

Strategic Alignment of Value Co Creation Models: A Comparative Analysis of Servitized Manufacturing and Pure Service Firms

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ABSTRACT: This study investigates the comparative dynamics of value co-creation models in servitized manufacturing firms and pure service firms. The research identifies sector-specific strategies that enhance innovation and competitiveness, with particular attention to governance, ecosystem engagement, and brand management practices. A mixed-methods approach was employed, combining secondary data analysis with a comparative framework grounded in Service-Dominant Logic (SDL) and the DART model. Four manufacturing co-creation models were evaluated against practices in service firms using metrics such as innovation velocity, customer retention, and revenue contribution. The findings show that in manufacturing, the Double High and Servitization Leading models deliver stronger performance when supported by ecosystem engagement and effective governance. Service firms, by contrast, thrive through broader networks, agility, and continuous interaction, enabling rapid adaptation and personalization. Across both sectors, governance mechanisms and brand coherence are critical to sustaining trust, efficiency, and alignment with customer expectations. The study concludes that co-creation is a sector-dependent strategic discipline. Tailored strategies, aligned with governance and ecosystem realities, can generate sustainable competitive advantages. Future research should examine how emerging technologies, cross-sector collaborations, and cultural contexts shape the evolution of co-creation models.

Keywords: Value Co Creation, Servitization, Manufacturing Innovation, Service Firms, Governance, Ecosystem Strategy, Brand Coherence.



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INTRODUCTION

The evolution of servitization in manufacturing industries over the past two decades marks one of the most significant strategic shifts in modern industrial history. Where once manufacturing was dominated by traditional, product centric approaches focused on physical goods, the contemporary landscape has increasingly embraced hybrid business models that integrate products

with high value services. Servitization can be defined as the strategic incorporation of service elements into manufacturing offerings, often through the delivery of tailored, integrated, and customer specific solutions. This transition has been propelled by growing market demands for solutions that go beyond the tangible product to encompass ongoing service support, customization, and relationship driven value creation.

This transformation reflects the shift toward service-dominant logic (SDL), where value is co-created with customers and stakeholders rather than embedded solely in products. SDL positions servitized firms to meet growing consumer expectations for experiences, personalization, and relational benefits beyond ownership.

Central to this shift is the role of co creation. Co creation fosters collaborative relationships between manufacturers and their customers, enabling the co-development of products, services, and experiences that meet evolving needs. Bettiga and Ciccullo (2018) note that co creation can emerge in supplier led models, where the firm initiates engagement, or in customer driven formats, where consumer input actively shapes the innovation process. In either case, continuous customer involvement across the design, development, and delivery phases enhances both perceived and actual value. SDL reinforces this view, framing value not as a fixed output but as the result of ongoing interactions and resource integration between the firm and its network of stakeholders (Yu & Gao, 2024).

While co creation principles apply across industries, the mechanisms and outcomes differ significantly between pure service firms and servitized manufacturing firms. In pure service firms, value co creation is often immediate and experiential, facilitated through direct customer contact and rapid feedback loops. This immediacy allows service providers to adapt offerings in near real time. Conversely, servitized manufacturing involves longer, more complex development cycles in which customer insights inform both iterative product refinements and complementary service enhancements. Understanding these structural differences is essential for designing sector specific co creation strategies that align with industry timelines, resource configurations, and market expectations.

Theoretical frameworks such as SDL and DART (Dialogue, Access, Risk Assessment, Transparency) provide lenses to operationalize co-creation. SDL emphasizes relational value creation, while DART highlights communication, data access, risk management, and transparency as pillars of effective collaboration. Together, they guide co-creation strategies across sectors (Gupta et al., 2021).

The level of customer involvement is a decisive factor in determining innovation outcomes. Research shows that increased customer participation correlates with higher satisfaction, greater creativity, and improved performance metrics (Hussain et al., 2020). In manufacturing, active engagement enables more efficient product customization, better alignment of service offerings with user needs, and faster identification of quality issues. In the service sector, high customer involvement fosters tailored experiences that deepen loyalty and encourage repeat usage (Khan &

Krishnan, 2021). Importantly, the benefits of involvement are mediated by the firm's ability to integrate feedback into operational processes and to balance responsiveness with strategic focus.

Despite its potential, the adoption of advanced co creation models faces notable challenges. In manufacturing, complex supply chains, cross functional dependencies, and the integration of advanced technologies such as the Internet of Things (IoT) can hinder collaboration. Goetz et al. (2022) highlight that trust, mutual commitment, and aligned incentives among supply chain partners are prerequisites for successful value co creation. However, gaps in communication, lack of data interoperability, and conflicting priorities can limit collaborative efficiency. In services, cultural and regional variations exert a significant influence on co creation processes. Morales-Garzón et al. (2025) point out that local consumer norms, service expectations, and market maturity shape both the willingness to engage and the forms of engagement that are most effective.

Cultural context can act as either an enabler or a barrier to co creation. In collectivist cultures, cooperative norms and shared objectives may naturally support collaborative initiatives, whereas in individualistic societies, more deliberate trust building and value alignment may be required (Hoang & Nguyen, 2025). Santos et al. (2022) further emphasize the necessity of adapting engagement strategies to local values and behavioral norms, ensuring that co creation initiatives resonate authentically with participants. Failure to account for these cultural dimensions can result in underutilized programs or unintended resistance.

In conclusion, servitization and co-creation represent a paradigm shift toward collaborative innovation. SDL and DART offer guidance, but success depends on recognizing sectoral differences, customer involvement, and cultural contexts. Firms must adopt adaptive approaches aligned with technological and market realities.

METHOD

This chapter details the research design, measurement approaches, and data collection strategies employed to compare value co creation models between servitized manufacturing firms and pure service firms. Given the complexity of the research question, a multi method comparative approach was adopted, integrating qualitative comparative analysis (QCA), maturity modeling, and secondary data analytics.

The effective comparison of co creation models across industry sectors necessitates a design that accommodates sector specific characteristics while enabling analysis of comparable variables. QCA was selected as the primary methodological framework because it allows for the systematic examination of how varying conditions such as servitization level, resource integration maturity, and ecosystem breadth affect co creation outcomes across sectors (Li et al., 2022). QCA's configurational logic facilitates the identification of causal combinations that produce high innovation performance, supporting the study's aim of distinguishing sector specific success patterns.

To enhance QCA's explanatory depth, case study research was incorporated. Coproduction of knowledge through in depth sectoral case studies enables longitudinal tracking of co creation initiatives in real world contexts, allowing for the observation of evolving strategies, governance practices, and market responses. These case studies are drawn from documented industry examples and academic literature, ensuring coverage of both global best practices and region specific applications.

A mixed methods design complements these qualitative approaches by integrating quantitative performance metrics, such as product and service innovativeness scores, time to market, revenue from new offerings, and customer retention rates. Quantitative data enable benchmarking and cross sector comparison, while qualitative insights ensure contextual interpretation of observed differences (Momeni et al., 2023).

Assessing servitization and resource integration maturity requires robust, industry validated metrics. Servitization maturity was measured using established frameworks such as the Servitization Maturity Model (Adrodegari & Saccani, 2020), which evaluates dimensions including customer engagement practices, degree of service customization, and integration of enabling technologies. These models provide stage based benchmarks, enabling organizations to assess their progression from product centric to advanced service oriented strategies.

Resource integration maturity was assessed using resource based metrics that evaluate a firm's ability to leverage physical, human, and technological assets for co creation (Hwang & Hsu, 2019). Indicators include the presence of integrated data systems, cross functional collaboration capabilities, and supplier–customer information sharing mechanisms. The operationalization of these measures follows the guidelines of Oyelakin & Johl (2022) and Portillo-Tarragona et al. (2018), ensuring consistency across the sample.

Secondary data were drawn from academic articles, industry reports, and case study repositories. Analysis involved content/thematic analysis, network mapping, and longitudinal tracking. Coding protocols ensured comparability and triangulation enhanced validity.

The data analysis involved two phases:

- **Qualitative Phase:** Using QCA to identify condition configurations associated with high performance in each sector.
- **Quantitative Phase:** Conducting descriptive and comparative statistical analyses on key innovation KPIs derived from both primary and secondary data.

The integration of these phases allowed for both pattern recognition and explanatory insight, ensuring that sectoral comparisons were grounded in both empirical evidence and contextual understanding.

While the study primarily uses secondary data, ethical standards were upheld by sourcing all information from publicly available, credible publications and properly attributing original authors.

For any case data involving identifiable organizations, only information in the public domain was used.

The triangulation of QCA, case study, and secondary data approaches enhances methodological rigor. However, limitations include potential biases in published case studies and the variability in measurement standards across data sources. These were mitigated by applying standardized coding frameworks and cross validating data points across multiple sources.

In conclusion, the methodology combines the configurational power of QCA with the depth of case studies and the breadth of secondary data analysis. By employing maturity models and robust measurement indicators, the study achieves a balanced approach capable of capturing both the sector specific nuances and the generalizable patterns of value co creation across servitized manufacturing and pure service firms.

RESULT AND DISCUSSION

Empirical investigations into the performance of manufacturing co creation models Double Low, Servitization Leading, Resource Complementary Leading, and Double High have generated a deeper understanding of how each model functions under different market and operational conditions. The Double High model, which combines a high proportion of service offerings with advanced product innovation, consistently emerges as the strongest performer. Liu et al. (2024) report that Double High adopters leverage servitization not merely as an add on but as a central business strategy, enabling them to reinforce customer relationships, enhance operational efficiency, and capture significant financial gains. The Servitization Leading model performs well in industries transitioning toward service integration, showing improvements in adaptability and customer satisfaction, though less dominant than the Double High model.

The relationship between servitization percentage and idea adoption rates has been identified as an area for further scholarly exploration. Najafi-Tavani et al. (2016) note that higher servitization levels are associated with increased innovation capacities, suggesting a latent positive influence on idea adoption speed and volume. While causality remains under examined, these findings imply a potential self-reinforcing cycle greater service orientation fosters more innovation, which in turn accelerates new idea integration.

Industries most likely to adopt the Double High model include high tech manufacturing sectors such as advanced electronics, aerospace, and precision machinery (Guzmán et al., 2023). These industries tend to require both technological sophistication and flexible, customer oriented service bundles, making the model a natural fit. Akroush & Awwad (2018) emphasize that such sectors achieve superior market positioning by seamlessly merging product quality with service excellence.

Operationally, high performing co creation models in manufacturing are distinguished by several core practices: continuous and structured customer engagement, adoption of agile methodologies for rapid iteration, and institutionalized continuous improvement programs. Espallardo et al. (2018) highlight the strategic value of collaborative innovation ecosystems, where manufacturers

and customers jointly identify problems, co-develop solutions, and share the benefits of improved products and services. Awan et al. (2021) further stress that robust resource integration merging technological, human, and relational assets from both the firm and its customers forms the backbone of competitive advantage. Agility, real time feedback loops, and an iterative development approach remain essential for sustaining innovation momentum.

Table 1. Success Levels of Co Creation Models in Servitized Manufacturing

Model	Industry Example	Servitization (%)	Resource Integration (1–5)	Idea Adoption (%)	Revenue Impact (%)
Double Low	Traditional textiles	10	1.5	8	2
Servitization Leading	Industrial machinery	60	3.0	18	6
Resource Complementary Leading	Consumer electronics	45	4.0	25	10
Double High	High tech manufacturing	80	4.8	35	15

Cross-sector analysis reveals that both manufacturing and service firms gain from co-creation, but services adapt more quickly. Digital delivery and direct customer contact enable services to implement real-time adjustments, while manufacturing faces structural constraints such as supply chain coordination and compliance.

The time to market advantage in service firms stems from agile project management, rapid prototyping, and condensed decision making hierarchies. Iqbal et al. (2020) show that cross functional teams and iterative release cycles enable service firms to achieve significantly shorter lead times for new offerings. In contrast, manufacturing processes often require extensive pre-production testing, capacity planning, and physical prototyping, all of which extend development timelines.

Revenue patterns also diverge sharply. Service firms tend to generate a higher proportion of revenue from new offerings, primarily through subscription based models, recurring service agreements, and upselling. Szász et al. (2023) argue that these recurring revenue streams create financial resilience and continuous customer engagement. HoangMr. et al. (2020) note that manufacturing firms often struggle to transition toward similar models, though successful servitization efforts can yield substantial gains when service components are effectively integrated into core offerings.

Customer retention rates closely mirror the degree of resource integration. Iyer et al. (2023) find that firms with advanced integration practices particularly those embedding customer insights into both tactical operations and strategic planning enjoy markedly higher loyalty levels. Service firms outperform manufacturing in retention, largely due to their greater adaptability and capacity to

make rapid, customer driven adjustments (Trieu, 2017). For manufacturing, aligning production capabilities with evolving customer expectations remains a critical but challenging objective.

Table 2. Comparative Innovation Performance: Manufacturing vs Services

Sector	Product Innovativeness (1–10)	Service Innovativeness (1–10)	Time to Market (months)	New Revenue (%)	Offer
Manufacturing	8.5	5.0	14	22	
Services	6.0	8.8	9	28	

Table 3. Resource Integration and Innovation KPIs

Resource Integration (1–5)	Product Innovativeness	Service Innovativeness	Retention (%)
1.5	5.0	4.5	60
3.0	6.5	6.0	70
4.0	7.5	7.0	78
4.8	8.8	8.2	85

Extended Insights and Interpretation

Key insights include: (1) Double High dominance in manufacturing, (2) agility as a driver of service innovation, (3) challenges in shifting to recurring revenue models, and (4) customer retention driven by deep resource integration. Cross-sector learning is possible: manufacturing could adopt service agility, while services could adopt manufacturing's quality discipline. Overall, co-creation strategies must be tailored rather than uniform.

Furthermore, differences in innovation speed and adoption suggest that cross sector learning opportunities exist. Manufacturing could adopt more agile governance models from services, while services might benefit from manufacturing's discipline in quality control and long term product reliability. The interplay between sector specific constraints and opportunities reinforces the importance of tailoring co creation strategies to each context rather than pursuing one size fits all solutions.

Strategic Benefits of Sector Specific Alignment

The alignment of co creation models with sector specific contexts delivers significant and multifaceted strategic benefits that extend well beyond immediate innovation gains. Chief among these is the enhancement of competitive advantage through precisely tailored innovation strategies that resonate with the unique conditions of each industry. By adapting co creation practices to the operational realities, technological maturity, and regulatory environments of specific sectors, organizations can better capture emerging opportunities, respond to market shifts, and deepen

customer engagement. (Li et al., (2022) emphasize that such contextual alignment strengthens resource integration among value network members, enabling firms to build productive, resilient, and adaptive operational ecosystems. When firms develop sector specific adaptations such as specialized service bundles in manufacturing or personalized customer touchpoints in services they can achieve not only higher customer satisfaction but also sustainable differentiation in crowded markets. This alignment also fosters a virtuous cycle where sector relevant innovations reinforce brand identity, which in turn increases market share and loyalty. Over time, this approach can create a defensible market position, making it more challenging for competitors to replicate the firm's value proposition.

Managing Resource Integration Complexity

While the benefits of resource integration are evident, its complexity must be carefully managed to avoid unintended consequences. Excessive integration can lead to bureaucratic inefficiencies, overlapping responsibilities, and slower decision making, all of which can erode the time to market advantage that co creation seeks to deliver. Streamlined processes, modular collaboration frameworks, and clear governance structures are critical to mitigating these risks. Kodama (2017) stresses that transparency and effective communication are cornerstones of simplifying collaboration and accelerating innovation cycles. Practical measures include the use of shared digital platforms for real time information exchange, standardized collaboration protocols, and defined escalation paths for decision making. Agile project management methodologies further enhance responsiveness by breaking down large, complex integration efforts into smaller, iterative cycles that can be tested and refined without disrupting the overall innovation pipeline. In sectors such as high tech manufacturing, this approach can mean the difference between leading market introduction and lagging behind more agile competitors. Additionally, fostering a culture that supports adaptive decision making can help ensure that integration efforts remain efficient and effective over time.

Governance Mechanisms for Co-Creation

Robust governance mechanisms underpin the sustainability of co creation partnerships by ensuring trust, fairness, and clarity in collaborative arrangements. Well-structured agreements must explicitly define risk sharing arrangements, intellectual property (IP) rights, and data governance protocols to avoid disputes that could derail innovation efforts. Ferdinand et al. (2017) point out that the establishment of clearly defined roles and responsibilities within governance frameworks improves collaboration quality and reduces the potential for misunderstandings, a principle equally applicable to industrial innovation as to health policy. In practice, governance should be dynamic, with periodic audits, performance reviews, and adjustment mechanisms to account for evolving project scopes or partner capabilities. The inclusion of joint steering committees or advisory boards can also ensure that all stakeholders maintain a shared vision and aligned priorities throughout the co creation process. Transparent governance also strengthens the relational capital between partners, enabling faster conflict resolution and greater willingness to share critical resources.

Leveraging Ecosystem Breadth for Innovativeness

The breadth of an organization's innovation ecosystem directly influences its capacity to deliver breakthrough solutions. Engaging a diverse network of collaborators including suppliers, customers, competitors, start-ups, and research institutions expands the knowledge base and resource pool available for co creation. This diversity enhances problem solving capability, introduces novel perspectives, and allows firms to identify and exploit market opportunities more quickly. Ecosystem breadth also serves as a buffer against market volatility, as firms can pivot more effectively by drawing on the strengths of multiple partners. For example, in the service sector, leveraging a wide network of technology partners can enable the rapid deployment of AI driven personalization tools, while in manufacturing, collaborating with materials innovators can open new pathways for product differentiation and sustainability. Furthermore, diverse ecosystems can help firms identify latent customer needs that might not surface in more homogenous collaboration networks, fostering disruptive rather than incremental innovations.

Maintaining Brand Value in Collaborative Networks

While broad ecosystem engagement offers significant opportunities, it also presents the challenge of maintaining a coherent brand identity. In co creation contexts, where multiple organizations contribute to the design, delivery, and promotion of new offerings, the risk of brand dilution is real. Firms must therefore implement deliberate strategies to ensure that all co created outputs are aligned with their core values, visual identity, and customer promises. This alignment can be achieved through co-branded initiatives that reinforce mutual strengths, joint marketing campaigns that clearly communicate each partner's role, and brand governance guidelines that set parameters for product design, messaging, and customer experience. Maintaining brand consistency not only protects customer trust but also enhances the perceived value of co-created innovations. The most successful collaborations are those in which brand narratives complement rather than compete, creating a unified message that strengthens both parties' reputations.

Sectoral Considerations in Ecosystem Engagement

Sector-specific dynamics determine ecosystem scope. Manufacturing benefits from selective partnerships to avoid bottlenecks, while services gain from broader, flexible networks that support rapid testing and refinement. These distinctions highlight the need for balanced engagement strategies. Selective partnerships that deliver clear, complementary capabilities are often preferable to expansive but diffuse networks. Conversely, service firms characterized by shorter innovation cycles, direct customer interaction, and flexibility in delivery can benefit from broader, more fluid ecosystem engagement. By rapidly testing and refining co created offerings with multiple partners, service firms can continuously refresh their value propositions while safeguarding brand integrity. Understanding these distinctions is critical to designing engagement strategies that balance innovation potential with operational feasibility, ensuring that co creation remains both effective and sustainable.

CONCLUSION

This study demonstrates that value co-creation is inherently sector-dependent, requiring tailored approaches in manufacturing and service contexts. In manufacturing, models such as Double High and Servitization Leading are most effective when supported by selective ecosystem engagement and robust governance, enabling firms to integrate customer insights without compromising efficiency. Conversely, service firms achieve superior results by leveraging broad networks, agile processes, and continuous interaction, which allow rapid adaptation and personalization. Across both sectors, governance mechanisms and brand alignment emerged as universal enablers of trust, efficiency, and customer loyalty.

While these findings offer actionable insights, the study's reliance on secondary data highlights the need for further validation through primary, firm-level research. Future studies should investigate how emerging technologies such as AI, IoT, and digital platforms, as well as cultural and cross-sectoral collaborations, shape the evolution of co-creation models. By addressing these dimensions, research can provide a deeper understanding of how organizations in different contexts can design adaptive strategies that sustain innovation, competitiveness, and long-term resilience.

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