

Failure Modes in Servitization: A Process Theory

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Introduction: Servitization—the transformation from a product-oriented to a service-oriented business model—has emerged as a strategic imperative for manufacturers seeking differentiation and growth. Despite its promise, the successful implementation of servitization remains a challenge for most firms.

While the literature has provided rich anecdotal insights into servitization challenges, the progress of theoretical development is hindered by fragmented findings, inconsistent results from empirical studies on the relationship between servitization and business performance, and a lack of original, integrative frameworks that explain how and why failure occurs.

Objective and Method: This study develops a process theory of servitization failure by conducting a qualitative meta-analysis of 40 published case studies. Our aim is to uncover generalizable patterns of failure and explain the dynamic mechanisms behind them. Unlike variance theory-based studies that examine outcomes in steady states, we focus on the process—the sequence of events, activities, and managerial decisions that lead to success or failure. Through abductive reasoning, we synthesize scattered narratives into a coherent framework.

Using the system dynamics language, we translate the narrative-based theorizing into a causal loop diagram that explicates the variables and relationships necessary for articulating the theory. We further develop a formal model that precisely defines constructs, processes, and relationships using mathematical equations. The model enables simulation to investigate the system's behavior under various scenarios and replicate the recurring failure patterns identified in the narrative-based process theory.

Key Findings: We identify four recurring failure modes that hinder service business growth across servitizing firms:

1. **Low Commitment (Failure Mode I):** Many firms fail to sustain their initial commitment in services due to a deeply rooted product-centric mindset. Even when a few service champions emerge, the lack of organizational buy-in due to delayed results and conflicting priorities between product and service units lead to insufficient or early abandonment of the servitization effort.
2. **Capability Trap (Failure Mode IIa):** Some firms face strong performance pressure and divert most of their resources to short-term operational work at the expense of long-term capability development. Although this initially boosts performance, the lack of investment in underlying service capabilities eventually undermines productivity, leading to a downward spiral of performance, commitment, and effort—a dynamic known as the “capability trap.”
3. **Slow Capability Growth (Failure Mode IIb):** Even when firms prioritize capability building, they may still fail if the selected capabilities are overly complex, grow slowly, or are prone to erosion. The delayed returns from service capability investments can leave firms unable to scale offerings before resource constraints or stakeholder impatience force abandonment. External collaborations can help but often introduce new bottlenecks if incentives or learning opportunities are misaligned.
4. **Low Return on Investment (Failure Mode III):** Even firms with well-developed service offerings may fail to scale profitably. This is often due to low baseline productivity, misaligned incentives (e.g., salespeople giving away services), or limited customer willingness to pay for new services, especially when those services were previously bundled for free.

We translated our process theory into a formal system dynamics model and simulated the performance trajectories under different scenarios. The results (see the figure below) show that success in servitization requires more than isolated efforts: it demands sustained commitment, continuous capability investment, and patience through early-stage performance decline. Only when firms maintain investment long enough for

capabilities to mature and productivity to rise can the service business become self-reinforcing and deliver profitable growth.

Contributions: We contribute to the servitization literature by developing a process theory that articulates how operational challenges shaped by manufacturing culture and resource constraints evolve over time to produce failure. The model offers a comprehensive understanding of the necessary conditions for servitization to succeed and clarifies why a strategy that works in one phase may fail in another, emphasizing timing as a crucial factor. Our theory also helps reconcile conflicting empirical findings in the literature, such as whether servitization improves or harms performance, by revealing that firms at different stages may experience opposing performance trajectories.

Methodologically, this study contributes to the system dynamics community by demonstrating how qualitative meta-analysis can be systematically integrated with system dynamics modeling to support process theory development. This approach offers a replicable framework for theory-building grounded in secondary data and opens new opportunities for constructing formal models in domains where primary data collection is difficult or resource-constrained.

Building on the proposed process theory, future research can formalize and empirically test the dynamic hypotheses underlying servitization failure modes. This includes collecting longitudinal data on organizational behavior and performance to validate individual relationships, behavioral heuristics, and the interactions between feedback loops. Simulation-based analysis enables the exploration of “what-if” scenarios, helping identify time-relevant strategies and unintended policy consequences. Ultimately, refining the model through practitioner engagement and empirical calibration can support the development of actionable guidance for managing servitization transitions and inform researchers interested in intervention-based research.

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