Risk Management', 'Lean: 8D, 3C, Kobetsu Kaizen (KK)', 'Lean: Gemba Walks', 'SCUM/XP: Reflection Workshops'	Risk Management (FMEA, Risk Analysis Reports) Metrics and Scorecards Retrospectives and Reviews Audit and Compliance Tools Evidence-Based Improvements	Agile Governance (Milestone Review, Risk-Based Thinking, Evidence-Based Improvements)

Note: A table illustrating a sample of data analysis and theme development.

Through the process, six foundational pillars gradually emerged that answer the research questions formulated in RQ1, as summarized in the following table: (1) Full Delivery Lifecycle, (2) Focus on Process Goals, (3) Defined Roles and Responsibilities, (4) Agile Governance, (5) Context-Sensitive Practice, and (6) DevOps & Enterprise Awareness.

Table 2

DAD Core Practice Pillars

No	DAD Core Practice Pillar	Brief Description
1	Full Delivery Lifecycle	Covers inception to deployment and support
2	Focus on Process Goals	Goal-driven guidance for agile teams
3	Defined Roles and Responsibilities	Clear role definitions for accountability
4	Agile Governance	Lightweight governance integrated into agile
5	Context-Sensitive Practice (WoW)	Tailored practices based on organizational needs
6	DevOps and Enterprise Awareness	Integration with enterprise systems and DevOps

Note: DAD Core Practice Pillars emerged from the literature synthesis.

RQ2: Mapping to the ISO 9001:2015 Requirements

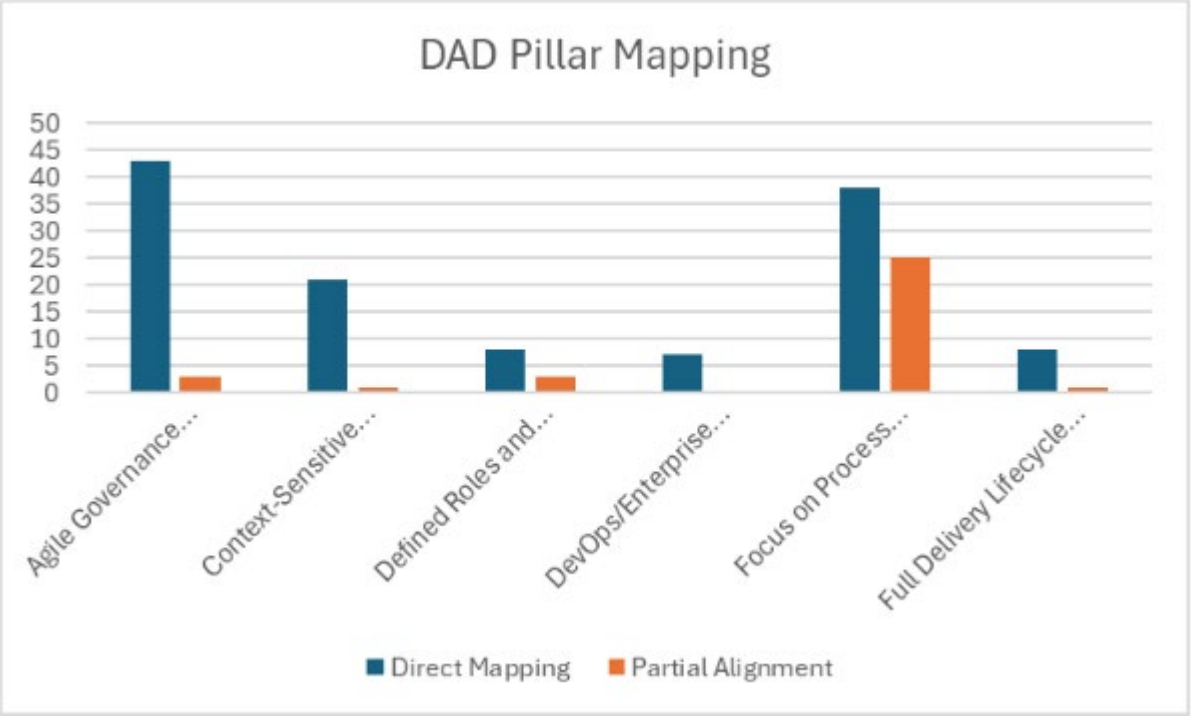
The mapping analysis follows the PCT principles to provide both a conceptual foundation and practical rationale for categorizing alignment types (direct, partial, potential conflict) and proposing targeted

adaptations. For example, the pillar 'Agile Governance' was mapped to clauses on leadership and continual improvement (Clauses 5.1 and 10.3) because PCT supports integrating compliance checkpoints into iterative ceremonies rather than imposing separate audit processes. Similarly, 'Focus on Process Goals' aligns with planning and operational control clauses (Clauses 6.2 and 8.1). This reflects PCT's principle that compliance should be operationalized through goal-driven practices rather than static documentation.

'Agile Governance' and 'Focus on Process Goals' show strong alignment with ISO clauses on monitoring and continual improvement (Clause 9 and 10). 'Context-Sensitive Practice' aligns with organizational context requirements (Clause 4). Limited alignment exists for 'Full Delivery Lifecycle' and 'DevOps & Enterprise Awareness', requiring targeted adaptations.

Figure 3

DAD Core Practice Pillar Mapping



Note. Mapping instances of DAD core pillars to the ISO 9001 requirements.

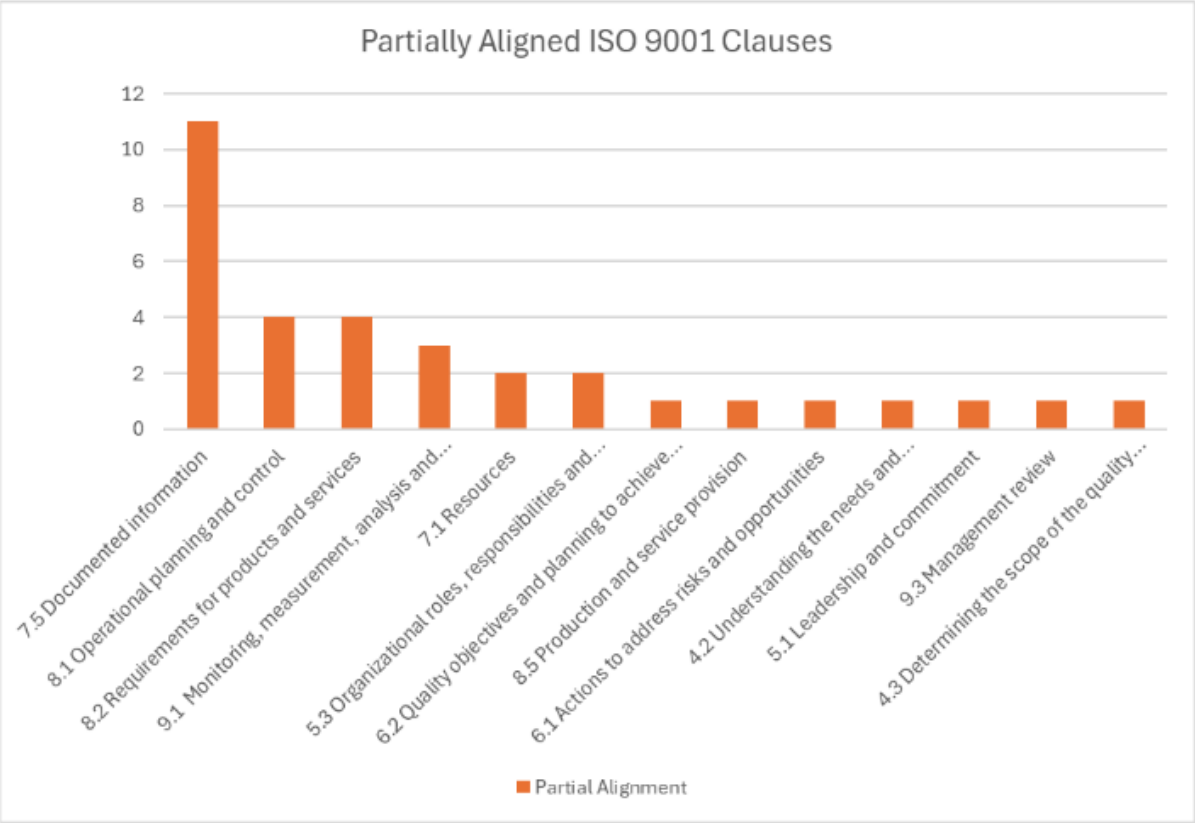
Figure 3 above summarizes these mappings and alignment strengths. For example, 'Agile Governance' maps strongly to ISO clauses on leadership (Clause 5) and continual improvement (Clause 10), while 'DevOps & Enterprise Awareness' requires competency matrices and audit trails.

RQ3-1: Adaptations for Compliance

Most practices exhibit direct mapping to clauses related to Operational Planning (Clause 8), Resource Management (Clause 7), and Continual Improvement (Clause 10), indicating strong compatibility between agile delivery principles and ISO 9001:2015 quality management requirements. However, partial alignments were observed in areas such as Documentation (Clause 7.5) and role formalization (Clause 5.3), suggesting that while agile practices support ISO objectives, they often lack the prescriptive rigor demanded by certification standards.

Figure 4

ISO 9001 Partial Alignment



Note: Instances of partial alignment of DAD core pillars to the ISO 9001 requirements.

These findings underline that DAD's flexibility and goal-driven approach can complement ISO compliance, but adaptations are necessary to bridge gaps in governance, documentation, and audit readiness. Recommended adaptations include: (1) Lightweight documentation templates for Clause 7.5; (2) Compliance checkpoints in agile ceremonies; (3) Role charters translating agile roles to ISO accountability; (4) Extended lifecycle coverage for post-release quality assurance; (5) Competency matrices for DevOps practices.

RQ3-2: Adaptation in Literature

The literature reveals several practical strategies for aligning scaled agile practices with ISO 9001:2015 requirements without compromising agility. Patricia A. Adam's book Agile in ISO 9001 (2023) provides one of the most comprehensive frameworks, offering pragmatic approaches to embed agile principles within ISO-certified environments. Her work emphasizes reconciling Agile's iterative nature with ISO's structured compliance requirements and improving communication with auditors.

A case study from Indonesia (Hermawati et al., 2024) illustrates challenges in public sector projects, where Scrum's minimal documentation conflicted with ISO's traceability demands. The study proposes Standard Operating Procedures (SOPs) to bridge this gap, enabling agile workflows while maintaining compliance.

Industry contributions, such as Milestone Technologies' mapping of ISO clauses to Scrum practices (Burbano-Delgado et al., 2021), demonstrate how agile ceremonies like sprint planning and retrospectives can fulfil ISO requirements for customer focus, risk-based thinking, and design planning. Similarly, academic research in *The TQM Journal* (Mathrani et al., 2022) encourages adaptive documentation strategies with "just enough" documentation to balance agility with ISO's accountability standards.

Finally, Adam's DGQ report *Practically Best Friends?!* (2021) challenges the perceived incompatibility between agility and ISO compliance. It offers guidelines for integrating agile processes into QMS frameworks, emphasizing shared values such as continuous improvement and transparency.

Collectively, these studies confirm that agile and ISO 9001 can coexist through targeted adaptations, including lightweight documentation, compliance checkpoints, formalized roles, and tailored governance practices. These approaches enable organizations to maintain agility while meeting regulatory expectations.

Discussion

Theoretical Framing and Research Contribution

The application of PCT provided a conceptual foundation for interpreting the alignment between DAD practices and ISO 9001:2015 requirements. Rather than treating compliance as a rigid constraint, PCT frames it as a dynamic process that must balance normative obligations with operational adaptability. This perspective guided the mapping by emphasizing hybrid governance that embeds compliance mechanisms within iterative workflows instead of imposing separate, heavyweight processes.

The findings demonstrate that while DAD's governance-oriented structure offers strong compatibility with ISO 9001 principles, gaps remain in areas such as documentation, lifecycle coverage, and competency management. PCT helps explain why these gaps occur, that is because ISO 9001 enforces prescriptive evidence requirements, whereas DAD prioritizes flexibility and context-sensitive tailoring. By applying PCT, the study reframes these gaps as opportunities for adaptive compliance rather than incompatibility. This approach enables organizations to maintain agility while embedding audit-ready practices, creating a hybrid compliance model that balances flexibility with regulatory compliance.

This study offers a unique contribution by addressing a critical gap in the integration of agile practices, specifically DAD, with ISO 9001 compliance and practical audit experience. While previous research has explored mappings between Scrum and ISO 9001 or proposed generic agile–ISO harmonization strategies, these approaches often focus on conceptual alignments. This study leverages auditor experience to propose operationally viable adaptations for certification audits. It focuses on DAD as a governance-oriented, hybrid agile framework that extends beyond development to cover the full delivery lifecycle, making it particularly relevant for organizations operating under stringent quality management requirements. Drawing on practical experience as an ISO 9001 auditor, the research addresses real-world challenges encountered during certification audits, such as gaps in traceability, role formalization, and documented information. This perspective ensures that the proposed mapping and adaptations are not only theoretically sound but also operationally viable for audit readiness.

Insights for Full Compliance

To achieve full compliance in the context of ISO 9001:2015 certification audit, several adaptations to the core practices in DAD are necessary:

Documentation Practices: Enhance lightweight documentation using structured templates, digital repositories, and traceability matrices to meet Clause 7.5 without sacrificing agility.

Governance and Compliance: Integrate compliance checkpoints into agile ceremonies and maintain evidence logs to support audit readiness and continual improvement (Clauses 9.1, 9.3, 10.3).

Role Definition: Formalize agile roles with ISO-compliant accountability statements through role charters (Clause 5.3).

Lifecycle Coverage: Extend DAD lifecycles to include post-release validation and service continuity plans for full process coverage.

Context Sensitivity: Document rationale for tailoring practices and maintain a WoW repository to satisfy standardization requirements (Clauses 4.4, 8.1).

DevOps and Enterprise Awareness: Implement structured competency evaluations, training records, and CI/CD audit trails to align with resource and competence clauses (Clauses 7.1, 7.2).

These adaptations enable organizations to maintain agility while meeting ISO 9001 compliance, creating a hybrid model that balances flexibility with regulatory demands. Rather than abandoning agile principles, organizations can adopt targeted adaptations that embed ISO-compliant structures into agile workflows. For instance, (1) documentation practices can be enhanced through lightweight templates, digital repositories, and traceability matrices, ensuring compliance with ISO 9001 requirements while minimizing overhead. (2) Governance can be strengthened by incorporating compliance checkpoints into agile ceremonies, such as using retrospectives for management reviews and risk assessments. Similarly, (3) role definitions should be formalized through ISO-compliant accountability statements to meet Clause 5.3 requirements. (4) Lifecycle coverage can be extended to include transition and support phases for post-release quality assurance.

The study opens several paths for future research. (1) Empirical studies are needed to evaluate how adaptive documentation strategies influence team velocity and audit outcomes, providing evidence-based guidance for balancing compliance and agility. (2) Comparative research across industries could explore contextual factors such as regulatory environments and organizational maturity, that affect the success of integrating DAD with ISO 9001. Additionally, (3) there is significant potential for developing practical frameworks and toolkits that operationalize this alignment, offering practitioners actionable resources for implementation.

Limitations

Despite its contributions, the study has limitations. (1) While the inclusion of grey literature enriched practical insights, it introduces variability in credibility and methodological rigor, as some sources lack peer review or empirical validation. Quality assessment criteria were applied, but residual bias cannot be fully eliminated. (2) The mapping of DAD practices to ISO 9001 clauses involves interpretive judgment. Although supported by RTA and guided by PCT, the process remains inherently subjective and may reflect researcher bias. Furthermore, (3) Both ISO 9001 and DAD are evolving frameworks. The findings are based on ISO 9001:2015 and the current state of DAD, with limited consideration of the Draft International Standard (DIS) for ISO 9001:2026. Future revisions may affect the relevance of the proposed mapping.

Conclusion

This study set out to examine how DAD practices can align with ISO 9001:2015 requirements and what adaptations may be necessary to support compliance for certification purpose. Through a Multivocal Literature Review and Reflexive Thematic Analysis, six core DAD practice pillars were identified and mapped to ISO clauses, revealing areas of strong alignment as well as gaps requiring targeted adjustments. While the findings suggest that DAD's governance-oriented approach offers a viable pathway for integrating agility with formal quality standards, adaptations in documentation, role formalization, and lifecycle coverage remain essential for audit readiness.

The proposed mapping and recommendations provide practical guidance for organizations seeking to maintain agility while meeting ISO 9001 certification requirements. However, the study's reliance on literature-based synthesis and absence of empirical validation limits generalizability. Future research should focus on case studies, expert reviews, and tool-supported frameworks to operationalize these findings in diverse industry contexts. By addressing these gaps, organizations can move toward more adaptive yet certifiable delivery models that balance flexibility with compliance.

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