Comparative research on IT project failure rates: A 2025 longitudinal update

Analyzing the evolution from "Iron Triangle" to strategic value in the era of AI [1]

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Abstract

In February 2017, the *PM World Journal* published the author's featured paper, "Comparative research about high failure rate of IT projects and opportunities to improve," which examined the structural causes of IT project failures during the transition to Agile methodologies (Arcidiacono, 2017). Eight years later, the landscape of Information Technology has been radically reshaped by Generative AI, hybrid work models, and continuous digital transformation. Yet, statistical evidence from 2025 reveals a concerning paradox: while technological capabilities have expanded, project success rates have stagnated. This paper serves as a direct follow-up to the 2017 research, updating the comparative analysis with data from the 2020–2025 period. It argues that the root causes of failure have shifted from process execution to strategic alignment and data governance, proposing "Business Acumen" as the new critical competency for reversing the trend.

Keywords: IT project failure, Standish Group CHAOS Report, Generative AI, Business Acumen, Bimodal governance, strategic alignment.

Introduction: a longitudinal perspective (2017–2025)

When I first analyzed the high failure rates of IT projects in these pages in 2017, the industry's discourse was dominated by the dichotomy between Waterfall and Agile methodologies. The primary conclusion of that research was that failure often stemmed from "insufficient communication" and a rigid adherence to the "Iron Triangle" of time, cost, and scope, rather than a focus on delivering business value (Arcidiacono, 2017).

Returning to this subject in 2025, it is necessary to evaluate how the "state of the art" has evolved. The context has shifted dramatically: we have moved from an era of digitizing processes to an era of AI-driven automation. However, comparing the historical datasets used in my previous work

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with current reports from the Standish Group, PMI, and Oxford Global Projects (Flyvbjerg, 2023) reveals a stubborn persistence in failure rates.

This update seeks to answer a fundamental question: Why, despite more advanced tools and mature frameworks, do IT projects continue to fail at largely unchanged rates?

The stagnation of success: comparative statistics

The Standish Group data: 2017 vs. 2025

In the original 2017 analysis, data from the Standish Group's CHAOS Report indicated that approximately 19% of projects failed outright (cancellations) and over 50% were "Challenged." Current data from the 2020–2024 cycle shows remarkably little movement in these high-level metrics, suggesting a systemic "complexity ceiling" (The Standish Group, 2024).

Table 1 below illustrates the stagnation in success rates over the last decade, highlighting that the widespread adoption of Agile has not resulted in a proportional increase in outright success.

Table 1: Comparative evolution of IT project success rates (2015–2025)

Metric	2015-2017 Dataset (Ref. original paper)	2020-2024 Dataset (Current status)	Variance	Interpretation
Success (On time, budget, scope)	~29%	31%	+2%	**Stagnation:** Marginal improvement suggests methodologies alone cannot solve rising complexity.
Challenged (Late, over budget, etc.)	~52%	50%	-2%	**Endemic:** Half of all projects continue to suffer from estimation errors or scope creep.

Failure (Cancelled/Never used)	~19%	19%	0%	**Constant:** The rate of total write-offs remains stubbornly nearly one in five.

Source: Author's elaboration on Standish Group CHAOS Report data (The Standish Group, 2015; 2024).

The "fat tail" risk

While the average failure rates have remained stable, the severity of failure for large projects has increased. Recent research by Flyvbjerg and Gardner (2023) introduces the concept of "fat tail" risks (Flyvbjerg & Gardner, 2023). Unlike physical construction projects, IT initiatives exhibit extreme volatility.

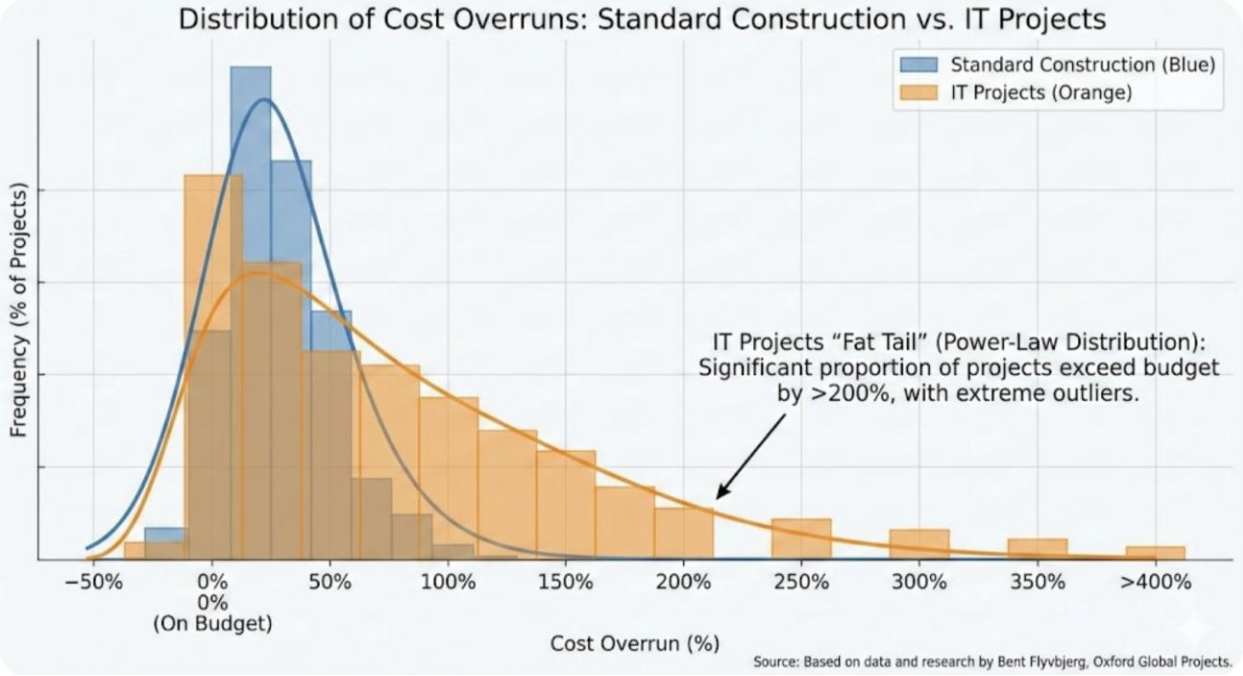

Figure 1: The "fat tail" risk distribution in IT projects

This visualization confirms the 2017 hypothesis that IT projects suffer uniquely from "intangibility risk," where scope creep is invisible until it is financially catastrophic.

The new vector of failure: Generative AI

A variable absent from the 2017 research is the impact of Artificial Intelligence. In 2025, AI is the primary driver of IT spending, but it has also introduced a new, higher tier of failure rates.

The pilot purgatory

Current industry analysis estimates that between 70% and 85% of Generative AI projects fail to move beyond the Proof of Concept (PoC) phase (RAND Corporation, 2024). Gartner specifically predicts that 30% of GenAI projects will be abandoned post-PoC by the end of 2025 (Gartner, 2025).

Table 2 contrasts the traditional causes of failure identified in my 2017 paper with the new failure modes specific to AI projects in 2025.

Table 2: Evolution of failure root causes (2017 vs. 2025)

Feature	**Traditional IT projects (2017 analysis)**	**AI & GenAI projects (2025 update)**
Primary failure cause	Poor requirements gathering	Data immaturity (Quality/Governance)
Risk trigger	Scope creep	Ethical/Legal blocks (Copyright, Bias)
Cost driver	Development hours	Inference costs (Operating Exp. - OpEx) & Licensing
Failure stage	During UAT (User Acceptance Testing)	Post-PoC (Inability to scale)

Opportunities to improve: a governance update

In 2017, I argued for better adherence to frameworks like the European Commission's Project Cycle Management (PCM) to improve structure (Arcidiacono, 2017). While valid, the 2025 landscape requires an evolution of these recommendations towards strategic competencies and adaptive frameworks like COBIT 2019 (ISACA, 2019).

1. From project management to Business Acumen

The most significant finding in the PMI *Pulse of the Profession 2025* is the elevation of Business Acumen as a critical success factor. It is no longer enough to be a good "scheduler"; the Project Manager must act as a "strategic partner" (PMI, 2025).

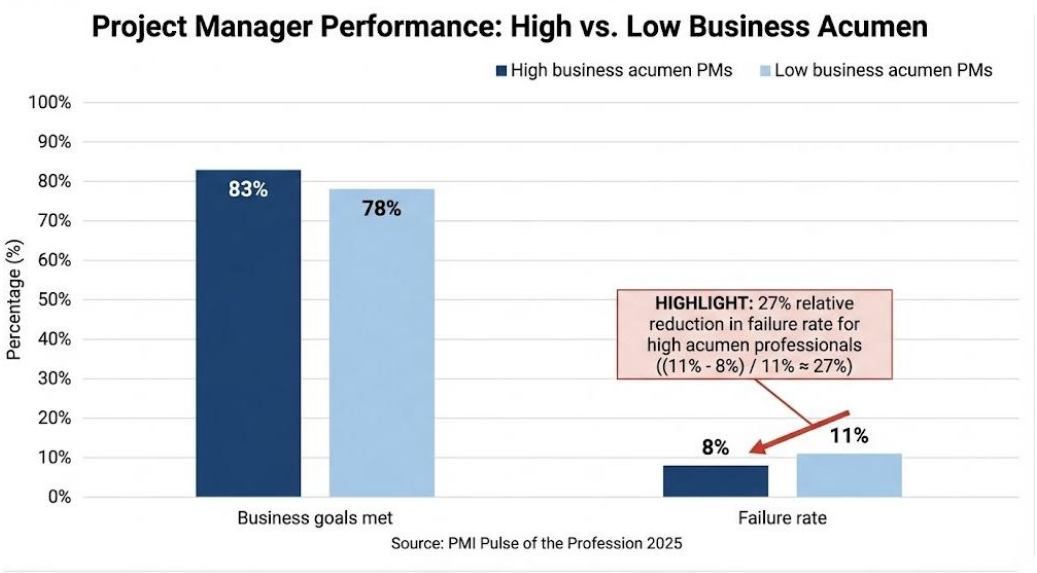

Figure 2: Impact of high Business Acumen on project metrics

2. Bimodal governance (hybrid)

The binary debate of Agile vs. Waterfall mentioned in 2017 has been replaced by a hybrid reality. Success in 2025 relies on Bimodal governance, where different governance styles are applied based on the project's uncertainty profile.

Table 3: Bimodal governance framework for 2025

Governance mode	**Mode 1: Predictable**	**Mode 2: Exploratory**
Project type	Systems of record like **Enterprise Resource Planning (ERP)**, Core Banking	GenAI pilots, mobile apps, innovation
Methodology	Waterfall / V-Model	Agile / Lean Startup
Funding model	Funded via **Capital Expenditure (CapEx)** (Fixed budget)	Funded via **Operating Expenditure (OpEx)** (Venture-style metering)
Key Metric	On-time, on-budget (Iron Triangle)	Adoption rate, Time-to-value

Failure today often results from applying Mode 1 bureaucracy to Mode 2 innovation (stifling speed) or Mode 2 looseness to Mode 1 criticality (inviting systemic risk).

Conclusion

Revisiting the conclusions of my 2017 paper, it is clear that while the tools have changed, the fundamental challenge of IT projects remains human and organizational, not technical. The introduction of AI has amplified the consequences of poor data governance and strategic misalignment.

To break the cycle of 19% failure and 50% challenged projects, organizations must move beyond the "Iron Triangle." The opportunity for improvement in 2025 lies in cultivating Business Acumen within project teams and establishing Data readiness as a non-negotiable gate for the new wave of AI initiatives. Without these structural changes, the statistics in 2030 will likely mirror those of

2017 and 2025.

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