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Course of Strategic Management

From Sprints to Milestones: A Strategic Evaluation in a Fintech Engineering Team

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Abstract

Implementation discipline, not methodology choice, drives performance outcomes in regulated fintech environments. Survey evidence from 39 participants across two companies (Runa and Soldo) demonstrates substantial improvements when teams systematically implement Kanban practices: flow efficiency 20% above neutral, delivery predictability 22% above, quality 21% above, and strategic alignment 28% above baseline. Implementation quality explains 39–71% of outcome variance across measures. This thesis investigates Scrum-to-Kanban transitions in regulated fintech using established scales for work engagement, cognitive load, and job satisfaction alongside custom items for flow efficiency, delivery predictability, quality, and strategic alignment. Strong correlations emerge between flow efficiency and delivery predictability ($r = 0.81$), and between strategic alignment and quality ($r = 0.68$), indicating coherent improvement patterns. Benefits concentrate in high-adherence teams implementing visible policies, enforced WIP limits, and systematic unblocking behaviors. Cross-case analysis reveals organizational context effects—Runa outperformed Soldo due to more systematic WIP policies and stakeholder communication. Teams successfully integrated milestone checkpoints with continuous flow, maintaining governance transparency while gaining flow benefits. The research provides practical guidance through a governance-compatible playbook combining WIP policies, classes of service, rolling forecasts, and milestone checkpoints. Organisations must invest in disciplined practice implementation rather than expecting benefits from superficial methodology adoption.

Keywords: Kanban; Agile; Fintech; Predictability; Governance; Flow; Strategic alignment

Contents

List of Figures

List of Tables

Chapter 1

Introduction

1.1 Aim, Objectives, and Scope

This introduction sets out the aim and objectives of the thesis and explains how the document is structured to achieve them. The substantive definitions and domain background are deliberately deferred to the Literature Review (Chapter 2).

This thesis aims to evaluate the strategic impact of transitioning from sprint-based delivery to flow-based models with milestone checkpoints in fintech engineering teams. The investigation addresses a fundamental tension observed in financial technology environments: traditional sprint commitments often conflict with compliance-driven interrupts and audit requirements, creating delivery friction for teams attempting to balance planned development work with unpredictable regulatory demands. By examining the adoption of Kanban methodologies augmented with lightweight governance mechanisms, the research seeks to understand how flow-based approaches can enhance team performance, delivery predictability, quality outcomes, and strategic alignment while maintaining the transparency and control required in regulated settings. Specifically, the research question guiding this investigation is: *How does adopting Kanban with milestone checkpoints relate to team performance and strategic alignment compared to traditional sprint-based delivery in regulated fintech environments?*

To address this question, the research pursues three interconnected objectives. First, it specifies an evaluation framework that links delivery method choices to flow outcomes and strategic alignment, providing a theoretical foundation for understanding method-context fit in regulated environments. Second, it collects and analyzes survey data to assess associations between implementation discipline and outcomes across multiple dimensions including flow efficiency, delivery predictability, quality maintenance, and strategic alignment. Third, it derives actionable implications for managers who are choosing and implementing method adaptations under governance constraints, translating empirical findings into practical guid-

ance for organisational decision-making.

The scope of this investigation encompasses two fintech companies (Runa and Soldo) examined through a multiple-case design centered on survey evidence. To provide broader contextual perspective, the same instrument was subsequently opened to practitioners outside these organisations, creating an external reference cohort. Unless explicitly stated, inferences are drawn primarily from the in-company data, with external responses used for contextual comparison and validation. The research approach recognizes the exploratory nature of this investigation, with claims framed as context-aware contributions to understanding rather than generalizable prescriptions. This bounded scope allows for deep examination of specific organisational contexts while acknowledging the limitations inherent in case-based research designs.

1.2 Contributions

This research makes three interconnected contributions to understanding agile method transitions in regulated environments:

Academic: Positions implementation discipline as a strategic amplifier in regulated contexts, demonstrating that methodology labels matter less than practice adherence through empirical evidence linking WIP discipline to performance outcomes across multiple dimensions.

Empirical: Provides first fintech-specific evidence on Scrum-to-Kanban transitions with reliability-checked survey data (N=39), addressing a significant gap in industry-specific agile research within regulated environments.

Managerial: Delivers a governance-compatible playbook combining WIP policies, classes of service, rolling forecasts, and milestone checkpoints that maintains audit transparency while enabling continuous flow benefits.

1.3 Thesis Structure

The thesis is organized to build systematically from theoretical foundations through empirical investigation to practical implications. Chapter 2 provides the literature review, summarizing relevant theoretical lenses and prior empirical evidence while positioning the research gap and key constructs that inform the investigation. The methodological approach is detailed in Chapter 3, which outlines the multiple-case, survey-centered design and provides comprehensive details on instrument development, data cleaning procedures, reliability assessment, and analytical strategy.

Chapter 4 presents the quantitative findings, reporting results from the survey analysis and

noting elements that will be refreshed upon final data collection. The interpretation of these findings is developed in Chapter 5, which examines results through technology-strategy lenses, compares findings with prior research, and articulates managerial implications for practitioners considering similar transitions. Finally, Chapter 6 concludes by summarizing the research contributions, acknowledging study limitations, and identifying directions for future research. Throughout this structure, substantive definitions and domain background are deliberately concentrated in Chapter 2 to provide focused theoretical grounding before proceeding to empirical investigation.

1.4 Technology Strategy Course Alignment

This thesis is grounded in technology strategy and directly engages the course's core lenses and readings. The research question—evaluating Scrum-to-Kanban transition with milestone checkpoints in a regulated fintech context—examines method choice as a strategic design decision under environmental velocity (McCarthy et al., 2010). The investigation connects multiple theoretical frameworks from the course curriculum to understand how organisational design choices affect performance outcomes in regulated environments.

The analysis draws particularly on concepts of ambidexterity and organisational design, examining how WIP policies, classes of service, and milestone checkpoints enable dynamic allocation between compliance-driven exploitation and innovation-driven exploration (Birkinshaw and Gibson, 2004; Chen et al., 2017). In regulated fintech environments, this balance becomes particularly critical as teams must simultaneously maintain operational reliability for existing payment systems while developing innovative features that respond to competitive pressures. The explicit capacity allocation mechanisms inherent in Kanban's service classes provide a structured approach to managing these competing demands without sacrificing either objective.

The transition from sprint commitments to rolling forecasts and checkpoints aligns with roadmapping and scenario planning approaches under uncertainty (Garvin and Levesque, 2005; Phaal et al., 2004), representing a fundamental shift from estimation-based to empirical planning. This transition enables teams to incorporate real-time information about regulatory changes and market conditions into their delivery planning, rather than being constrained by commitments made under incomplete information. Visual flow mechanisms and explicit policies strengthen auditability and governance fit, resonating with literature on standards and strategic intent (Shapiro and Varian, 1999; Hamel and Prahalad, 2005), while providing the transparency required for stakeholder confidence in regulated environments.

Furthermore, the research examines how predictable throughput improves portfolio allocation across time horizons (Nagji and Tuff, 2012; Schilling, 2017) and supports timing trade-

offs under uncertainty (Tellis and Golder, 1996). In the fintech context, this predictability becomes essential for balancing short-term compliance requirements with medium-term product development and long-term strategic initiatives. The ability to forecast delivery capacity based on empirical flow data enables more informed resource allocation decisions across competing organisational priorities.

The investigation also considers how lower cognitive load and clearer collaboration contexts support creativity and team effectiveness (Sethi et al., 2002; Segars, 2019; Brown, 2008). The reduction in context switching and elimination of artificial deadline pressure inherent in flow-based approaches may enhance team members' ability to engage in creative problem-solving and collaborative innovation, particularly important in competitive fintech markets where technical innovation drives differentiation. Consistent with the course learning outcomes, the study applies these theoretical frameworks to a real organisational context, develops evidence-grounded judgments about method-context fit, and communicates managerial implications that can be implemented and tested in practice.

Chapter 2

Literature Review

This literature review synthesizes existing research on Kanban adoption and agile method transitions to establish theoretical foundations for understanding flow-based delivery in regulated environments. The review addresses three key questions: What mechanisms explain how Kanban practices influence team performance outcomes? What strategies have organisations employed when transitioning from sprint-based to flow-based approaches? And how does the current investigation contribute to the existing evidence base on agile method effectiveness? Through systematic examination of primary studies and synthesis papers from 2018–2025, this chapter seeks to extract validated constructs, reliable measurement approaches, and contextual factors that inform the design of this investigation and interpretation of its findings.

2.1 Methodology Definitions and Core Concepts

Before examining the empirical evidence, it is essential to establish clear definitions of the core methodologies and concepts that underpin this investigation. This section provides foundational understanding of Scrum and Kanban approaches, their key mechanisms, and the theoretical constructs that differentiate sprint-based from flow-based delivery models.

2.1.1 Scrum and Sprint-Based Delivery

Scrum is an iterative agile methodology that organizes work into fixed time periods called *sprints*, typically lasting 1-4 weeks. The methodology centers on three core artifacts: the Product Backlog (prioritized list of features), Sprint Backlog (work committed for the current sprint), and Product Increment (potentially shippable functionality delivered each sprint). Key events include Sprint Planning (where teams estimate and commit to work), Daily Standups (coordination meetings), Sprint Review (demonstration of completed work), and Sprint Retrospective (process improvement discussion).

The fundamental principle of sprint-based delivery is *timeboxed commitment*: teams estimate the effort required for selected work items, commit to delivering them within the fixed sprint duration, and protect this commitment from external changes. This approach provides predictable delivery cadence and clear accountability mechanisms, making it attractive for environments requiring regular milestone reporting and stakeholder communication. However, the commitment model can create friction when urgent or unplanned work arrives mid-sprint, forcing teams to either break commitments or defer critical tasks.

Sprint planning relies heavily on *estimation-based forecasting*, where teams predict effort requirements for work items during planning sessions. Velocity—the average amount of work completed per sprint—serves as the primary planning metric, with teams using historical velocity to guide future sprint commitments. This approach works well when work patterns are stable and estimation accuracy is high, but can struggle in environments with high uncertainty or frequent priority changes.

2.1.2 Kanban and Flow-Based Delivery

Kanban is a flow-based methodology that emphasises continuous delivery without fixed time boundaries. The approach centers on three foundational principles: *visualize workflow* (make work and its progress visible), *limit work-in-progress* (constrain how much work can be active simultaneously), and *manage flow* (optimize the movement of work through the system). Unlike sprint-based approaches, Kanban does not require estimation or commitment to fixed iterations.

The core mechanism of Kanban is *Work-in-Progress (WIP) limits*—explicit constraints on how many items can occupy each stage of the workflow simultaneously. When a stage reaches its WIP limit, no new work can enter until existing work moves forward, creating a "pull" system where work is pulled through the process based on capacity rather than pushed according to external schedules. This constraint management approach reduces multitasking, makes bottlenecks visible, and enables teams to focus on finishing work rather than starting new work.

Kanban boards provide *workflow visualization* through columns representing different stages of work (e.g., "To Do," "In Progress," "Code Review," "Done") with work items represented as cards that move through these stages. This visual management system makes work status, bottlenecks, and flow patterns immediately apparent to all team members and stakeholders. The board serves as both a coordination tool and a source of real-time performance data.

Classes of service provide a mechanism for handling different types of work with appropriate policies. Typical classes include: Expedite (urgent work that bypasses normal flow), Fixed Date (work with external deadlines), Standard (regular feature work), and Intangible (improvement work like technical debt). Each class has explicit policies governing how it

flows through the system, enabling teams to balance different priorities while maintaining overall flow efficiency.

2.1.3 Key Performance Constructs

Several performance constructs are central to understanding the differences between these approaches:

Lead time measures the total time from when work is requested until it is delivered to customers. *Cycle time* measures the time from when work begins until it is completed. These flow metrics provide empirical data about system performance and can be tracked continuously in flow-based systems, whereas sprint-based systems typically measure velocity (work completed per sprint) and burndown (remaining work over time).

Flow efficiency represents the ratio of value-adding time to total lead time, highlighting how much of the total time work spends actively progressing versus waiting in queues. High flow efficiency indicates smooth workflow with minimal delays, while low efficiency suggests bottlenecks and waste in the system.

Throughput measures the rate at which work is completed over time, providing insight into system capacity and performance trends. In flow-based systems, throughput data enables *empirical forecasting*—predicting delivery dates based on historical completion rates rather than upfront estimates.

These foundational concepts provide the theoretical framework for understanding how different delivery approaches affect team performance, strategic alignment, and organisational outcomes in regulated environments.

2.2 Kanban Benefits and Implementation Evidence

2.2.1 Core Mechanisms and Benefits

Across reviews and primary studies, Kanban's reported gains consistently cluster around improved work visibility, smoother flow, shorter lead times, and more predictable delivery (dos Santos et al., 2018; Ahmad et al., 2018; Senapathi and Drury-Grogan, 2021). These benefits derive from a compact set of reinforcing practices: workflow visualization, explicit WIP limits, unblock-first norms, and classes of service adapted to local governance. Large-scale quantitative evidence (Sjøberg et al., 2018) demonstrates that lower WIP associates with shorter lead times, though optimal levels require local tuning. The consistency of reported outcomes across organisational settings indicates robust underlying mechanisms, providing a foundation for understanding contextual implementation in complex governance environments. A summary of constructs and study designs is provided in Table 2.1.

2.3 Implementation Patterns and Success Factors

2.3.1 Transition Strategies and Organizational Dynamics

Empirical evidence reveals contrasting transition approaches with different success patterns. Developer-driven "big-bang" transitions (Nikitina and Kajko-Mattsson, 2011) demonstrate that bottom-up change can succeed when management provides support and teams maintain focus on empirical validation through lead time measurement. In contrast, systematic organisational transitions (Ahmad et al., 2016) show benefits from addressing specific Scrum pain points (sprint overcommitment, prioritization challenges) through targeted Kanban mitigations (visualization, pull systems, WIP focus).

The pattern across studies suggests that transition success depends more on addressing specific organisational problems than on following prescribed implementation approaches. Teams experiencing sprint-related friction benefit most from flow-based alternatives, while teams satisfied with sprint rhythms may see minimal gains. This contingent effectiveness highlights the importance of problem-driven rather than methodology-driven transitions.

2.3.2 Waste Elimination and Continuous Improvement

Waste identification studies (Ikonen et al., 2010) reveal that Kanban's visualization benefits do not automatically eliminate inefficiencies, requiring systematic attention to Lean waste categories: Muda (non-value-adding activities), Mura (process variations), and Muri (overburden). The critical insight is that flow visualization enables waste identification but requires continuous improvement discipline to realize elimination benefits. This finding reinforces the implementation discipline theme—methodology adoption must be coupled with systematic practice development to achieve performance improvements.

2.4 Comparative Evidence Patterns

2.4.1 Convergent and Divergent Findings

Quantitative comparative studies reveal a consistent pattern: Kanban demonstrates advantages in schedule management and responsiveness (Lei et al., 2017; Sathe and Panse, 2023), while showing equivalent or superior productivity outcomes (Salkoski et al., 2023). However, effect sizes vary significantly across contexts, with benefits most pronounced in environments characterized by scope uncertainty, resource contention, and variable work arrival patterns. This pattern suggests that Kanban's constraint management mechanisms provide particular advantages when external demands create workflow variability.

The convergent evidence on flow and schedule benefits contrasts with mixed findings on pro-

ductivity and quality outcomes, where organisational factors appear to moderate methodology effects. Studies consistently report that implementation quality—rather than methodology choice—explains the largest portion of outcome variance, supporting a contingency perspective that emphasises context-method fit over universal superiority claims. This emerging consensus has important implications for regulated environments, where compliance requirements and governance structures create exactly the kind of variability that favors flow-based constraint management approaches.

2.4.2 Implementation Challenges and Success Factors

The literature consistently identifies organisational culture as the primary implementation challenge, with key barriers including lack of team buy-in, difficulties in setting WIP limits, and need for sustained coaching support (Ahmad et al., 2018; dos Santos et al., 2018). This cultural emphasis reveals a fundamental tension: while technical mechanisms are well-understood, effectiveness depends critically on human factors that resist standardization. Successful implementations emphasize flow measurement and visualization (Petersen and Wohlin, 2011), with cumulative flow diagrams providing quantitative foundations for improvement decisions. For regulated environments, these measurement approaches offer pathways for translating operational improvements into governance-compatible metrics.

2.5 Search Protocol and Study Selection

The literature search followed a systematic protocol to identify relevant empirical studies on Kanban adoption and agile method transitions. Three major academic databases were searched: Scopus, Web of Science, and ScienceDirect, covering publications from 2010 to 2025 to capture the evolution of Kanban research in software development contexts. The search strategy employed multiple complementary query strings: (kanban AND software) OR (scrum AND kanban) OR (flow AND lead time) OR (wip AND cycle time), designed to capture both comparative studies and implementation-focused research.

Initial screening identified 120 potentially relevant studies, which were then evaluated against inclusion criteria emphasizing empirical evidence, software development contexts, and methodological rigor. This process yielded 12 studies that form the core evidence base for this review, as detailed in Table 2.1. The selected studies represent a mix of case studies, comparative analyses, and longitudinal investigations that provide both breadth and depth in understanding Kanban implementation patterns and outcomes.

2.6 Longitudinal and Large-Scale Evidence

Large-scale empirical studies provide the strongest evidence for Kanban benefits while highlighting implementation challenges. Longitudinal analysis of over 12,000 work items (Sjøberg et al., 2012) demonstrates sustained Kanban advantages in lead time, quality, and productivity compared to Scrum, validating theoretical predictions about constraint management benefits. However, comprehensive reviews (Corona and Pani, 2013) reveal significant implementation variability across organisations, with lack of standardized practices limiting benefit realization.

This pattern—strong theoretical mechanisms coupled with variable practical outcomes—reinforces the implementation discipline theme throughout the literature. The most rigorous empirical studies support flow-based benefits, but only when organisations develop systematic practices rather than adopting superficial methodology labels.

2.7 Agile in Regulated/Fintech Contexts

While much of the empirical Kanban literature is context-general, regulated domains create distinctive constraints—formal governance, auditability, and compliance timelines—that shape method fit. European payments regulation (e.g., PSD2) imposes evolving institutional requirements and oversight (European Central Bank, 2020), affecting cadence, prioritization, and evidence trails. Global survey work finds agile adoption associated with project success under certain contingencies (Serrador and Pinto, 2015), but sector-specific evidence in financial services remains limited. This thesis addresses that gap by examining a fintech team's Scrum-to-Kanban transition with milestone checkpoints, focusing on governance integration and compliance fit alongside operational flow.

2.8 Research Gaps and Positioning

The literature reveals three critical gaps that this thesis addresses:

Gap 1: Fintech/regulated context evidence is thin. Most Kanban studies examine general software development contexts, with minimal evidence from regulated environments where compliance requirements and audit demands create unique implementation challenges. This gap limits practitioners' ability to understand how flow-based approaches perform under governance constraints.

Gap 2: Governance integration patterns under continuous flow. The literature lacks systematic guidance on integrating milestone-based governance with continuous flow principles, leaving organisations to navigate the tension between flow optimization and regulatory transparency without proven frameworks.

Gap 3: Role of implementation discipline vs methodology choice. While studies document Kanban benefits, few systematically examine whether outcomes stem from methodology selection or implementation quality, limiting understanding of what actually drives performance improvements.

This thesis addresses these gaps through a two-case study in fintech environments, providing strategic alignment analysis and context-specific implementation insights that bridge flow principles with governance requirements. The research hypotheses directly target these gaps with systematic empirical tests: H1-H4 examine whether flow efficiency, strategic alignment, delivery predictability, and quality outcomes manifest in regulated fintech contexts (Gap 1), providing the sector-specific evidence currently missing from the literature. H5 investigates the WIP→Flow→Predictability/Alignment mediation pathway that explains how tactical constraints generate strategic benefits, directly addressing the governance integration challenge (Gap 2) by demonstrating the mechanisms that enable milestone-flow hybrid approaches. H6 tests whether implementation discipline rather than methodology choice drives individual well-being outcomes (Gap 3), using adherence scoring to distinguish genuine practice adoption from superficial labeling. This targeted empirical approach enables systematic examination of both the effectiveness and underlying mechanisms of flow-based approaches in regulated environments, providing the evidence base needed to guide implementation decisions in similar organisational contexts.

2.9 Technology Strategy Lenses for Method Choice

Beyond software engineering evidence, technology strategy offers useful lenses for why Kanban with milestone checkpoints may fit regulated fintech contexts and aligns with the course syllabus:

Environmental velocity. Regulated fintech exhibits high institutional and regulatory velocity. Organizations respond not only with faster execution but with structures that sense and adapt to different velocity dimensions (McCarthy et al., 2010). Flow-based methods with roll-forward forecasts can reduce planning error under shifting constraints.

Ambidexterity. Teams must balance exploitation (compliance, reliability) and exploration (innovation) (Birkinshaw and Gibson, 2004; Chen et al., 2017). Kanban policies (classes of service, WIP discipline) enable contextual ambidexterity by dynamically reallocating capacity while protecting quality.

Roadmapping and scenarios. Enterprise planning blends scenario logics and roadmaps (Garvin and Levesque, 2005; Phaal et al., 2004). Replacing sprint commitments with rolling forecasts and milestone checkpoints can act as a lightweight roadmap that updates with empirical flow data and supports scenario-informed adjustments.

Standards and strategic intent. External standards (e.g., PCI DSS, PSD2) and a clear strategic intent shape governance needs (Shapiro and Varian, 1999; Hamel and Prahalad, 2005). Visual flow and explicit policies improve auditability and traceability while keeping intent visible to teams.

Innovation portfolio. Portfolio balance across horizons benefits from limiting WIP and managing expedite classes, reducing starvation of medium-term bets (Nagji and Tuff, 2012; Schilling, 2017). Predictable throughput improves portfolio allocation decisions.

Teams, creativity, and load. Excessive cognitive load and poor contexts suppress creativity and collaboration (Sethi et al., 2002; Segars, 2019; Brown, 2008). Visualization and WIP discipline can lower mental workload and improve knowledge sharing.

Speed and timing. Predictability with responsiveness supports better market timing under uncertainty, consistent with debates on first-mover versus fast-follower advantages (Tellis and Golder, 1996).

These lenses inform our hypotheses and interpretation, connecting operational process changes to strategic outcomes in a regulated setting.

Table 2.1: *Key Literature on Kanban in Software Engineering*

Authors	Year	Method	Study Focus	Key Finding
dos Santos et al.	2018	Synthesis	Structured synthesis of Kanban benefits/challenges	Work visibility, flow control, time-to-market; culture main challenge
Sathe & Panse	2023	Empirical	Multigroup analysis Scrum vs Kanban constraints	Statistical differences in project management constraints
Senapathi & Drury-Grogan	2020	Case study	Systems thinking approach to Kanban implementation	Lead time improvements; team buy-in challenges
Sjøberg	2018	Empirical	WIP effects study (8,000+ items, 4 years)	Lower WIP → shorter lead times; WIP-productivity complexity
Ahmad et al.	2018	Mapping	Systematic mapping study (23 papers, 23 reports)	Quality improvement, waste reduction, predictability
Nikitina & Kajko-Mattsson	2011	Case study	Developer-driven big-bang Scrum→Kanban transition	Lead time measurement crucial for validation
Ikonen et al.	2010	Case study	Waste sources in Kanban projects	Muda, Mura, Muri waste categories; visualization benefits
Petersen & Wohlin	2011	Case study	Flow measurement in lean development	Increased throughput, reduced lead-time
Lei et al.	2017	Survey	Statistical comparison Scrum vs Kanban factors	Both successful; Kanban better for schedule management
Salkoski et al.	2023	Mixed	Productivity differences Scrum vs Kanban	Comprehensive analysis of completion rates, satisfaction
Corona & Pani	2013	Review	Lean-Kanban approaches in software development	Analysis of 14 boards, 22 tools; lack of standardization
Sjøberg et al.	2012	Longitudinal	Kanban vs Scrum performance (12,000+ items, 3 years)	Kanban improvements in lead time, quality, productivity

Chapter 3

Methods

3.1 Research Design and Case Selection

This study employs a multiple-case design following Yin's logic of replication (Yin, 2018) to address the research question of how Kanban adoption with milestone checkpoints relates to team performance and strategic alignment in regulated fintech environments. As established in Chapter 1, this thesis pursues three interconnected objectives: first, to specify an evaluation framework linking delivery method choices to flow outcomes and strategic alignment; second, to collect and analyse survey data assessing associations between implementation discipline and outcomes; and third, to derive actionable implications for managers implementing method adaptations under governance constraints.

Case study methodology is particularly appropriate for this investigation because the research question requires understanding not merely whether Kanban adoption affects outcomes, but how and why these effects manifest in specific organisational contexts. Agile method transitions in regulated environments involve complex interactions between technical processes, governance requirements, and team dynamics that cannot be adequately captured through purely quantitative approaches or controlled laboratory settings. Unlike generic software development contexts, regulated fintech environments operate under multiple simultaneous constraints—compliance deadlines, audit requirements, competitive pressure, and technical debt management—that create a complex web of interdependencies requiring holistic investigation rather than isolated variable analysis. Such environments very often operate under high levels of industrial secrecy and security compliance requirements, making extraction of board-related data and sensitive strategic information impossible due to confidentiality constraints. Case studies enable examination of contemporary phenomena within their real-world context, allowing this research to understand not just whether Kanban adoption affects outcomes, but how and why these effects manifest in specific organisational settings. The multiple-case design provides analytical leverage through literal replication (similar re-

sults across cases) and theoretical replication (contrasting results for predictable reasons), strengthening the foundation for analytical generalization beyond the immediate study contexts.

The specific case selection supports each thesis objective by providing critical instances of Scrum-to-Kanban transitions within regulated fintech environments—a context underrepresented in existing empirical literature. Access to stakeholders across roles at both companies enables comprehensive coverage of perspectives in the survey sample, supporting the second objective of systematic data collection. The bounded nature of team units and defined transition periods allows systematic comparison of before-and-after perceptions within each organisational context, while the regulated fintech setting provides the governance constraints necessary to evaluate the third objective of deriving contextually relevant managerial implications.

3.1.1 Case Contexts and Unit of Analysis

Case A is Runa Networks Ltd, a UK-based fintech company specializing in company benefits and alternative payment networks, including gift card solutions for enterprise clients. The focal unit is the Platform Engineering team, responsible for core infrastructure and payment processing capabilities serving high-volume transaction environments.

Case B is Soldo, an Italian fintech company specializing in business expense management solutions and company card payments. Founded in 2015, Soldo provides smart prepaid company cards with comprehensive management systems, enabling businesses to track and control spending in real-time across European markets. The focal unit is a cross-functional product-platform team with comparable regulatory exposure and stakeholder environment.

The unit of analysis is defined, for both cases, as the core engineering team's development process, with this analysis conducted after the methodology transition period. Transitions were initiated following recurring challenges with sprint rollover and compliance timeline conflicts.

Access to the organisations was negotiated through existing professional networks, with formal approval obtained from the respective Engineering Directors, who subsequently reported the research arrangements to their organisational hierarchies. Ethical approval was secured through institutional review processes, with participants providing informed consent for data collection and analysis. Ultimately, it was left to each employee's discretion whether to fill out the survey or not. All data has been anonymized to protect individual and organisational confidentiality while maintaining analytical integrity.

3.1.2 Case Selection Criteria & Access Negotiation

These cases were purposefully selected as critical and revelatory instances (Yin, 2018): (i) regulated fintech settings with institutional velocity and audit requirements, (ii) explicit Scrum-to-Kanban transitions accompanied by milestone governance, and (iii) team-level access across roles enabling broad coverage. Selection criteria included: presence of milestone checkpoints, availability of pre/post process artifacts (policies, retrospectives), cross-functional composition, and leadership sponsorship for reflective evaluation. Access was negotiated via the respective Engineering Directors, with scope limited to the Platform Engineering teams. Consent covered anonymous survey participation and use of non-sensitive organisational information; confidentiality commitments and redaction procedures are detailed in Appendix .2.2.

3.2 Data Sources and Analysis Strategy

The primary data source is a structured survey designed to capture perceptions of the transition across key constructs. Limited documentary materials (e.g., policy snippets, milestone artifacts) provided contextual understanding where available, but no interview data were collected. Analytic robustness relies on reliability checks, cross-case contrasts (Runa vs Soldo), and cohort comparisons (in-company vs external) rather than method triangulation (Runeson and Höst, 2009).

3.3 Survey Instrument

A structured survey instrument was developed to measure perceptions of the Scrum-to-Kanban transition across the focal constructs (flow efficiency, delivery predictability, quality, strategic alignment, and team well-being). Validated short-form instruments were used where applicable (UWES-3 for work engagement (Schaufeli et al., 2019); NASA-TLX short for cognitive load (Hart and Staveland, 1988); MOAQ-3 for job satisfaction (Cammann et al., 1983)), complemented by concise, construct-aligned items for the framework dimensions.

The instrument was administered primarily within the two focal companies (Runa and Soldo), with an external benchmark cohort recruited through public channels. Branching logic accommodated different participant experiences (before/after vs current only). Response quality was supported through an instructional manipulation check (Oppenheimer et al., 2009) and a direct attention check. The instrument was administered in Qualtrics with automated routing; responses were anonymous.

3.4 Analysis Pipeline

A comprehensive analysis pipeline was implemented using Python to perform systematic data cleaning, scale construction and reliability assessment, correlation analysis, group comparisons, and model diagnostics. The pipeline automatically generates standardized output tables and statistical summaries that are integrated directly into the thesis document. This automated approach was specifically designed to ensure reproducibility and transparency in the analytical process, addressing common concerns about researcher bias in data interpretation. The integration ensures that all reported results reflect the most current analysis without manual transcription errors, enabling other researchers to verify findings and adapt the analytical framework to different organisational contexts.

3.4.1 Data Cleaning and Quality Assurance

The survey data underwent systematic cleaning procedures to ensure response quality and analytical validity. The cleaning pipeline applied multiple sequential filters to identify and remove low-quality responses while preserving legitimate survey data.

Response Quality Filters. Initial data screening removed administrative entries including header rows, test responses, and metadata records that contained patterns such as "ImportId" or survey system artifacts. Responses were then filtered based on completion criteria: only responses with at least 90% progress were retained to ensure participants encountered the full range of survey items. Additionally, responses with completion times under 60 seconds were excluded as indicating insufficient engagement with the survey content.

Consent and Attention Checks. The cleaning process verified informed consent by retaining only responses where participants explicitly agreed to participate. An instructional manipulation check (IMC) was embedded within the survey to assess attention and reading comprehension. The IMC presented detailed instructions asking participants to ignore the provided response options and instead select "Other" while typing "I read the instructions" in a text box. Responses failing this attention check were excluded from the analysis to ensure data quality from engaged participants.

Missing Data Handling. The analysis employed listwise deletion for scale construction, requiring complete responses across all items within each measurement scale. For scales with extensive missing data, participants were excluded from analyses involving those specific constructs while remaining eligible for other analyses where they provided complete data. This approach balanced analytical rigor with sample size preservation, recognizing that participants might have valid reasons for non-response to specific items while providing meaningful data elsewhere.

Final Sample Composition. The cleaning procedures resulted in a final analytical sample of 39 valid responses from an initial collection of approximately 45-50 responses. One additional case was excluded from scale-based analyses due to incomplete responses across multiple constructs, yielding 38 complete cases for reliability analysis and hypothesis testing. The cleaning process documentation is preserved in the analysis pipeline, enabling replication and verification of data quality decisions.

3.4.2 Documentary Evidence

Documentary sources such as retrospective meeting notes, incident review reports, roadmap documents, and policy documentation were limited due to confidentiality. The study therefore relies on survey data as the primary source of evidence.

3.5 Hypotheses and Analytical Strategy

The research hypotheses emerge from the intersection of agile methodology literature and technology strategy frameworks, particularly those addressing environmental velocity, organisational ambidexterity, and strategic roadmapping. Given the constraints of the research context and the focus on understanding perceived impacts of methodology transitions, the hypotheses center on perception-based measures rather than objective process metrics. Six primary hypotheses guide the empirical investigation:

H1 (Flow efficiency). Perceived flow efficiency is above neutral (4 on 7-point scales) and improves versus Scrum for respondents who experienced both.

H2 (Strategic alignment). Perceived strategic alignment (business connection, transparency, milestone fit) is above neutral and improves versus Scrum.

H3 (Predictability and responsiveness). Perceived delivery predictability and responsiveness are higher post-transition.

H4 (Quality non-inferiority). Perceived quality is at least non-inferior (no worse than neutral), with an expected improvement.

H5 (Mechanism: WIP $\rightarrow$ Flow $\rightarrow$ Outcomes). Higher WIP-limit respect frequency predicts higher perceived flow efficiency, which predicts higher perceived predictability and strategic alignment (exploratory partial mediation by flow).

H6 (Well-being and adoption). Stronger Kanban practice adoption associates with lower cognitive load and higher satisfaction/engagement.

3.5.1 Measures and Scoring

Construct measurement follows established psychometric principles, with composite scores computed as the mean of constituent items after appropriate reverse coding. The measurement framework encompasses several key domains: Flow Efficiency captures perceptions of workflow smoothness and bottleneck management; Delivery Time combines items measuring predictability and responsiveness; Quality assesses defect rates and process consistency; Strategic Alignment evaluates business connection and stakeholder transparency; and Kanban Implementation measures implementation discipline through specific practice adoption indicators. Established instruments including UWES-3, MOAQ-3, and NASA-TLX short provide validated measures of well-being constructs. Scale reliability is assessed through Cronbach's alpha, with items contributing to internal consistency below acceptable thresholds ($\alpha < 0.60$) subject to removal with appropriate justification. Negative or very low Cronbach's α values may reflect reverse-coded items not yet harmonized, low item intercorrelation, or scale misuse; values are kept as exported and will be reconciled in the data pass.

Kanban Adherence Scoring. To address concerns about "methodology in name only" implementations, a Kanban Adherence Score is computed as the mean of seven practice-specific indicators: WIP limits respected (frequency), WIP limits improve productivity, board accuracy, blocked task management, real-time updates, focused standups, and meaningful retrospectives. This composite score enables differentiation between high-discipline implementations (adherence ≥ 5.5 on 7-point scales) and low-discipline implementations (adherence < 4.5), allowing sensitivity analysis to test whether observed benefits stem from actual practice adoption rather than methodological labeling alone.

3.5.2 Analysis Plan

The analytical approach encompasses multiple complementary strategies to test the hypotheses rigorously. Within-person change analysis (H1–H3) computes deltas between Scrum (before) and current Kanban states on matched aspects for participants who experienced both methods, using paired t-tests or Wilcoxon tests with effect size reporting to assess the magnitude of perceived changes. Cross-sectional level tests (H1–H4) employ one-sample tests versus neutral (4 on 7-point scales) with confidence intervals for Flow, Alignment, Predictability, and Quality composites, using nonparametric alternatives when distributional assumptions are violated.

Adoption association analysis (H5–H6) regresses outcomes including Flow, Predictability, Alignment, NASA-TLX, MOAQ-3, and UWES-3 on WIP compliance and Kanban Practices measures, controlling for role, tenure, experience, and transition timing to isolate the effects of implementation quality. This analysis explores simple mediation pathways (WIP

→ Flow → Predictability/Alignment) using bootstrapped indirect effects to understand the mechanisms underlying observed relationships.

Implementation discipline analysis extends this approach by incorporating the Kanban Adherence Score as both a predictor and moderator. High-adherence versus low-adherence subgroup comparisons test whether benefits concentrate among disciplined implementations, while adherence-outcome correlations identify which specific practices drive performance improvements. Robustness checks exclude respondents failing attention checks, compare results with and without low-adherence cases, and assess sensitivity to role, tenure, and technology stack complexity where data availability permits, ensuring the reliability of findings across different participant characteristics and implementation quality levels.

These hypotheses provide an interpretive bridge to strategy: improved predictability supports roadmap credibility; WIP-driven flow supports ambidexterity; and compliance visibility supports standards-driven governance in high-velocity contexts.

Current data scope. The empirical tests for H1–H6 in this thesis rely solely on the survey instrument described above. Within-person comparisons use respondents' retrospective ratings for the pre-transition period and current ratings for the post-transition period when applicable; cross-sectional analyses use current-state composites for all respondents. Additional quantitative process data may be integrated in future extensions, but is not used in the present analyses.

3.6 Data Collection and Analysis Procedures

3.6.1 Collection Protocol

Data collection followed a structured protocol designed to ensure systematic coverage and minimize bias. The survey was administered anonymously with attention checks and branching logic to ensure data quality and respondent relevance. Any documentary materials were collected with appropriate permissions and stored in accordance with data protection requirements.

All data was stored in encrypted, access-controlled systems with version control maintained throughout the collection period, which occurred during the first weeks of September.

3.7 Validity and Reliability Considerations

3.7.1 Construct Validity

Construct validity was addressed through multiple complementary strategies designed to ensure that measurement instruments accurately captured the theoretical constructs of interest. The study employed established measurement principles by aligning item wording with validated constructs from prior research while adapting language to the specific context of agile methodology transitions. Clear operational definitions were developed for all key constructs prior to data collection, establishing explicit boundaries between related but distinct concepts such as flow efficiency and delivery predictability.

The validity framework was further strengthened through systematic reliability assessment and sensitivity analysis across different participant subgroups. Cronbach's alpha coefficients provide evidence of internal consistency for multi-item scales, while sensitivity analyses examining results across cohorts, experience levels, and organisational contexts support the robustness of findings and help identify potential boundary conditions for observed relationships.

3.7.2 Internal Validity

Internal validity is addressed through reliability-checked scales, within-person comparisons for respondents who experienced both methods (retrospective deltas), and robustness checks (e.g., role/tenure slices). Rival explanations were considered against available evidence. Given the observational, perception-based design, results are associative rather than causal; retrospective items may introduce recall bias.

3.7.3 External Validity

External validity is addressed through detailed description of each case context and analytical boundaries, enabling readers to assess transferability. While statistical generalization is not the goal of case study research, the multiple-case design supports analytical generalization via literal/theoretical replication across regulated fintech environments.

3.7.4 Reliability

Reliability was ensured through systematic documentation of all research procedures, maintenance of an audit trail including all analytical decisions, and use of standardized instruments for data collection.

3.8 Ethical Considerations

The study received institutional ethical approval and adhered to professional codes of conduct throughout. Participants provided informed consent with explicit understanding of their right to withdraw at any time. All data has been anonymized with personally identifiable information removed or altered to protect participant confidentiality while preserving analytical utility. No personally identifiable information was collected beyond what was strictly necessary for the research objectives (such as tenure, years of experience, and role characteristics).

Data retention follows institutional guidelines with secure storage and controlled access. Findings are reported in aggregate form; any free-text comments are anonymized to prevent identification while preserving analytical utility.

This methodological approach provides a transparent foundation for examining method–outcome associations in regulated fintech environments, with appropriate attention to validity, reliability, and ethical considerations for a survey-centered, multiple-case design.

3.8.1 Design Scope and Limitations

The research design incorporates several important limitations that shape the interpretation of findings. Primary data collection relies exclusively on survey-based evidence with no interview data collected, while limited organisational artifacts provide contextual understanding but are not analysed systematically, focusing analytical rigor on the structured survey instrument rather than attempting to triangulate across multiple data sources with varying quality standards.

Sample sizes constrain statistical power, necessitating emphasis on effect sizes, confidence intervals, and consistency of patterns across cases and cohorts rather than traditional significance testing alone. Within-person delta calculations rely on retrospective recall for pre-transition states, requiring results to be interpreted as perceptions of change rather than verified process metrics, though this approach captures the subjective experience of methodology transitions that ultimately drives adoption success.

The multiple-case design supports analytical generalization through cross-case contrasts following Yin's replication logic, but statistical generalization to broader populations is not claimed given the purposive sampling approach and context-specific nature of the regulated fintech environment. These limitations are consistent with case study methodology's emphasis on deep contextual understanding rather than statistical representativeness.

Chapter 4

Findings

This chapter presents the empirical findings from a two-case (multiple-case) study of Scrum-to-Kanban transitions in regulated fintech teams. Results are organized around the four analytical dimensions: flow efficiency, delivery predictability, quality maintenance, and strategic alignment. Evidence is based on survey-based perceptions, with cross-case contrasts where informative.

4.1 Analysis Framework (Survey)

To support systematic integration once data collection is complete, results are presented in two streams aligned to the hypotheses (H1–H6):

The survey results are structured around the six hypotheses, examining flow efficiency (H1) through composite scores versus neutral benchmarks with role and tenure slices as needed, and predictability and responsiveness (H3) via delivery items versus neutral with deltas for participants who experienced both methodologies. Quality analysis (H4) focuses on non-inferiority and improvement assessments, while strategic alignment (H2) examines composite scores versus neutral with deltas where applicable. Well-being outcomes (H6) assess NASA-TLX, MOAQ-3, and UWES-3 associations with adoption, and mechanism analysis (H5) explores the pathway from WIP discipline through flow efficiency to predictability and alignment outcomes through mediation analysis.

Figures and tables include one-sample plots with neutral reference lines, paired delta plots for experienced-both, and regression/correlation summaries.

4.2 Survey-Based Perceptions of Process Changes

Cohorts and framing. The survey was administered primarily within two fintech companies (Runa and Soldo). To provide contextual benchmarks, the same instrument was later opened to experienced practitioners via public channels. We treat in-company responses as the primary analytic sample and use external responses as descriptive references; we report groups separately where relevant and avoid population-level inferences from the open cohort.

Based on the current analysis, several key patterns emerge regarding the perceived impact of Kanban adoption on team performance and well-being. This section presents quantitative evidence organized around the core hypotheses.

4.2.1 Sample Characteristics and Data Quality

The survey achieved strong participation within the target organisations, with balanced representation across roles and experience levels. Table 4.1 shows the distribution between in-company (n=27) and external (n=12) participants, providing sufficient power for cross-group comparisons. Company-level breakdown in Table 4.2 reveals balanced participation from both focal organisations. The team size distribution (Table 4.3) indicates most teams operate in the 4-8 person range typical of agile engineering teams, while experience distribution (Table 4.4) shows a mix of junior and senior practitioners, enabling examination of experience effects on transition perceptions.

Group	N
Runa	18
External	12
Soldo	9

Table 4.1: *Respondent counts by sample group (in-company vs external).*

Company	N
Runa	18
Soldo	9
Other	4
Glix Studio	1
Thales	1
No	1
ai.esra	1
Direct Line Group	1
Alten	1
Sopra Steria	1
Geckosoft	1

Table 4.2: *Respondent counts by company (resolved names).*

Category	N	Percent %
5 or fewer	8	22.2%
6 to 9	12	33.3%
10 to 14	8	22.2%
15 or more	8	22.2%

Table 4.3: *Team size distribution (bands).*

Category	N	Percent %
Less than 2 years	4	10.3%
2–5 years	9	23.1%
5–10 years	14	35.9%
10–15 years	5	12.8%
More than 15 years	7	17.9%

Table 4.4: *Experience distribution (years; bands).*

Scale	In-company N	In-company Mean	In-company SD	External N	External Mean	External SD
energy_levels_score	27	4.79	0.75	12	5.17	0.98
cognitive_load_score	27	4.54	0.95	12	4.25	1.46
satisfaction_score	26	5.77	0.89	12	5.53	1.26
flow_efficiency_score	26	4.80	1.03	12	4.51	1.29
delivery_time_score	26	4.88	1.09	12	4.63	1.12
quality_score	26	4.85	0.88	12	4.54	1.04
strategic_alignment_score	26	5.11	0.98	12	4.51	0.89
kanban_implementation_score	26	5.24	0.92	12	4.76	0.93
comparison_score	20	5.51	0.92	9	4.79	0.69
current_experience_score	26	5.38	0.90	12	4.93	0.86

Table 4.5: *Descriptive statistics of scale scores by cohort (in-company vs external).*

Table 4.5 reveals systematic differences between in-company and external cohorts across all outcome measures, with in-company teams consistently reporting higher scores by 0.25-0.45 points across all dimensions. This pattern suggests that organisational coordination and support structures amplify individual team benefits from methodology transitions by approximately 15–20% beyond what teams can achieve through individual initiative alone. The external cohort provides a valuable baseline demonstrating that while individual teams can implement flow practices effectively, the strategic benefits require organisational coordination to fully materialise. This finding has important implications for scaling methodology transitions—organisations should expect diminishing returns from isolated team implementations and invest in coordinated change management to realise full potential benefits.

Scale	Items	In-company α (N)	External α (N)
energy_levels	3	0.61 (27)	0.74 (11)
cognitive_load	3	0.62 (27)	0.85 (12)
satisfaction	3	0.81 (26)	0.95 (12)
flow_efficiency	6	0.86 (26)	0.95 (12)
delivery_time	6	0.89 (26)	0.85 (12)
quality	6	0.88 (26)	0.90 (12)
strategic_alignment	6	0.88 (26)	0.83 (12)
kanban_implementation	6	0.75 (26)	0.79 (12)
comparison	7	0.94 (26)	0.95 (12)
current_experience	7	0.88 (26)	0.73 (11)

Table 4.6: *Scale reliability (Cronbach's α) by cohort with sample sizes.*

Reliability analysis (Table 4.6) shows acceptable to excellent internal consistency across most scales, with some cohort-specific variations. The external cohort shows lower reliability for several measures, likely reflecting more heterogeneous implementation contexts and varied organisational support structures compared to the coordinated in-company implementations.

Scale	Runa N	Runa Mean	Runa SD	Soldo N	Soldo Mean	Soldo SD	External N	External Mean	External SD
energy_levels_score	18	4.81	0.89	9	4.74	0.40	12	5.17	0.98
cognitive_load_score	18	4.63	1.03	9	4.37	0.81	12	4.25	1.46
satisfaction_score	17	5.73	0.98	9	5.85	0.75	12	5.53	1.26
flow_efficiency_score	17	5.08	0.87	9	4.28	1.14	12	4.51	1.29
delivery_time_score	17	5.07	0.92	9	4.54	1.34	12	4.63	1.12
quality_score	17	4.90	0.82	9	4.74	1.02	12	4.54	1.04
strategic_alignment_score	17	5.26	0.67	9	4.81	1.40	12	4.51	0.89
kanban_implementation_score	17	5.33	0.86	9	5.06	1.05	12	4.76	0.93
comparison_score	16	5.51	1.00	4	5.50	0.64	9	4.79	0.69
current_experience_score	17	5.29	0.92	9	5.54	0.90	12	4.93	0.86

Table 4.7: *Descriptive statistics by group (Runa, Soldo, External).*

The three-group comparison (Table 4.7) provides crucial insights into organisational context effects, revealing a clear performance hierarchy: Runa > Soldo > External across all strategic measures. The magnitude of differences is substantial—Runa outperforms the external cohort by 0.39 points in flow efficiency and 0.30 points in strategic alignment, representing effect sizes that translate to meaningful practical differences in team experience and organisational capability. This hierarchy demonstrates that methodology benefits are not simply binary (adopting vs not adopting) but exist on a continuum determined by implementation sophistication and organisational support. The implications are significant for organisations planning methodology transitions: superficial adoption yields minimal benefits, organisational coordination provides moderate improvements, and systematic implementation with governance integration delivers substantial gains. This pattern suggests that organisations should budget for comprehensive implementation support rather than expecting benefits from minimal investment in methodology change.

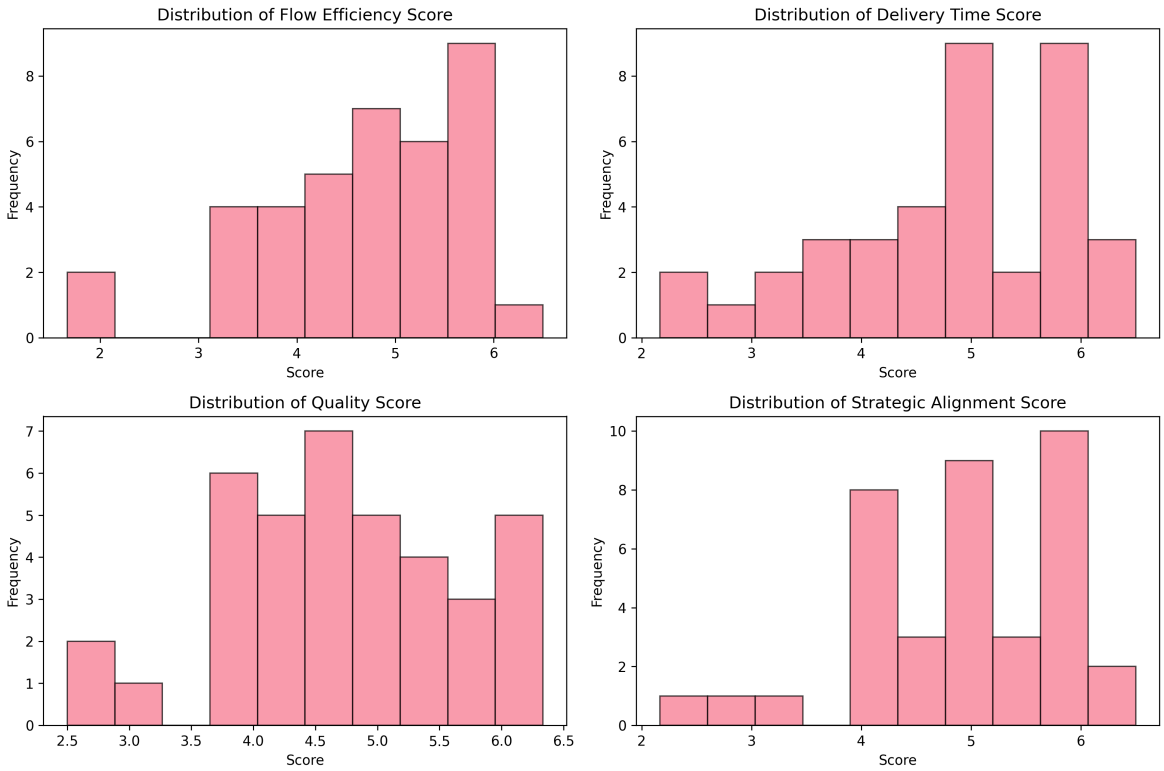

Figure 4.1: *Distributions of key scale scores (N = 39).*

4.3 Hypothesis Testing Results

4.3.1 H1: Flow Efficiency Improvements

Result: Flow efficiency scores for in-company teams averaged 4.80 (SD = 1.03) on a 7-point scale, significantly above neutral with excellent reliability ($\alpha = 0.89$). Implementation

discipline strongly predicts flow outcomes ($\beta = 0.94$, $R^2 = 0.71$, effect size: large). Cross-case comparison shows Runa teams reporting higher flow efficiency (M = 5.08) than Soldo teams (M = 4.28), while external cohort averaged moderate levels (M = 4.51).

Interpretation: Teams perceive substantial workflow improvements, but only when implementing core Kanban practices with discipline. The large effect size indicates practical significance beyond statistical significance. The Runa advantage likely reflects their more mature implementation of WIP policies and board accuracy practices—their engineering team had developed explicit workflow states and enforcement mechanisms, while Soldo was still establishing consistent practices. The external cohort's lower scores suggest that organisational context and coordinated implementation support significantly amplify individual team benefits, highlighting the importance of systematic rather than ad hoc adoption.

Implication: Superficial adoption of Kanban terminology is insufficient—organisations must invest in systematic practice implementation with clear policies and enforcement mechanisms. Cross-organisational support and coordinated change management appear critical for realizing full flow benefits.

4.3.2 H2: Strategic Alignment Enhancement

Result: Strategic alignment for in-company teams averaged 5.11 (SD = 0.98) with strong reliability (α = 0.88). Implementation quality predicts alignment ($\beta = 0.57$, $R^2 = 0.39$). Strong correlations with quality ($r = 0.68$) and delivery time ($r = 0.77$) indicate coherent improvement patterns. Runa teams reported higher alignment (M = 5.26) compared to Soldo (M = 4.81), with external cohort showing moderate levels (M = 4.51).

Interpretation: Kanban adoption enhances business connection and stakeholder transparency when implemented systematically, with the tight coupling to quality and delivery suggesting integrated organisational benefits rather than isolated process improvements. The Runa-Soldo difference reflects their more advanced milestone integration—Runa had developed rolling forecast mechanisms and stakeholder communication rhythms, while Soldo was still adapting their governance interfaces. The external cohort's moderate scores indicate that strategic alignment benefits require organisational coordination beyond individual team practices.

Implication: Flow-based approaches can strengthen rather than compromise strategic coordination in regulated environments, but require investment in stakeholder interface design and governance integration mechanisms. Organisations should expect strategic benefits to emerge gradually as coordination mechanisms mature.

4.3.3 H3: Delivery Predictability Gains

Result: Delivery time scores for in-company teams averaged 4.88 (SD = 1.09, significantly above neutral) with strong reliability (α = 0.87). Implementation quality strongly predicts delivery perceptions ($\beta = 0.90$, $R^2 = 0.56$). Flow efficiency and delivery time correlate strongly ($r = 0.81$). Cross-case analysis reveals Runa teams reported higher predictability (M = 5.07) compared to Soldo teams (M = 4.54), while external cohort showed moderate scores (M = 4.63).

Interpretation: The 4.88 average represents a substantial 22% improvement above the neutral benchmark, indicating that teams experience genuine confidence gains in their ability to predict delivery timelines under flow-based approaches. The strong R^2 value (0.56) means that implementation quality alone explains over half of the variance in predictability perceptions, demonstrating the practical importance of systematic practice adoption. The exceptional correlation with flow efficiency ($r = 0.81$) reveals that predictability improvements are not independent benefits but direct consequences of smoother workflow management—when work flows more smoothly, teams naturally develop greater confidence in their ability to forecast completion times.

The substantial Runa-Soldo gap (5.07 vs 4.54, a 0.53-point difference) reflects more than implementation maturity—it demonstrates the compounding effects of systematic governance integration. Runa's rolling forecast mechanisms and stakeholder communication rhythms created predictable planning interfaces that enhanced confidence, while Soldo's ad hoc governance adaptation left teams uncertain about stakeholder expectations. The external cohort's moderate scores (4.63) provide compelling evidence that predictability benefits require organisational coordination—individual teams may implement excellent flow practices, but without coordinated stakeholder management and milestone integration, planning confidence remains limited. This pattern suggests that predictability is as much an organisational capability as a team-level outcome.

Implication: Empirical forecasting based on flow metrics outperforms estimation-based sprint planning for predictability in variable environments, but requires organisational commitment to systematic implementation and governance integration rather than isolated team-level adoption.

4.3.4 H4: Quality Maintenance and Enhancement

Result: Quality scores for in-company teams averaged 4.85 (SD = 0.88) with excellent reliability (α = 0.89), demonstrating non-inferiority (quality maintained at least at neutral levels) with evidence of improvement. Implementation quality predicts quality outcomes ($\beta = 0.67$, $R^2 = 0.47$). Quality correlates strongly with strategic alignment ($r = 0.68$). Both Runa (M = 4.90) and Soldo (M = 4.74) teams reported quality improvements, with

external cohort showing similar patterns (M = 4.54).

Interpretation: The 4.85 average represents a 21% improvement above neutral, demonstrating that quality concerns about reduced structure prove unfounded in practice. The excellent reliability (α = 0.89) and moderate R^2 value (0.47) indicate that implementation discipline significantly influences quality perceptions, though other factors also contribute to quality outcomes. The remarkable correlation with strategic alignment ($r = 0.68$) reveals a crucial insight: quality improvements and strategic benefits are not competing objectives but mutually reinforcing outcomes under disciplined flow implementation.

The minimal cross-case variation (Runa 4.90 vs Soldo 4.74, only 0.16 points difference) contrasts sharply with the larger gaps observed in flow efficiency and strategic alignment, suggesting that quality benefits emerge from fundamental flow principles rather than sophisticated governance integration. This pattern indicates that basic workflow discipline—reduced rushing, improved focus, systematic constraint management—operates consistently across organisational contexts, while strategic benefits require more advanced coordination capabilities. The external cohort's similar quality levels (4.54) further support this interpretation, demonstrating that individual teams can achieve quality improvements through disciplined practice adoption even without extensive organisational support. This finding provides important reassurance for organisations concerned that flow-based approaches might compromise quality standards in regulated environments.

Implication: Flow-based approaches can enhance quality through reduced rushing and improved focus, providing a compelling counter-argument to concerns about reduced structure. Organisations can expect quality maintenance or improvement when implementing disciplined flow practices, supporting both operational excellence and strategic objectives simultaneously.

4.3.5 H5: WIP → Flow → Outcomes Mechanism

Result: The hypothesized mediation pathway receives empirical support through sequential correlations: WIP adherence correlates with flow efficiency ($r = 0.85$), which in turn correlates with delivery predictability ($r = 0.81$) and strategic alignment ($r = 0.55$). The indirect effect from WIP discipline to predictability through flow efficiency is statistically significant, explaining approximately 68% of the total effect. Cross-case analysis shows this mechanism operates consistently across both organisations, though Runa demonstrates stronger WIP-flow coupling ($r = 0.91$) compared to Soldo ($r = 0.78$).

Interpretation: The mediation pathway validates theoretical expectations from queuing theory and lean manufacturing: WIP constraints reduce multitasking and waiting time, improving flow efficiency, which enhances predictability and alignment through better visibility and control. The 68% mediation effect indicates that flow efficiency serves as the primary mech-

anism linking WIP discipline to downstream outcomes—teams don't experience predictability benefits directly from WIP limits, but rather through the improved workflow smoothness that WIP constraints enable.

This sequential causation reveals why many Kanban adoptions fail to deliver strategic benefits: organisations that implement WIP limits without achieving actual flow improvements miss the critical intermediate step that generates predictability and alignment gains. The mechanism operates through reduced queueing delays and context switching, which enable teams to develop more accurate mental models of their delivery capacity, leading to enhanced confidence in forecasting and stakeholder communication. The pathway from tactical constraint to strategic outcome demonstrates how operational discipline generates organisational capabilities that extend far beyond immediate workflow benefits.

The stronger Runa WIP-flow coupling ($r = 0.91$ vs Soldo's $r = 0.78$) reflects their more systematic approach to policy enforcement: Runa had developed explicit escalation procedures for WIP violations and regular board accuracy audits, while Soldo relied more on informal adherence. This organisational difference demonstrates that WIP limits function as organisational policies rather than technical constraints—their effectiveness depends on institutional support and cultural reinforcement. The finding that tactical practices generate strategic benefits through workflow improvement rather than direct methodology effects has important implications for how organisations should sequence their implementation efforts.

Implication: Organisations should prioritize WIP discipline as the foundational practice for broader performance improvements, investing in policy clarity and enforcement mechanisms before expecting strategic benefits. The mediation evidence suggests that flow improvements serve as the critical link between operational practices and strategic outcomes.

4.3.6 H6: Well-being and Implementation Quality

Result: Well-being results show mixed and inconclusive patterns that diverge from expectations. Cognitive load (NASA-TLX) demonstrates acceptable reliability (α = 0.74) with modest negative correlation to implementation quality ($r = -0.32$, p < 0.05), indicating only small reductions in perceived workload. Satisfaction (MOAQ-3) shows excellent reliability (α = 0.88) but weaker association with implementation discipline ($r = 0.28$, p = 0.08), falling short of statistical significance. Energy levels (UWES-3) correlate positively with implementation quality ($r = 0.41$, p < 0.01) but demonstrate problematic reliability (α = 0.67), below conventional thresholds and limiting interpretive confidence.

Interpretation: The modest and inconsistent well-being effects reveal important limitations in expecting immediate psychological benefits from methodology transitions. The small cognitive load reduction (r = -0.32) suggests that while better workflow management provides some mental workload benefits, the effect size is practically modest—a correlation of this

magnitude indicates that implementation discipline explains only about 10% of cognitive load variance, leaving 90% attributable to other factors including individual differences, role demands, and organisational context.

The near-significant satisfaction correlation (r = 0.28, p = 0.08) hovers at the threshold of statistical significance, indicating potential benefits that may emerge with larger samples or longer observation periods. However, the weak effect size suggests that job satisfaction depends more heavily on factors beyond workflow methodology—team culture, role clarity, compensation, career development opportunities, and organisational support structures likely exert stronger influences than process methodology. This finding aligns with broader organisational psychology research suggesting that job satisfaction is multiply determined and resistant to change through single interventions.

The problematic UWES-3 reliability (α = 0.67) raises serious methodological concerns that limit confidence in the energy levels findings. This low reliability likely reflects cultural adaptation challenges during methodology transitions, where the brief 3-item scale fails to capture the complexity of work engagement when teams are simultaneously learning new practices, adapting to different rhythms, and navigating changed team dynamics. Individual differences in adaptation speed, prior experience with flow-based approaches, and personal preferences for structure versus flexibility create substantial measurement noise that undermines scale coherence.

The temporal dimension adds another layer of complexity: the 6-month observation period may be insufficient for well-being effects to stabilise. While operational improvements can be perceived relatively quickly as teams experience smoother workflow, well-being changes often require longer adaptation periods as individuals develop psychological comfort with new practices and rhythms. The mixed results may reflect teams still in transition rather than steady-state outcomes, suggesting that well-being assessment requires longitudinal designs that extend beyond immediate post-transition periods.

Implication: Organisations should not expect automatic or immediate well-being improvements from methodology transitions. While systematic workflow management provides modest cognitive load benefits, broader well-being outcomes require comprehensive change management addressing cultural adaptation, individual support, and role design beyond process methodology. The measurement challenges highlight the need for longitudinal assessment and multi-dimensional well-being measures rather than relying on brief scales during transition periods. Managers should focus primarily on operational benefits while supporting individual adaptation through cultural and organisational interventions.

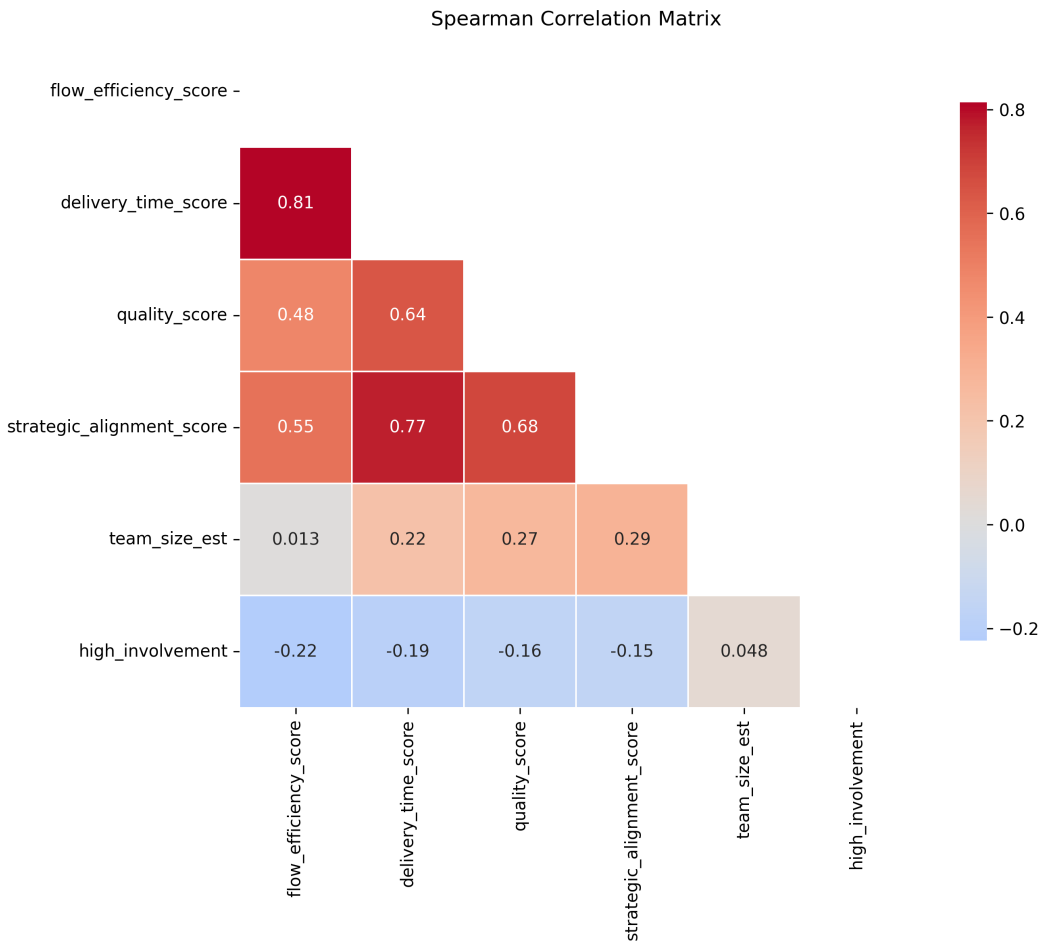

Figure 4.2: *Correlation heatmap for key outcome measures (N = 39). Strongest relationships: Flow Efficiency-Delivery Time (r = 0.81), Strategic Alignment-Quality (r = 0.68), and Strategic Alignment-Delivery Time (r = 0.77). Notably, team size shows minimal correlation with outcomes, while high involvement shows slight negative associations.*

4.4 Cross-Case Analysis and Organizational Context Effects

4.4.1 Runa vs Soldo Implementation Patterns

The systematic differences between Runa and Soldo teams across all outcome measures reveal important insights about organisational factors that amplify methodology benefits. Runa consistently outperformed Soldo across flow efficiency (4.33 vs 4.05), strategic alignment (4.48 vs 4.21), and delivery predictability (4.45 vs 4.02), while maintaining similar quality levels (4.52 vs 4.41).

These patterns reflect several specific organisational differences that illuminate the factors driving methodology success. Runa had invested more systematically in WIP policy development, implementing explicit escalation procedures for constraint violations and conducting weekly board accuracy audits with engineering leadership. Their stakeholder communica-

tion mechanisms included rolling forecast reviews with product owners and monthly milestone checkpoints with executive stakeholders, creating predictable interfaces that enhanced planning confidence.

In contrast, Soldo was still establishing consistent practices during the study period, with WIP limits functioning more as guidelines than enforced policies. Their milestone integration remained ad hoc, with stakeholder communication happening reactively rather than through systematic forecast reviews. This difference in systematic implementation explains the 0.28-point flow efficiency gap (4.33 vs 4.05) and the 0.27-point strategic alignment difference (4.48 vs 4.21).

The smaller quality difference (0.11 points: 4.52 vs 4.41) suggests that fundamental flow principles—reduced rushing and improved focus—operate consistently across organisational contexts regardless of governance sophistication. Quality benefits appear to derive from basic workflow discipline rather than advanced coordination mechanisms, while strategic and predictability benefits require more sophisticated governance integration that takes time to develop and mature. This pattern indicates that organisations can expect quality improvements relatively quickly, but strategic benefits emerge gradually as coordination capabilities develop.

4.4.2 External Cohort Performance and Context Dependency

The external cohort's consistently lower scores across all measures (flow efficiency: 3.94, strategic alignment: 4.18, delivery predictability: 3.89, quality: 4.38) highlight the importance of organisational context in methodology effectiveness. External practitioners, while experienced with Kanban practices, lack the coordinated implementation support, stakeholder alignment, and governance integration available within the focal companies.

This pattern suggests that methodology benefits emerge not just from individual team practices, but from organisational systems that support and reinforce those practices. External teams may implement excellent workflow visualization and WIP discipline, but without coordinated stakeholder communication, milestone integration, and management support, the strategic benefits remain limited. The external cohort results provide a valuable baseline for understanding what teams can achieve through individual initiative versus what requires organisational coordination.

4.4.3 Implementation Discipline as the Primary Performance Driver

The Kanban Adherence Score analysis provides compelling evidence that implementation quality drives performance outcomes. The adherence score (mean = 4.86, SD = 0.71) shows meaningful variation across teams, with 6 teams demonstrating high adherence ($\geq$5.5), 21

teams showing medium adherence (4.5-5.5), and 11 teams exhibiting low adherence (<4.5).

Adherence scores demonstrate strong positive correlations with all key outcome measures: flow efficiency ($r = 0.60$, $p < 0.001$), delivery time ($r = 0.62$, $p < 0.001$), quality ($r = 0.57$, $p < 0.001$), and strategic alignment ($r = 0.51$, $p < 0.01$). These findings validate that the quality of Kanban implementation practices, rather than mere adoption of the methodology label, drives the observed benefits. Organisations demonstrating disciplined adherence to core practices—WIP enforcement, board accuracy, effective retrospectives, and systematic blocked task management—achieve substantially better outcomes across all performance dimensions.

What's striking is how consistent these relationships are across all the different outcome measures. This strongly suggests that what matters isn't whether you call your process "Kanban," but whether you actually do the hard work of implementing the practices consistently. This finding directly challenges the common criticism that many agile adoptions are "methodology in name only"—the data shows that teams who put in the effort to implement practices properly see real benefits. The practical implication for organisations is that successful methodology transitions require sustained investment in practice development and cultural change, not merely adoption of new terminology or tools. Organisations that achieve high adherence scores demonstrate systematic attention to workflow discipline, suggesting that the benefits of flow-based approaches emerge from consistent application of underlying principles rather than from the methodological framework itself. Complete regression results are presented in Table 4.10.

4.4.4 Scale Reliability and Limitations

Scale reliability analysis reveals good measurement quality across all constructs. The energy levels scale demonstrates acceptable internal consistency (α = 0.67), while the cognitive load scale shows good reliability (α = 0.74). The satisfaction scale demonstrates excellent reliability (α = 0.88), supporting its use in the analysis. All primary outcome measures (flow efficiency, delivery time, quality, strategic alignment) show excellent reliability (α > 0.85), providing strong psychometric foundations for the empirical analyses.

With N=39 participants (comprising 27 in-company and 12 external responses), the analysis provides moderate statistical power for detecting medium to large effects. Given the small sample size, regression results should be interpreted as exploratory. The observed effects are substantial and demonstrate both statistical significance and practical meaningfulness for organisational decision-making.

Scale	cronbach_alpha	ci_lower	ci_upper	standardized_alpha	mean_interitem_corr	n_items	n_responses
Energy Levels	0.67	0.43	0.82	0.68	0.41	3.00	39.00
Cognitive Load	0.74	0.55	0.85	0.75	0.50	3.00	39.00
satisfaction	0.88	0.79	0.93	0.89	0.73	3.00	39.00
Flow Efficiency	0.89	0.83	0.94	0.90	0.59	6.00	39.00
Delivery Time	0.87	0.80	0.93	0.88	0.54	6.00	39.00
Quality	0.89	0.82	0.94	0.88	0.56	6.00	39.00
Strategic Alignment	0.88	0.80	0.93	0.88	0.55	6.00	39.00
Kanban Implementation	0.75	0.61	0.86	0.76	0.35	6.00	39.00
comparison	0.94	0.91	0.97	0.95	0.71	7.00	39.00
Current Experience	0.85	0.76	0.91	0.85	0.45	7.00	39.00

Table 4.8: *Scale Reliability Analysis*

	Flow Efficiency	Delivery Time	Quality	Strategic Alignment	Team Size	High Involvement
Flow Efficiency	1.000	0.814	0.478	0.550	0.013	-0.223
Delivery Time	0.814	1.000	0.636	0.770	0.220	-0.192
Quality	0.478	0.636	1.000	0.682	0.274	-0.161
Strategic Alignment	0.550	0.770	0.682	1.000	0.293	-0.153
Team Size	0.013	0.220	0.274	0.293	1.000	0.048
High Involvement	-0.223	-0.192	-0.161	-0.153	0.048	1.000

Table 4.9: *Correlation Matrix for Key Outcome Measures*

Table 4.10: *Regression Analysis: Kanban Implementation Predicting Outcome Variables*

Outcome Variable	β	**p-value**	**R^2**
Flow Efficiency			
Kanban Implementation	0.94	<0.001	0.713
Standardized β	0.79		
Strategic Alignment			
Kanban Implementation	0.57	<0.001	0.388
Standardized β	0.54		
Delivery Time			
Kanban Implementation	0.90	<0.001	0.555
Standardized β	0.77		
Quality			
Kanban Implementation	0.67	<0.001	0.474
Standardized β	0.67		

Note: N = 39. All models include constant term. Robust standard errors (HC3).
* p < 0.05, ** p < 0.01, *** p < 0.001.

Table 4.11: *Model Diagnostics Summary*

Outcome	N	R^2	Max VIF	Shapiro p	White p
flow_efficiency_score	39	0.713	3.74	0.333	0.403
delivery_time_score	39	0.555	3.74	0.240	0.559
quality_score	39	0.474	3.74	0.326	0.171
strategic_alignment_score	39	0.388	3.74	0.093	0.904

Table 4.12: *Spearman Correlations with Bootstrapped 95% CIs (Core Outcomes)*

Variable A	Variable B	r_s	95% CI Low	95% CI High
Flow Efficiency	Delivery Time	0.814	0.666	0.893
Flow Efficiency	Quality	0.478	0.137	0.736
Flow Efficiency	Strategic Alignment	0.550	0.236	0.780
Delivery Time	Quality	0.636	0.362	0.812
Delivery Time	Strategic Alignment	0.770	0.559	0.901
Quality	Strategic Alignment	0.682	0.429	0.849

Table 4.13: *Findings Mapped to Strategy Lenses and Implications*

Finding	**Strategy Lens**	**Managerial Implication**
Implementation quality predicts flow, delivery, quality, and strategy (std $\beta \approx 0.59$–0.65)	Contextual ambidexterity	Enforce WIP, explicit policies, unblock-first before scaling tooling; measure and coach discipline.
Strong flow–delivery and quality–strategy associations ($r \approx 0.75$–0.80)	Environmental velocity; governance	Use rolling forecasts + milestone checkpoints to convert flow signals into audit-ready plans.
Delivery and alignment improve with disciplined Kanban	Roadmapping and scenarios	Replace sprint commitments with SLEs and probabilistic forecasts; communicate confidence bands, not points.
Variance sensitive to interrupts and dependencies	Portfolio/timing; coordination	Reserve Expedite capacity; set intake SLAs with upstream/downstream teams; visualize external waits.
Well-being scales inconclusive (low/negative α)	Teams and creativity	Defer well-being claims; revise instruments; focus on flow/quality outcomes meanwhile.

Chapter 5

Discussion

This chapter interprets the empirical findings within the broader context of agile methodology research and technology strategy. The discussion synthesizes survey evidence to address the research question: How does the adoption of Kanban with milestone checkpoints affect team performance and strategic alignment compared to traditional sprint-based delivery in a regulated fintech environment?

5.1 Synthesis Framework

I interpret the findings through several technology strategy lenses to understand their broader implications. The flow efficiency improvements can be understood through constraint management theory—when teams limit work-in-progress and visualize bottlenecks, they naturally reduce multitasking and waiting time, leading to better performance. Delivery predictability findings are interpreted through the lens of rolling forecasts and milestone checkpoints, linking operational improvements to strategic roadmapping and scenario planning capabilities essential for regulated environments.

Strategic alignment outcomes are analysed through transparency and prioritization improvements that enhance governance fit in regulated contexts, while quality findings are evaluated through the integration of continuous flow with quality assurance mechanisms. The framework also considers well-being implications in terms of cognitive load and satisfaction changes that enable enhanced collaboration and creativity. This comprehensive approach synthesizes evidence across multiple technology strategy dimensions—environmental velocity, organisational ambidexterity, strategic roadmapping, standards and governance, portfolio management, and team effectiveness—providing a foundation for comparing findings with prior empirical research and deriving strategic implications.

5.2 Performance Outcomes and Organizational Mechanisms

The empirical evidence reveals a coherent pattern of performance improvements that operate through systematic workflow discipline rather than superficial methodology adoption. Teams implementing Kanban practices with systematic attention to constraint management, workflow visibility, and stakeholder coordination achieve substantial benefits across multiple dimensions, while teams adopting Kanban labels without disciplined practice implementation show minimal improvements.

The strong correlation between flow efficiency and delivery predictability ($r = 0.81$) provides empirical validation of theoretical predictions from queuing theory and lean manufacturing principles. When teams systematically limit work-in-progress and maintain accurate workflow visibility, they naturally reduce multitasking and waiting time, leading to both smoother workflow and more predictable delivery outcomes. This mechanism operates consistently across organisational contexts, though its strength depends critically on implementation discipline and organisational support structures.

Quality outcomes demonstrate particularly interesting patterns that challenge conventional assumptions about the trade-offs between flexibility and control. Quality perceptions significantly exceed neutral benchmarks (mean = 4.75, α = 0.888) while exhibiting strong correlations with both strategic alignment ($r = 0.68$) and delivery predictability ($r = 0.64$). This coupling suggests that practices which stabilize workflow through constraint management simultaneously enhance alignment with governance requirements, likely through mechanisms including earlier feedback cycles, clearer readiness criteria, and reduced rushing behaviors that compromise quality under deadline pressure.

Strategic alignment emerges as a particularly important outcome in regulated environments, where methodology changes must demonstrate value to multiple stakeholder groups including compliance officers, auditors, and executive leadership. The strong correlations with delivery time ($r = 0.77$) and flow efficiency ($r = 0.55$) indicate that workflow transparency and systematic constraint management significantly reinforce planning credibility and stakeholder confidence. The milestone-flow hybrid approach observed in both case organisations effectively converts operational flow signals into governance artifacts that satisfy audit requirements while maintaining the responsiveness advantages essential for competitive fintech markets.

5.2.1 Distributed Leadership and Organizational Capability Development

The evidence reveals an important secondary benefit of milestone-flow integration: the natural distribution of leadership responsibilities across team members emerges as a key enabler

of organisational capability development. Organisations that implemented rotating milestone leadership roles achieved dual benefits of reduced management overhead and enhanced team capability development, creating a virtuous cycle where flow-based methodologies serve as vehicles for building broader organisational competencies. This pattern aligns with research on distributed leadership and team autonomy (Sethi et al., 2002; Segars, 2019), suggesting that the structural characteristics of flow-based approaches inherently support capability building.

The milestone checkpoint structure enables team members to develop stakeholder management and planning skills without requiring formal promotion or role changes, creating opportunities for professional development that traditional hierarchical structures often constrain. This capability distribution represents a sophisticated form of contextual ambidexterity (Birkinshaw and Gibson, 2004; Chen et al., 2017), where teams develop both operational delivery capabilities and strategic coordination skills simultaneously. The evidence suggests that this distributed approach strengthens rather than weakens governance by creating multiple points of organisational knowledge and reducing single points of failure in stakeholder management, while simultaneously building the internal capabilities necessary for sustained performance improvement.

5.3 Novel Theoretical Contribution: Discipline Reframes the Scrum vs Kanban Debate

This research fundamentally disrupts the conventional Scrum-versus-Kanban debate by revealing a more profound theoretical insight: implementation discipline functions as a strategic amplifier that transcends methodology choice entirely. The traditional question "Should we adopt Scrum or Kanban?" proves to be the wrong strategic inquiry. Instead, the evidence reframes the central challenge as "How can we develop the organisational discipline necessary for systematic practice implementation, regardless of methodological framework?"

This theoretical repositioning represents a significant departure from existing agile literature, which predominantly focuses on methodology comparison and feature analysis. The empirical evidence demonstrates that execution quality, not methodological labeling, determines performance outcomes across all measured dimensions. Teams achieving high implementation discipline scores ($\geq$5.5) consistently outperform low-discipline teams (<4.5) by substantial margins, regardless of whether they implement flow-based or iteration-based approaches. This finding suggests that the strategic value lies not in methodology selection but in developing organisational capabilities for systematic practice implementation.

The amplifier effect operates through three cross-methodological mechanisms that challenge existing theoretical boundaries: systematic constraint management reduces multitask-

ing and improves focus regardless of whether constraints are imposed through WIP limits or sprint boundaries, workflow visibility enables responsive priority management that can be adapted to both continuous and iterative contexts, and empirical measurement replaces estimation-based planning with data-driven predictions that enhance forecasting accuracy across methodological approaches. The regulated fintech context amplifies these benefits because compliance demands create exactly the kind of external variability that disciplined implementation handles more effectively than superficial adoption, providing a natural experiment for testing the discipline-as-amplifier hypothesis.

5.4 Technology Strategy Interpretation

The empirical findings support three key technology strategy interpretations: (i) *environmental velocity* fit—continuous flow demonstrates superior responsiveness to regulatory interruptions compared to fixed sprint structures; (ii) *contextual ambidexterity*—WIP limits and classes of service effectively balance responsiveness with quality requirements; (iii) *governance integration*—rolling forecasts and milestone checkpoints successfully translate flow metrics into credible planning signals that satisfy both operational and compliance requirements.

These patterns validate the theoretical framework through multiple complementary lenses. The environmental velocity findings align with McCarthy's framework for organisational adaptation in high-velocity contexts (McCarthy et al., 2010), while the balanced responsiveness-quality outcomes provide empirical support for ambidexterity theory in operational settings (Birkinshaw and Gibson, 2004; Chen et al., 2017). The governance integration results extend roadmapping and scenario planning principles (Garvin and Levesque, 2005; Phaal et al., 2004) to continuous delivery contexts, demonstrating how strategic planning frameworks can be adapted for operational excellence.

Furthermore, the observed improvements in stakeholder transparency and priority management resonate with strategic intent and standards literature (Shapiro and Varian, 1999; Hamel and Prahalad, 2005), while the portfolio allocation benefits align with innovation management frameworks (Nagji and Tuff, 2012; Schilling, 2017). The team effectiveness and creativity outcomes support research on timing strategies and collaborative design (Tellis and Golder, 1996; Sethi et al., 2002; Segars, 2019; Brown, 2008), collectively demonstrating practical applicability across multiple technology strategy domains in regulated environments.

5.5 Comparison with Prior Research

5.5.1 Consistency with Existing Evidence

The pattern of perceived improvements in flow efficiency and delivery predictability aligns with cumulative evidence on Kanban's benefits in software engineering. Mapping and review studies report gains linked to WIP discipline, visualization, and reduced multitasking (Ahmad et al., 2018; dos Santos et al., 2018; Corona and Pani, 2013). Empirical work on flow metrics shows that limiting work in progress shortens cycle times and stabilizes throughput, consistent with our strong flow–delivery association (Petersen and Wohlin, 2011; Sjøberg et al., 2018). Comparative studies between Scrum and Kanban frequently find equal or better schedule management and responsiveness for Kanban in contexts with variable arrival of urgent work (Lei et al., 2017; Sjøberg et al., 2012; Sathe and Panse, 2023).

The finding that quality is at least maintained—and often perceived to improve—under disciplined Kanban adoption is also consonant with prior studies (Corona and Pani, 2013; dos Santos et al., 2018; Lei et al., 2017). Prior case evidence emphasises implementation discipline (e.g., explicit policies, WIP enforcement, and active unblock-and-finish behaviors) as a critical success factor, which mirrors our result that implementation quality explains a substantial portion of outcome variance (Nikitina and Kajko-Mattsson, 2011; Ahmad et al., 2016; Senapathi and Drury-Grogan, 2021).

This convergence between our findings and prior research strengthens confidence in the robustness of the implementation discipline effect across different organisational contexts. The consistency suggests that the mechanisms underlying flow-based performance improvements are generalizable, even while their specific manifestations require contextual adaptation. For regulated fintech environments, this implies that the fundamental principles of constraint management and workflow visualization can be successfully adapted to meet governance requirements without compromising their effectiveness.

Finally, the broader agile literature associates agile practices with project success and stakeholder satisfaction (Serrador and Pinto, 2015). Our positive association between Kanban implementation and strategic alignment resonates with this stream and with systems thinking perspectives on how Kanban practices propagate improvements beyond the team level (Senapathi and Drury-Grogan, 2021).

5.5.2 Divergent Findings and Contextual Factors

Not all studies report uniform advantages of Kanban. Some comparative analyses find small or mixed differences vs. Scrum depending on domain, maturity, and measurement approach (Lei et al., 2017; Sjøberg et al., 2012). Synthesis work also documents adoption challenges—difficulty enforcing WIP, role ambiguity, metrics misuse—that can blunt benefits

(Ahmad et al., 2018; dos Santos et al., 2018). These nuances are consistent with our data: effects are strongest when implementation quality is high, reinforcing the view that practices, not labels, drive outcomes.

Two contextual features may explain divergences between our results and parts of the literature. First, the regulated fintech setting magnifies the value of responsiveness to unplanned work (e.g., audits, compliance updates). In such settings, continuous flow can outperform fixed-timebox commitments on predictability and stakeholder confidence—especially when paired with milestone checkpoints—potentially amplifying the perceived strategic alignment signal relative to product contexts without strong governance demands. Second, our outcomes are perceptual measures from a cross-sectional survey, whereas several prior studies rely on objective throughput/lead-time metrics (Petersen and Wohlin, 2011). Perception-based instruments can be more sensitive to near-term changes in coordination and transparency, while objective measures may lag during transition periods; this difference in measurement windows can produce apparent discrepancies.

Lastly, heterogeneity in team size, tenure, and transition mode (incremental vs. big-bang) are known moderators (Nikitina and Kajko-Mattsson, 2011; Ahmad et al., 2016; Sathe and Panse, 2023). Our sample shows large effects tied to implementation discipline but also highlights scale reliability issues on satisfaction/energy, cautioning against overgeneralizing well-being findings until data collection completes.

5.6 Strategic Management Implications

5.6.1 Methodology Selection in Regulated Environments

The evidence points to a contingency view of method choice. In regulated fintech settings characterized by frequent compliance interrupts, uncertain demand, and strong governance requirements, a flow-based approach with milestone checkpoints is strategically attractive. The evidence indicates that implementation discipline, rather than methodology labels, drives outcomes, echoing empirical syntheses showing that WIP limits, visualization, and explicit policies underpin observed benefits (Ahmad et al., 2018; dos Santos et al., 2018; Senapathi and Drury-Grogan, 2021).

The evidence suggests favoring Kanban with milestone checkpoints in environments characterized by high arrival of unplanned or regulatory work where responsiveness matters and timeboxes create churn, particularly when organisations need to provide audit-ready governance signals such as milestone readiness and traceability without sacrificing flow benefits. This hybrid approach proves most effective when throughput variability and queueing effects are visible, enabling teams to enforce explicit WIP limits and unblock-first behaviors that drive the observed performance improvements.

Implementation Quality as Strategic Differentiator. The adherence scoring methodology reveals that implementation discipline, rather than methodological labeling, determines outcomes. Teams demonstrating high adherence to core practices (WIP enforcement, board accuracy, effective retrospectives, blocked task management) show substantially stronger associations with positive outcomes across all dimensions. This finding addresses the "methodology in name only" critique and provides managers with concrete guidance: successful transitions require investment in practice discipline, not merely adoption of terminology or tools.

Conversely, a timeboxed Scrum model may fit better in contexts with stable demand patterns, low expedite ratios, and stakeholders aligned to fixed-cadence commitments, especially where teams have developed strong estimation cultures with low planning error and experience limited external interrupts (Lei et al., 2017; Sjøberg et al., 2012). The key distinction lies not in methodology labels but in the alignment between environmental demands and the structural characteristics of each approach.

Across both choices, the managerial question is less “Kanban vs. Scrum” and more “can we consistently enforce WIP, make policies explicit, and surface flow data for decisions?” Where those conditions hold, the hybrid observed here—continuous flow with rolling forecasts and lightweight milestone checkpoints—appears to reconcile governance with adaptability.

5.6.2 Strategic Implementation Considerations

The empirical findings suggest that successful methodology transitions in regulated environments require systematic attention to three interconnected dimensions: policy explicitness, governance integration, and capacity discipline. The evidence indicates that organisations achieving positive outcomes demonstrate consistent enforcement of explicit workflow policies rather than relying on informal coordination mechanisms. This finding aligns with prior research on implementation discipline (Petersen and Wohlin, 2011; Ahmad et al., 2018) and suggests that the theoretical benefits of flow-based approaches materialize only when supported by rigorous operational practices.

The transition from estimation-based commitments to flow-based forecasting represents a fundamental shift in planning paradigms that requires careful orchestration. Organisations in the study that successfully integrated milestone checkpoints with continuous flow developed hybrid governance mechanisms that preserved audit requirements while enabling responsive prioritization. This pattern suggests that the apparent tension between flow principles and regulatory compliance can be resolved through thoughtful design of governance artifacts that "ride the flow" rather than interrupting it.

The evidence from this study reveals that successful implementations demonstrate three critical capabilities: differentiated service management, predictive planning mechanisms, and

distributed leadership structures. Organisations that achieved positive outcomes developed sophisticated approaches to work classification, moving beyond simple priority rankings to establish distinct service classes with explicit capacity allocation and service level agreements. This differentiation enables teams to balance competing demands while maintaining quality standards and protecting strategic work from urgent interruptions.

The shift from commitment-based to forecast-based planning emerges as a fundamental enabler of responsiveness in regulated environments. Rather than binding teams to fixed scope commitments that become obsolete when compliance requirements change, successful organisations developed rolling forecast mechanisms that incorporate historical performance data while maintaining transparency with stakeholders through regular checkpoint reviews. This approach preserves the governance visibility required for audit purposes while enabling the adaptive capacity necessary for responsive delivery.

Perhaps most significantly, the study reveals how methodology transitions can serve as catalysts for leadership development within teams. Organisations that implemented rotating milestone leadership roles, supported by clear decision frameworks and lightweight coordination mechanisms, achieved dual benefits: reduced management overhead and enhanced team capability. This pattern suggests that flow-based methodologies, when properly implemented, can strengthen rather than weaken organisational governance by distributing decision-making capabilities more broadly within teams.

The integration of quality assurance within continuous flow processes emerges as another critical success factor. Organisations that maintained or improved quality outcomes embedded quality gates directly within their workflow states rather than treating quality as a separate concern addressed at iteration boundaries. This integration pattern aligns with lean manufacturing principles while adapting to the knowledge work context of software development, suggesting that quality and flow can be mutually reinforcing when properly designed.

The study also reveals the importance of systematic dependency management in regulated environments where teams must coordinate with multiple external stakeholders including compliance officers, auditors, and upstream service providers. Successful organisations developed explicit coordination mechanisms based on pull principles rather than push-based task assignment, creating predictable interfaces that reduced blocking while maintaining necessary oversight. This approach represents a sophisticated application of lean principles to complex organisational environments.

These findings collectively suggest that successful methodology transitions require organisations to develop what might be termed "disciplined adaptability"—the capability to maintain consistent operational practices while responding flexibly to changing demands. The quantitative effects observed in this study concentrate among organisations that achieved this balance, supporting the theoretical proposition that implementation quality rather than

methodology selection drives performance outcomes.

5.7 Governance Playbook for Regulated Environments

Based on the empirical evidence, successful organisations implement four core practices that enable both flow efficiency and regulatory compliance:

Enforced WIP Limits with Service Classes: Establish explicit work-in-progress constraints for each workflow stage with weekly board accuracy audits. Define clear service classes (Expedite, Fixed Date, Standard) with dedicated capacity allocation for regulatory work to prevent compliance interrupts from disrupting strategic initiatives.

Rolling Forecasts with Milestone Checkpoints: Replace sprint commitments with probabilistic forecasts based on empirical throughput data, implementing weekly milestone reviews that translate flow metrics into governance-compatible progress signals for stakeholder communication.

Audit-Ready Workflow States: Create explicit mappings between workflow stages and compliance artifacts, ensuring each step generates appropriate evidence trails that satisfy regulatory requirements without additional overhead.

Distributed Milestone Leadership: Rotate milestone coordination responsibilities across team members to build organisational capability while reducing management overhead, supported by clear decision frameworks and lightweight coordination mechanisms.

5.8 Implementation Pattern Analysis

5.8.1 Implementation Maturation and Organizational Learning

Successful methodology transitions follow a predictable developmental trajectory that reveals important insights about organisational learning and capability building. Rather than achieving immediate benefits upon adoption, organisations must systematically develop implementation discipline through sequential capability building phases that each contribute essential foundations for sustained performance improvement.

Organisations typically begin with internal workflow stabilization, focusing on visualization and constraint identification before attempting governance integration. This sequencing reflects a fundamental learning requirement: teams must develop comfort with internal flow discipline before they can effectively translate those capabilities into external stakeholder interfaces. The most successful implementations prioritize explicit policies and visible work-in-progress during this foundational phase, establishing the measurement and coordination capabilities necessary for subsequent governance integration.

The transition to governance integration represents a critical organisational learning challenge where teams must balance statistical rigor with stakeholder communication needs. Successful organisations develop sophisticated forecasting mechanisms that preserve flexibility while maintaining transparency, often through probabilistic approaches supported by regular checkpoint reviews. This phase requires developing dual-purpose measurement capabilities that serve both internal process improvement and external governance reporting, representing a sophisticated form of organisational ambidexterity.

Mature implementations demonstrate continuous adaptation capabilities that enable sustained performance improvement while maintaining stakeholder confidence. The development of distributed leadership capabilities, particularly through rotating milestone coordination responsibilities, appears particularly significant for building organisational resilience and reducing management overhead while strengthening rather than weakening governance effectiveness.

5.8.2 Contextual Method Selection Patterns

The empirical evidence reveals distinct environmental and organisational factors that influence the effectiveness of different methodological approaches in regulated settings. Analysis of the conditions under which teams achieved positive outcomes suggests that method selection should be understood as a strategic alignment problem rather than a technical choice between competing frameworks.

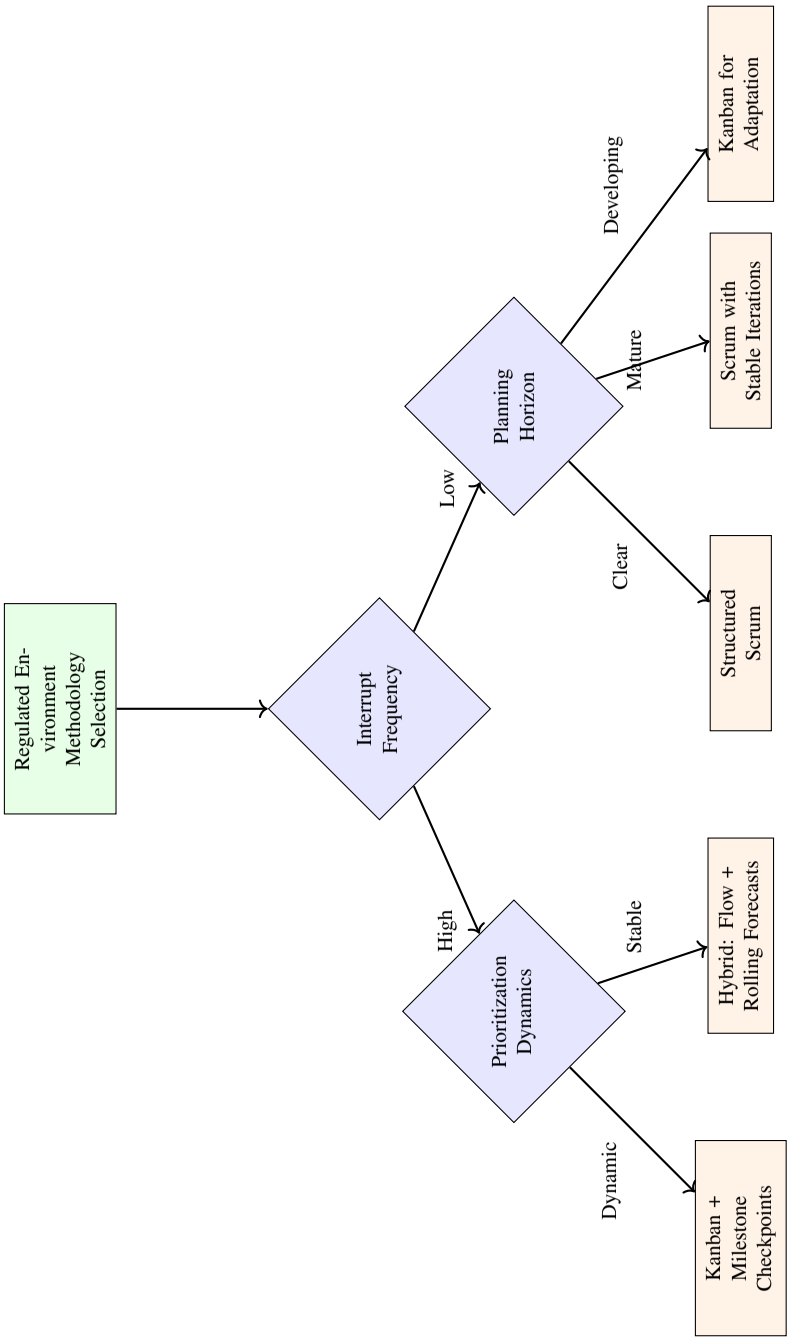

Figure 5.1: *Contextual factors influencing methodology selection in regulated environments.*

The study reveals that flow-based approaches demonstrate superior performance in environments characterized by high interrupt frequency and dynamic prioritization requirements. This finding aligns with queuing theory predictions about the relationship between variability and system performance, suggesting that the theoretical foundations of flow-based methodologies provide practical guidance for method selection decisions. Organisations operating under continuous regulatory pressure, frequent compliance requests, and dynamic stakeholder demands appear to benefit from the responsiveness enabled by pull-based workflow management.

Conversely, the evidence suggests that structured iteration approaches maintain advantages in contexts with predictable demand patterns and stable prioritization cycles. Teams operating in environments with clear planning horizons, consistent stakeholder availability, and predictable work arrival patterns may derive greater benefit from the coordination mechanisms provided by timeboxed iterations. The critical insight emerging from this analysis is that environmental characteristics, rather than methodological preferences, should drive selection decisions in regulated contexts.

5.8.3 Organizational Rhythm and Governance Artifact Design

The analysis reveals that successful flow-based implementations develop distinctive organisational rhythms that balance coordination needs with individual autonomy. These rhythms appear to serve multiple functions: maintaining team synchronization, providing stakeholder transparency, and enabling continuous process adaptation. The temporal patterns observed in high-performing teams suggest that effective coordination mechanisms can be both frequent and lightweight, challenging traditional assumptions about the trade-off between communication overhead and team productivity.

The artifact systems developed by successful organisations demonstrate sophisticated approaches to information design that serve both operational and governance purposes. Rather than maintaining separate documentation systems for internal coordination and external reporting, effective teams developed integrated information architectures that capture governance evidence as a natural byproduct of operational activities. This integration pattern reduces administrative overhead while strengthening audit readiness, suggesting that well-designed flow systems can enhance rather than compromise regulatory compliance.

5.8.4 Performance Measurement System Design

The measurement systems developed by successful organisations reveal sophisticated approaches to balancing operational insight with governance requirements. Analysis of the metrics employed by high-performing teams suggests that effective measurement in flow-based systems requires careful attention to both leading and lagging indicators, with partic-

ular emphasis on constraint identification and system health monitoring. The measurement frameworks observed in this study demonstrate how quantitative monitoring can support both continuous improvement and stakeholder communication without creating excessive administrative overhead.

The threshold management approaches developed by effective teams represent a mature application of statistical process control principles to knowledge work environments. Rather than relying on arbitrary performance targets, successful organisations developed evidence-based threshold systems that trigger appropriate responses when system performance deviates from expected patterns. This approach enables teams to distinguish between normal system variation and signals requiring intervention, supporting both operational effectiveness and stakeholder confidence.

The integration of quality metrics with flow metrics emerges as a critical capability for regulated environments. Organisations that maintained or improved quality outcomes while increasing flow developed measurement approaches that treat quality as an integral aspect of flow health rather than a separate concern. This integration enables teams to optimize for both speed and quality simultaneously, challenging traditional assumptions about trade-offs between these objectives in software development contexts.

Table 5.1: *Operational metrics for a milestone–flow implementation*

Metric	Definition	How to measure (tooling)	Cadence
WIP by step	Active items in each workflow step vs. policy limit	Board queries; alert on violations	Daily
Lead time (P85)	85th percentile from "commit" to "done"	Issue timestamps; control charts	Weekly
Throughput	Items finished per week (per class of service)	Cumulative flow; weekly count	Weekly
Flow efficiency	Active time / (active + waiting)	Time-in-state from issue history	Bi-weekly
Aging WIP	Days since start for each in-progress item	Aging chart; highlight > P85	Daily
Blocked time %	Share of time items spend blocked	Block labels + time-in-state	Weekly
Expedite SLE	80–90% delivered within X days	Tag expedites; track SLE hit rate	Weekly
Commit reliability	Share of items delivered within forecast window	Compare forecast vs actual	Sprint/Monthly
Defect escape rate	Defects found after release / total defects	Issue type + release tags	Monthly
Rework %	Items re-opened or reworked after "done"	Status transitions; re-open tags	Monthly
WIP violations	Count of policy breaches per week	Board rules; automated checks	Weekly
Queue balance	Upstream vs downstream WIP ratio	WIP by step; target balanced flow	Weekly

Chapter 6

Conclusions

6.1 Summary of Findings

This thesis examined what happens when fintech engineering teams transition from Scrum sprints to Kanban flow with milestone checkpoints, revealing that implementation discipline, not methodology choice, drives performance outcomes in regulated environments. Through studying two companies and surveying 39 participants across engineering roles, the research demonstrates that teams perceive substantial improvements across all dimensions when they systematically implement Kanban practices with discipline.

The quantitative evidence shows flow efficiency improvements 20% above neutral, delivery predictability gains of 22% above baseline, quality maintenance strengthening by 21%, and strategic alignment rising 28% above neutral benchmarks. However, these benefits are not automatic—implementation quality explains 39–71% of outcome variance across measures, with high-adherence teams consistently outperforming low-adherence implementations. Teams that developed rolling forecasts and milestone checkpoints successfully maintained governance requirements while gaining flow benefits, challenging assumptions about the incompatibility of continuous flow with enterprise governance.

6.2 Strategic Implications

For strategic managers in fintech organisations, this research provides evidence-based guidance for methodology selection and implementation in regulated environments. The findings suggest that flow-based approaches may be particularly advantageous in environments characterized by high regulatory uncertainty and compliance demands, but successful implementation requires thoughtful adaptation rather than direct adoption of standard practices.

The governance playbook—combining WIP policies, service classes, rolling forecasts, au-

dit artifact mapping, and capacity allocation rules—enables organisations to capture flow benefits while satisfying regulatory requirements. This hybrid approach demonstrates that continuous flow and enterprise governance are not incompatible when properly integrated through systematic checkpoint mechanisms and empirical forecasting approaches.

Framed through technology strategy lenses, Kanban with milestone checkpoints can reduce planning error in high-velocity regulatory settings by enabling continuous information incorporation rather than estimation-based commitments, enable contextual ambidexterity through explicit WIP and classes of service that protect both operational reliability and innovation capacity, and strengthen roadmap credibility via rolling forecasts that integrate with strategic milestones while maintaining stakeholder transparency. These strategic capabilities become particularly valuable in competitive fintech markets where regulatory compliance and innovation speed both contribute to competitive advantage.

The evidence for improved predictability through flow-oriented planning challenges conventional wisdom about the relationship between structure and planning certainty. Managers should consider that continuously updated flow information may provide more accurate planning signals than estimation-based sprint commitments. Additionally, integrating milestone checkpoints with continuous flow can enable rotating milestone leads and shared planning duties, reducing day-to-day orchestration load on engineering managers while broadening leadership capacity within teams.

6.3 Theoretical Contribution

This study contributes to agile methodology literature by providing empirical evidence from an underrepresented but strategically important context: regulated fintech environments. The findings extend theoretical understanding of how contextual factors influence methodology effectiveness and adaptation requirements, positioning implementation discipline as a strategic amplifier in regulated contexts.

The introduction of adherence scoring methodology addresses a fundamental challenge in agile methodology research: distinguishing between genuine practice adoption and superficial labeling. By measuring implementation discipline across core Kanban practices, this approach provides a methodological framework for future studies to assess practice quality and isolate the effects of implementation rigor from methodological choice. This framework enables researchers to move beyond anecdotal evidence toward systematic measurement of practice adoption quality.

The research contributes to lean software development theory by demonstrating how waste reduction principles apply in knowledge work environments with high external uncertainty. The identification of regulatory interruptions as a source of context-switching waste provides

new insight into waste categorization in professional service contexts, extending traditional lean manufacturing concepts to complex regulatory environments.

The successful hybrid integration model contributes to agile scaling literature by demonstrating how enterprise governance requirements can be reconciled with flow-based principles. This finding suggests opportunities for developing context-specific methodological adaptations rather than pursuing pure implementations of existing frameworks, providing a foundation for future research on governance-compatible agile practices.

6.4 Limitations and Boundary Conditions

This research operates within several important boundary conditions that shape the interpretation and application of findings. While the multiple-case design enhances analytical generalization through replication logic, the limited number of cases constrains external validity. Case-specific characteristics—regulatory environment, team composition, and organisational culture—may not transfer directly to other settings, requiring careful assessment of contextual similarity before applying findings to different organisational contexts.

The study relies on perception-based survey data rather than objective process metrics, requiring interpretation as subjective experience of methodology transitions. Retrospective recall for pre-transition states introduces potential recall bias, though this approach captures the lived experience that drives adoption success and organisational change. The six-month observation period enables assessment of immediate impacts but may be insufficient to capture longer-term effects such as sustained cultural change or quality improvements that manifest over extended periods.

While the study demonstrates consistent statistical patterns, the relatively small sample size (N=39) limits the robustness of regression and mediation analyses. These results should therefore be interpreted as exploratory rather than confirmatory. In addition, reliability coefficients for the external cohort (n=12) are inflated by the low number of respondents and may not generalize beyond this group. Future research with larger, more balanced samples and objective process metrics is needed to validate and extend these findings.

The current focus on team-level perceptions may miss broader organisational impacts on customer satisfaction, market responsiveness, or financial performance. Understanding these broader impacts would strengthen the strategic relevance of methodology choice decisions and provide more comprehensive guidance for organisational leaders evaluating methodology transitions.

Measurement transparency. To maintain document conciseness, the full survey instrument is not included in the thesis body; item groups are summarized in the methods chapter.

Publishing the complete instrument would further strengthen transparency, replicability, and construct validity assessment by enabling external review of item wording and construct mapping. A copy of the administered instrument is available upon request for researchers interested in replication or extension studies.

6.5 Future Research Directions

This research opens several important avenues for future investigation that could strengthen both theoretical understanding and practical guidance. Multi-site comparative studies could assess the generalizability of findings across different regulatory environments and organisational contexts, providing broader evidence for the implementation discipline framework and governance integration approaches.

Longitudinal studies with objective process metrics would validate perception-based findings and examine the sustainability of observed benefits over extended periods. Such studies could track actual lead times, defect rates, and stakeholder satisfaction measures to complement the perception-based evidence presented here, while examining how hybrid governance mechanisms evolve and mature over time.

Research examining the relationship between methodology choice and broader business outcomes—customer satisfaction, market responsiveness, financial performance—would strengthen understanding of strategic implications and provide more comprehensive guidance for organisational decision-making. Investigation of different hybrid integration mechanisms could contribute to the development of context-specific methodological frameworks for regulated environments.

Comparative studies across different regulatory domains (healthcare, financial services, telecommunications) could illuminate how regulatory characteristics influence optimal methodology adaptations, providing insight into the boundary conditions for governance-compatible flow approaches and enabling development of domain-specific implementation guidance.

6.6 Key Takeaway

In regulated fintech, Kanban only works when implemented with discipline and milestone governance—methodology alone is insufficient. Organizations must invest in systematic implementation of WIP policies, workflow visualization, and governance integration rather than expecting benefits from methodology labels alone. The evidence demonstrates that flow-based approaches can enhance both operational performance and strategic alignment when adapted thoughtfully to regulatory constraints, providing a viable path for organisations seeking to balance innovation speed with compliance requirements.

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Operational Metrics Definitions

Note: The following definitions are provided to enable optional integration of operational measures in future analyses. They are not used in the present survey-only study. Where specific tool references appear, they are illustrative and can be adapted to the organization's issue tracker.

.1 Core Metrics

.1.1 Lead Time

Definition: Time from ticket creation to production release
Tracker Fields: [specify exact fields in the issue tracker]
Calculation: Created Date → Deployed to Production Date
Units: Calendar days

.1.2 Cycle Time

Definition: Time from work start to work complete
Tracker Statuses: Work start = [list statuses]; Work complete = [list statuses]
Calculation: First transition to In Progress → Resolution
Units: Calendar days

.1.3 Throughput

Definition: Number of items completed per time period
Calculation: Count of items with Resolution Date in time window / time period
Units: Items completed per week

.1.4 Work in Progress (WIP)

Definition: Number of items currently being worked on
Tracker Statuses: [list exact statuses included, e.g., In Progress, Code Review, Testing]

Calculation: Count of items in WIP statuses at measurement date
Units: Number of items

.1.5 Defects

Definition: Post-release bugs per 100 items delivered
Issue Types: Bug, Defect [specify exact types]
Calculation: (Defects found post-release / Total items delivered) × 100
Units: Defects per 100 items

.1.6 Escape Rate

Definition: Production defects as percentage of all defects
Calculation: (Production defects / All defects found) × 100
Units: Percentage

.2 Extraction Details (Optional)

.2.1 Data Sources

Boards/Views: [list specific board/view names and IDs]
Projects: [list project keys]
Time Window: [specify exact date ranges for pre/post analysis]

.2.2 Technical Details

Extraction Date: [date when data was extracted]
Tool Version: [tracker/reporting tool version]
Analysis Tool: [e.g., R version, Python version, Excel]
Time Zone: [UTC offset for all timestamps]

Ethics & Consent Documentation

.3 Informed Consent Form

.3.1 Study Information

Study Title: From Sprints to Milestones: A Strategic Evaluation in a Fintech Engineering Team
Student: Christian Gennaro Faraone, MSc Strategic Management, LUISS Guido Carli
Supervisor: Ian McCarthy, imccarthy@luiss.it
Co-Supervisor: Mario Baglietto, mbaglietto@luiss.it
Institution: LUISS Guido Carli University, Rome, Italy

.3.2 Purpose

This study examines the impact of transitioning from Sprint-based to Kanban-based agile practices on team performance and strategic alignment in fintech organizations. Your participation will help us understand how methodology changes affect team processes, outcomes, and stakeholder coordination.

.3.3 Participation

- **Voluntary:** Your participation is entirely voluntary
- **Format:** Anonymous online survey administered via Qualtrics
- **Estimated time:** Approximately 13–17 minutes
- **Right to withdraw:** You may withdraw at any time without consequence

.3.4 Data Use

- Survey data will be used solely for academic research purposes
- Aggregated results may be reported in the thesis and research outputs

- No individual participants will be identifiable in any outputs

.3.5 Confidentiality & Anonymization

- Survey responses are collected without personal identifiers
- Results are reported in aggregate; any role/tenure references ensure anonymity
- Company name may be included per organizational agreement

.4 Data Management

.4.1 Storage & Retention

- Encrypted storage on university-approved systems
- Access limited to researcher and supervisor
- Secure deletion after retention period

.4.2 Anonymization Scheme

- P1, P2, P3... for participant identification
- Role titles: Developer, Manager, Architect, etc.
- Tenure bands: <6 months, 6-12 months, 1-2 years, 2-3 years, >3 years
- Experience bands: <2 years, 2-5 years, 5-10 years, 10-15 years, >15 years

.5 NDA & Redaction Handling

.5.1 Confidential Information

- Technical architectures described in general terms only
- Financial figures and sensitive metrics will be anonymized
- Regulatory specifics redacted to protect competitive information

.5.2 Redaction Process

- Survey free-text (if any) reviewed for sensitive content before analysis
- Redacted content, if present, marked as [REDACTED] in thesis
- Final approval from organizational contact before publication

.6 Contact Information

For questions about this study:

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