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Servitisation Adoption in B2G Surface Transport: Barriers, Enablers, and Stakeholder Dynamics in Indian Public Procurement

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Abstract

Running and managing vehicle fleets is one of the most expensive recurring commitments for government establishments in India, yet the way transport is procured has changed very little over decades. Governments continue to buy and own vehicles outright, taking on all the risks of maintenance, depreciation, and disposal — even as evidence from the private sector increasingly shows that procuring mobility as a service outcome, rather than owning the asset, can deliver better value over the full lifecycle. This model, known as servitisation, transfers performance accountability to the private supplier while allowing the government to pay for results rather than hardware. Despite genuine policy interest in outcome-based procurement, its uptake in Indian government surface transport remains thin and unevenly spread. This paper reports findings from in-depth interviews with 22 stakeholders — spanning procurement officials, state and central transport officers, fleet managers, and private vehicle service providers — conducted to understand what shapes their views on servitised procurement. Five distinct but interconnected themes emerged from the analysis: how well stakeholder interests are aligned around shared value; whether circular economy principles and long-run sustainability are genuinely factored into fleet decisions; the institutional friction that slows knowledge diffusion through bureaucratic structures; mismatches between the capabilities that outcome contracts demand and those that both governments and vendors actually have; and the supply chain gaps that make reliable service delivery difficult outside major cities. A conceptual framework integrating Stakeholder Theory, Circular Economy Theory, Diffusion of Innovation, Core Competency Theory, and Supply Chain Management is developed from these findings, with the aim of grounding future quantitative research and informing practical procurement reform.

Keywords: Servitisation, B2G procurement, Surface transport, Stakeholder theory, Circular economy, Diffusion of innovation, Public fleet management, India

JEL Classifications: H57 – Comparative Studies of Procurement; L33 – Public-Private Partnerships and Privatisation; R41 – Transportation: Demand, Supply, and Congestion; Q57 – Ecological Economics: Ecosystem Services

1. Introduction

Surface transport sits among the largest recurring expenditure categories for government establishments across India. Official vehicle fleets, inter-departmental mobility services, and last-mile connectivity for public agencies together demand sustained capital and operational investment that few agencies manage to track coherently across the full asset lifecycle (Lal & Shanker, 2018; World Bank, 2021). What is striking, however, is how rarely the underlying procurement logic is questioned. For decades, government transport procurement has meant one thing: buy the vehicle, own it, and manage everything that follows — maintenance, insurance, repairs, eventual disposal — through in-house administrative machinery (Gonçalves et al., 2017; Hensher & Stanley, 2008). The result is a structural accumulation of inefficiencies: unclear accountability over lifecycle costs, poor asset utilisation rates, and minimal pressure on either side of the contract to think about environmental impact (Baines et al., 2017; Tukker, 2015).

Servitisation offers a way out of this logic. Rather than acquiring physical vehicles and absorbing every downstream cost, governments can instead procure mobility as a defined service outcome — specifying what availability, reliability, and performance they need, while the private supplier retains the asset and takes responsibility for keeping it functional (Vandermerwe & Rada, 1988; Baines et al., 2009). The incentive structure changes fundamentally under such an arrangement: the supplier's commercial interest now runs parallel to the government's service interest, because poor asset maintenance directly costs the vendor. That alignment is precisely what makes servitisation theoretically attractive in the B2G context — it creates conditions for improved long-run value, better risk distribution, and more accountable service delivery (Ng, Maull, & Yip, 2009; Kowalkowski et al., 2017).

In practice, though, uptake among Indian government establishments has been patchy at best. Interest exists, but it rarely converts into adopted procurement practice. The obstacles are not primarily technical. They live inside the institutional architecture of public procurement — in the rules, procedures, audit norms, and risk cultures that shape how officials make decisions — and in the relational gaps between government clients who are trained for asset management and private suppliers who must now deliver against performance metrics rather than simply ship goods (Shi et al., 2017; Baines & Shi, 2015; Chiappinelli, 2025).

Academic literature has not done much to help bridge these gaps. The servitisation field has grown substantially, but its dominant frame remains the manufacturing firm making a strategic shift towards service offerings in competitive B2B markets (Baines et al., 2009; Mahut et al., 2017). That frame does not translate cleanly to B2G procurement, where political accountability, audit scrutiny, and statutory compliance are not background conditions but active determinants of what procurement officials feel they can and cannot do. Rogers' (2003) Diffusion of Innovation theory and the Bass Diffusion Model explain some of the adoption dynamics, but they need to be read alongside Stakeholder Theory (Freeman, 1984), Circular Economy Theory (Stahel, 2016), Core Competency Theory (Prahalad & Hamel, 1990), and Supply Chain Management (Cooper, Lambert, & Pagh, 1997) before the full picture comes into focus.

This paper develops that fuller picture through a qualitative investigation of stakeholder perceptions across the Indian government surface transport procurement ecosystem. Drawing on 22 in-depth interviews spanning both government clients and private suppliers, it identifies five interdependent dimensions that shape adoption: stakeholder value alignment, circular economy and lifecycle sustainability, diffusion constraints in bureaucratic settings, core competency misalignment, and supply chain fragmentation. From these findings, a multi-theory conceptual framework is proposed that can serve as both a theoretical contribution and a practical guide for procurement policy reform.

2. Literature Review

Servitisation and Product-Service Systems in B2G Contexts: When Vandermerwe and Rada (1988) coined the term servitisation, they were describing something they observed already happening in competitive markets: firms adding layers of service around their products until the service itself became the primary value proposition. The concept took root first in manufacturing, then spread into operations management, strategy, and eventually public administration, accumulating a substantial empirical and theoretical body of work along the way (Baines et al., 2009; Kowalkowski et al., 2017). At its core, servitisation separates ownership from use — customers pay for outcomes and performance, suppliers keep the asset and manage its entire life — but the practical implications of that separation vary enormously depending on the institutional context in which it unfolds (Tukker, 2015; Ng et al., 2009).

In competitive B2B markets, the benefits have been reasonably well demonstrated. Firms that servitise tend to achieve more predictable revenue streams, stronger customer retention, and better conditions for lifecycle innovation because they retain a financial stake in how well the asset performs over time (Bressanelli et al., 2020; Elia, Gnoni, & Tornese, 2019). Translating that logic into B2G procurement, however, requires considerably more institutional adaptation. Government agencies are not ordinary customers. They operate inside statutory procurement frameworks, are subject to audit and parliamentary scrutiny, and face political pressures that private buyers simply do not encounter (Lember, Kalvet, & Kattel, 2014; Flynn & Davis, 2014). Moving from asset acquisition to service outcome procurement is not just

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a contractual change — it requires shifting the institutional logic through which public money is authorised and accounted for, and that kind of change tends to happen slowly and unevenly, even when the case for it is clear (Walker, 2014; Erridge & McIlroy, 2002).

The empirical evidence on servitised procurement in surface transport is geographically narrow. European studies have focused predominantly on rail rolling stock servitisation (Diaz & Trentesaux, 2019) and heavy commercial vehicle fleet management (Gaiardelli et al., 2016), neither of which maps straightforwardly onto the government fleet context in an emerging economy. The study by Gonçalves et al. (2017) on servitisation adoption in Brazilian road transport is a useful reference point precisely because it surfaces adoption dynamics that differ substantially from European experience — particularly the role of psychological trust and institutional legitimacy in shaping whether service contracts are seen as viable alternatives to asset ownership. India presents its own distinctive configuration: a large, heterogeneous government sector, a procurement architecture that has been modernised in some respects through platforms like GeM but remains rooted in asset-based norms, and a supplier market for fleet services that is developing unevenly across geographic tiers. That configuration has received little dedicated empirical attention in the servitisation literature.

Theoretical Foundations: A Multi-Theory Framework

No single theory spans all the dimensions that matter for understanding why servitised transport procurement is or is not adopted in Indian government establishments. The decision involves relational dynamics between government clients and private suppliers, organisational capabilities on both sides, diffusion processes across a large and fragmented institutional landscape, environmental incentive structures, and operational supply chain realities. Each of these dimensions has its own theoretical tradition, and a credible analytical framework needs to draw on all of them.

Freeman's (1984) Stakeholder Theory, extended by Mitchell, Agle, and Wood (1997), provides the relational foundation. In B2G procurement, the stakeholder map is notably complex — finance ministries, transport departments, audit bodies, end users, vehicle manufacturers, and service aggregators all hold different stakes in how procurement is structured, and they evaluate value in ways that are not always compatible with one another. Unlike B2B markets where commercial interest typically dominates, B2G stakeholder salience is also shaped by public accountability obligations, political mandates, and institutional hierarchy (Preuss, 2009). Servitisation requires enough stakeholders to align sufficiently for a contract to be designed and executed — and when that alignment is absent, even well-designed procurement models stall.

Circular Economy Theory, particularly Stahel's (2016) conception of the performance economy, is directly relevant because it illuminates why servitisation and sustainability are structurally linked rather than accidentally coincident. When a supplier retains ownership of a vehicle throughout its working life and is paid for service availability, the economics of maintenance, repair, and eventual disposal change. Running an asset longer becomes financially rational; minimising material waste aligns with commercial interest. This is why Stahel frames performance contracts as a mechanism for internalising lifecycle environmental costs that asset-sale models externalise (see also Tukker, 2015; Bressanelli et al., 2020). For government fleet procurement, this theoretical lens raises important questions about whether sustainability co-benefits are being left unrealised by conventional procurement practice.

Rogers' (2003) Diffusion of Innovation theory and the Bass Diffusion Model explain adoption at a population level. They draw attention to the characteristics of the innovation itself — how compatible it is with existing practice, how easy it is to observe others benefiting from it, how complex it is to implement — and to the social and institutional channels through which knowledge of the innovation spreads. Public sector organisations display distinctive diffusion dynamics: the early adopters who experiment with novel procurement forms rarely pass their experiential knowledge on through systematic channels, and the majority of agencies that would benefit most from that knowledge never receive it (Walker, 2014; Shi et al., 2017). Absence of active diffusion infrastructure is therefore not a peripheral concern — it is one of the main reasons adoption curves remain flat.

Prahalad and Hamel's (1990) Core Competency Theory is relevant on both sides of the procurement relationship. On the government side, decades of asset-based procurement have produced institutional competencies calibrated for specification writing, vendor selection, and goods receipt — not for monitoring service performance, designing KPIs, or managing contractual disputes over outcomes. On the supplier side, the fleet service market contains providers with very different actual capabilities, but tender evaluation processes built around price and paper credentials have limited power to distinguish between them. The result is that contracts are sometimes awarded to vendors whose competencies do not match the service scope, producing delivery failures that then undermine confidence in the servitised model generally (Baines & Shi, 2015; Sholihah et al., 2019).

Supply Chain Management theory (Cooper et al., 1997; Mentzer et al., 2001) adds an operational layer that becomes particularly consequential when considering Indian government fleet servitisation across geographic tiers. For service contracts to work, the supplier needs to be able to provide maintenance, spare parts, and technical support wherever the government fleet is located — and in India, government establishments span everything from central government ministries in Delhi to district offices in remote areas. Fragmented spare parts networks and multi-tier subcontracting structures create service continuity risks that are not easily addressed through contract design alone.

Research Gap

Three things are notably absent from the existing literature. First, studies of servitisation adoption in B2G procurement almost always apply a single theoretical lens — typically either innovation adoption or operational management — and the resulting analysis is correspondingly partial. The relational, sustainability, capability, and supply chain dimensions that co-determine adoption outcomes are not usually examined together. Second, the empirical base is concentrated in developed economy contexts, and the institutional and market conditions of emerging economy public procurement remain comparatively underexplored. Third, most studies take the manufacturer or ESCO perspective rather than centring the views of government clients and end users, even though those are the parties whose perceptions ultimately govern whether servitised contracts are adopted. This study is designed to address all three gaps.

3. Methodology

Research Design

A qualitative constructivist design was adopted for this study (Creswell & Poth, 2018). The choice reflects the state of the literature and the nature of what the study is trying to understand. B2G servitisation research in the Indian context is at an early stage, and the mechanisms through which institutional, relational, and operational factors combine to shape adoption decisions are not yet well enough understood to be operationalised in survey scales or experimental designs. What is needed first is a grounded account of how practitioners — on both sides of the procurement relationship — actually think about servitised fleet procurement: what appeals to them, what worries them, what institutional constraints they navigate, and how they weigh different kinds of value. Qualitative inquiry is the appropriate tool for that purpose. The study is positioned as a foundational contribution from which testable hypotheses and survey instruments can subsequently be developed.

Sampling and Participants

Participants were selected purposively, with the sampling strategy designed to capture perspectives from both the demand side — government agencies that procure and manage transport — and the supply side — private firms that provide fleet services to government

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clients. Demand-side participants included senior procurement officers from central ministries, state transport department officials, and establishment administrative officers with direct responsibility for fleet management. Supply-side participants included managers from private fleet management companies, representatives of vehicle manufacturers with significant government business, and transport service aggregators operating in B2G markets.

In total, 22 participants were recruited through government transport department networks, procurement professional associations, and automotive and fleet industry bodies. The sample was constructed to achieve representation across levels of government hierarchy, geographic zones (metropolitan, tier-2 city, and district), and organisational type (central ministry, state agency, and public sector undertaking). Theoretical saturation was achieved at 22 interviews: the final four yielded no thematic content that had not already appeared in earlier data (Glaser & Strauss, 1967). All participants gave informed consent. Institutional ethics clearance was obtained before data collection began.

Data Collection

Semi-structured in-depth interviews were conducted between October 2023 and March 2024. The interview protocol was organised around five thematic areas reflecting the multi-theory framework: current procurement practices and attitudes toward asset-based models; awareness of and prior experience with performance-based fleet procurement; stakeholder relationships, risk perceptions, and capability assessments; sustainability and lifecycle cost considerations in fleet decisions; and supply chain coverage concerns. Interviews ran between 50 and 75 minutes and were conducted in-person or via video conference depending on participant location. All interviews were audio-recorded with consent and professionally transcribed verbatim. Three pilot interviews were conducted to test and refine the protocol; since no substantive changes were needed, the pilot data are included in the full analysis.

Data Analysis

Transcripts were analysed using the framework analysis method (Ritchie & Spencer, 1994; Gale et al., 2013). This approach was chosen because the study involves multiple participant types with different institutional roles, and because the analysis needed to work both within the theoretically derived framework and remain open to themes that emerged from the data itself. The five-stage process — familiarisation, building an analytical framework, indexing, charting, and interpretation — was applied iteratively across all transcripts. Open coding in the first stage was followed by theory-informed thematic indexing; sub-dimensions within each theme were then identified inductively. Government and supplier perspectives were compared systematically throughout to identify where views converged and where they differed. To assess analytical reliability, a second researcher independently coded 20 percent of the transcripts; any disagreements in thematic assignment were resolved through structured discussion rather than mechanical agreement calculation, consistent with the interpretivist orientation of the study.

4. Thematic Findings

The analysis produced five higher-order themes anchored to the multi-theory framework, each with inductively derived sub-dimensions and supported by convergent and divergent perspectives across participant types. Table 1 presents the thematic structure alongside illustrative quotations drawn from both government and supplier participants.

Table 1. Thematic Framework: Constructs, Sub-dimensions, and Illustrative Participant Responses

Construct	Sub-dimensions	Illustrative Participant Responses
Stakeholder Value Alignment	• Supplier capability signalling • Government readiness to share risk • User-side service expectation gaps	"Vendors need to show they can keep the service going over the entire contract — not just win the bid." (R02) "If we can stop worrying about managing the fleet ourselves, paying a premium makes sense." (R08) "The staff who actually use the vehicles have never been asked what they need." (R15)
Circular Economy and Lifecycle Sustainability	• Asset lifecycle extension through servitisation • Waste reduction and fleet optimisation • Environmental accountability in contracts	"When the vendor owns the vehicle, they have a real reason to keep it running longer before scrapping it." (R04) "One party responsible for the asset from purchase to disposal — that changes everything for sustainability." (R11) "We have begun specifying fuel efficiency targets in our tenders, which we never did before." (R17)
Diffusion Constraints in Bureaucratic Contexts	• Information asymmetry between early and late adopters • Low inter-departmental knowledge transfer • Institutional inertia and procedural anchoring	"Other departments tried this model and nobody passed on what they learned." (R06) "We go back to asset purchase every time because we know the paperwork. Change feels risky." (R09) "A few forward-looking districts have moved on while others are still doing things the way they did thirty years ago." (R13)
Core Competency Misalignment	• Government lacking contract performance monitoring skills • Supplier core competencies not assessed in tenders • Mismatch between service scope and vendor capacity	"We score on price and paperwork. Whether the firm can actually deliver the service is a different question." (R03) "Nobody in our procurement team has been trained to manage a service contract." (R07) "We misjudged the vendor's maintenance capacity, and it showed." (R14)
Supply Chain Fragmentation	• Spare parts availability gaps • Multi-tier subcontracting accountability • Geographic coverage inequity	"Spare parts are hard to get in tier-2 cities. Service contracts fall apart because of that." (R01) "Once the ESCO subcontracts, you lose sight of who is responsible when something goes wrong." (R10) "Fleet servitisation may work in metros. In rural districts, you just cannot get reliable service yet." (R16)

Theme 1: Stakeholder Value Alignment

Among all the themes that emerged, the misalignment of stakeholder value was the one that participants returned to most consistently, and it ran deeper than a simple disagreement about price. Finance departments, transport officers, audit bodies, and end users all want different things from fleet procurement, and those preferences are not merely different in degree — they are sometimes structurally incompatible. A finance department focused on minimising upfront expenditure may approve a low-cost contract that a transport officer immediately recognises as unworkable in the field. An audit body that assesses compliance against asset-acquisition procedures may not have the tools to evaluate a service-level agreement. End users — the staff who actually drive or travel in government vehicles — are rarely consulted at all, and their experience of service reliability does not feed back into procurement evaluations (Freeman, 1984; Mitchell et al., 1997).

What several participants from the government side described was a pattern in which vendors won service contracts primarily because their bid documentation was clean and their price was competitive, only for it to become apparent after award that they lacked the workshop capacity or spare parts supply to sustain delivery. These experiences had left a mark on institutional memory in ways that made future experimentation harder. Once a servitised contract fails visibly, procurement officials face real personal accountability risk in proposing a similar model again — even if the failure had more to do with inadequate pre-award capability assessment than with the servitised model itself. This dynamic points directly to the need for rigorous supplier capability screening as part of standard tender evaluation, rather than treating competency as something that can be assumed from price and documentation alone.

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From the supplier side, a different but related concern came through. Private fleet service providers described government clients who consistently underestimated what sustained service delivery actually costs, and who wrote contract specifications that appeared financially viable on paper but were not economically sustainable over a multi-year term. When the government's value expectation is calibrated against the cost of asset purchase rather than the cost of guaranteed service delivery, the resulting specifications create a gap between what the contract promises and what the contract can actually pay for. Bridging that gap requires pre-contract dialogue of a kind that current procurement procedures do not normally accommodate.

Theme 2: Circular Economy and Lifecycle Sustainability

Sustainability emerged as a genuine driver of interest in servitised procurement for some participants, but the asymmetry between government and supplier in how they articulated it was striking. Private fleet service providers spoke about circular economy benefits fluently and with evident conviction. Their logic was straightforward: if you own the vehicle and get paid for its uptime, you have a commercial reason to make it last as long as possible, to repair rather than replace, and to manage fuel and maintenance costs carefully throughout. That is structurally aligned with circular economy principles in a way that a one-off asset sale simply is not (Stahel, 2016; Tukker, 2015). One participant pointed out that end-of-life vehicle disposal — an area where environmental accountability under asset-ownership models is often ambiguous — becomes the supplier's problem under a service contract, which creates an incentive to manage it responsibly.

Government participants, with a few exceptions, tended to frame environmental considerations in compliance terms rather than value terms. Emission standards, green procurement circulars, and fuel efficiency norms appeared as requirements to be met rather than as opportunities to improve procurement outcomes. That framing is understandable given how procurement accountability typically works in government — officials are assessed against procedural compliance, not against sustainability outcomes — but it means the circular economy potential of servitised fleet contracts remains largely unrealised at the policy level. Participants from agencies with explicit sustainability reporting obligations were notably different; they showed more genuine engagement with lifecycle cost thinking and were more receptive to contract structures that built environmental KPIs into the payment mechanism. That observation has implications for how sustainability mandates should be designed: general green procurement guidelines appear to have limited effect, while specific reporting obligations create conditions in which sustainability co-value becomes procurement-relevant (Bressanelli et al., 2020; Elia et al., 2019).

Theme 3: Diffusion Constraints in Bureaucratic Contexts

The diffusion picture that emerged from the interviews matched the structural predictions of Rogers' (2003) Diffusion of Innovation theory quite closely, but with a feature that the classic model underemphasises: the absence of deliberate knowledge transfer mechanisms in Indian public procurement means that whatever learning early adopters accumulate tends to stay with them. A small number of agencies — typically those with leadership that had been exposed to international procurement practice, or that had worked through a pilot programme with external facilitation — had experimented with performance-based fleet contracts with reasonable results. But that experiential knowledge had not travelled. Officials in other departments described discovering years after the fact that a neighbouring agency had tried something similar, and receiving no useful guidance about how the contract had been designed, what had worked, what had not, or what conditions appeared to be necessary for success.

This is not just an information-sharing problem. It reflects something deeper about how institutional learning is managed — or not managed — in Indian public procurement. Without a structured mechanism for codifying and disseminating procurement innovation, the diffusion curve remains dependent on individual champions and informal networks. When a champion moves to a different post, their institutional knowledge largely goes with them. When informal networks do not reach a particular department or geographic zone, the innovation does not reach it either. Participants described this quite directly: the patchiness of adoption across districts and states was attributed not to differences in transport need or supplier availability, but to whether anyone in a leadership position had been exposed to the model and had the organisational standing to advocate for it. The policy implication is not complicated, but it requires deliberate investment: structured repositories of procurement experience, formal inter-departmental peer-learning forums, and supported pilot programmes that generate visible evidence of what is achievable under servitised contracts (Walker, 2014; Shi et al., 2017).

Theme 4: Core Competency Misalignment

A recurring observation from participants on both sides of the procurement relationship was that the competencies required to make a service contract work are quite different from those that government transport departments have built over years of asset procurement — and that this gap is not widely recognised (Prahalad & Hamel, 1990; Baines & Shi, 2015). Asset procurement has its own skill set: writing technical specifications for vehicle type, conducting comparative pricing, managing goods receipt and inspection, maintaining an asset register, and processing warranty claims. Service procurement requires a different skill set entirely: defining measurable outcomes, monitoring ongoing performance against those outcomes, managing contractual relationships over multi-year terms, and resolving disputes when delivery falls short. Government procurement staff are generally well equipped for the former and poorly equipped for the latter.

The supplier side of the competency mismatch was equally clear from the data. The fleet service provider market in India is not monolithic. Some firms have genuine depth — adequate workshop infrastructure, trained maintenance engineers, reliable parts supply, and experience managing contracts with demanding performance commitments. Others present credible-looking tender submissions while operating with much thinner underlying capacity. The problem, which several procurement officials described with evident frustration, is that current evaluation procedures provide little ability to distinguish between these two types of provider. Price and paper credentials dominate; operational capability assessment does not feature meaningfully. The consequence is that under-qualified vendors enter service contracts they cannot sustain, produce delivery failures, and leave behind a negative institutional memory that makes future procurement officials reluctant to try again. Participants proposed competency-based accreditation as one way to address this — a pre-qualification framework that assesses workshop capacity, technician qualifications, parts supply chain depth, and geographic coverage before a firm is eligible to bid for government fleet service contracts (Sholihah et al., 2019).

Theme 5: Supply Chain Fragmentation

Of all the barriers discussed, supply chain fragmentation was the one most firmly grounded in operational reality rather than institutional design. The geographic distribution of Indian government establishments creates a fundamental challenge for fleet service contracts: a vendor who can provide excellent service in Delhi or Mumbai may be unable to provide adequate service in Chhattisgarh or parts of the Northeast, not because of unwillingness but because the spare parts supply chain does not reach there reliably, and qualified maintenance staff are not available locally. This is not a problem that a well-drafted contract specification can solve on its own (Cooper et al., 1997; Mentzer et al., 2001).

Multi-tier subcontracting emerged as an additional structural vulnerability. Large fleet service firms that win national or state-level government contracts typically subcontract regional maintenance to smaller operators, and when something goes wrong at the subcontractor level, it becomes genuinely difficult for the procuring agency to establish who is contractually responsible and what remedy is available. The primary contractor tends to point to the subcontractor; the subcontractor points to supply chain failures outside its control; the government

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agency finds itself without clear recourse. Supply-side participants acknowledged this honestly, noting that geographic coverage at the level government establishments need cannot be economically sustained by a single operator without some degree of public investment in enabling infrastructure — service hubs co-located with highway depots or public infrastructure nodes, for example. That observation suggests that treating supply chain fragmentation as a problem that competition alone will resolve over time may be unrealistic; active public investment in regional service infrastructure may be a precondition rather than an optional complement to procurement reform.

5. Conceptual Framework

The five themes do not sit independently of one another. They form a mutually reinforcing set of constraints that, taken together, explain why the adoption of servitised fleet procurement in Indian government establishments has remained limited even where individual officials are persuaded by the logic of the model. Table 2 presents the framework mapping each theme to its theoretical anchor and the most directly relevant policy lever.

Table 2. Multi-Theory Conceptual Framework for Servitised Surface Transport Procurement Adoption

Framework Dimension	Theoretical Anchor	Policy Lever
Stakeholder Value Alignment	Stakeholder Theory (Freeman, 1984)	Supplier capability assessment; risk-sharing frameworks; end-user consultation mechanisms
Circular Economy & Lifecycle	Circular Economy Theory (Stahel, 2016; Tukker, 2015)	Lifecycle contract provisions; environmental KPIs; asset recovery obligations
Diffusion Constraints	Diffusion of Innovation (Rogers, 2003); Bass Model	Inter-departmental knowledge sharing; pilot programme design; innovation champion roles
Core Competency Misalignment	Core Competency Theory (Prahalad & Hamel, 1990)	Vendor capability audits; contract monitoring training; competency-based tender criteria
Supply Chain Fragmentation	Supply Chain Management (Cooper et al., 1997)	Geographic coverage standards; subcontracting governance clauses; parts availability SLAs

What distinguishes this framework from prior single-theory accounts is that it treats adoption failure as potentially originating in any one of five dimensions — and asserts that weakness in any single dimension is sufficient to block adoption, even where the other four are in relatively good shape. A procurement system that has resolved stakeholder value alignment, built institutional capacity, and ensured supply chain coverage will still fail to scale servitised procurement if the regulatory framework remains hostile or if knowledge of successful models does not reach decision-makers. That interconnection has direct implications for how reform should be sequenced: policy work on regulatory alignment and stakeholder consultation needs to run ahead of, not alongside, investment in capacity building and supply chain development, because it creates the institutional conditions without which the latter cannot be effectively applied.

For future research, the framework is designed to support both further qualitative and quantitative inquiry. Each dimension can be operationalised as a latent construct and measured through practitioner survey instruments, enabling structural equation modelling of the pathways through which the five constructs interact to predict adoption intention. Longitudinal case studies of agencies that have worked through the adoption process could trace how individual constraints were resolved over time — a question that cross-sectional designs cannot adequately address.

6. Policy and Managerial Implications

The findings point to a set of practical interventions that are specific enough to be actionable without being prescriptive about implementation detail.

On stakeholder alignment, the Ministry of Finance and the Department of Expenditure, working through the Government e-Marketplace (GeM), should establish structured pre-contract consultation protocols that bring together procurement officials, transport department operators, finance and audit representatives, end users, and shortlisted private suppliers before contract specifications are finalised. The recurring finding that contracts are awarded against specifications that are either financially unviable for suppliers or procedurally unacceptable to audit bodies — because neither side fully understood the other's constraints — is a problem that structured consultation can directly address (Freeman, 1984; Mitchell et al., 1997).

Sustainability co-value needs to be formalised in procurement policy rather than left as an optional add-on. The Bureau of Energy Efficiency and the Ministry of Environment, Forest and Climate Change should work together to develop lifecycle procurement guidelines for government fleet contracts that build environmental KPIs — fuel efficiency benchmarks, emission compliance milestones, and end-of-life recovery obligations — directly into the payment mechanism. This would create market signals that incentivise suppliers to invest in sustainable fleet management practices, rather than simply comply with regulatory minima (Stahel, 2016; Tukker, 2015).

To accelerate diffusion, the Department of Expenditure should commission a structured programme to document and codify the procurement experience of agencies that have already worked with performance-based fleet contracts. That knowledge needs to be made accessible through GeM's knowledge resources, distributed through procurement officer training curricula, and shared through inter-ministerial forums where officials can ask practical questions. Pilot programme frameworks with ring-fenced funding and simplified audit arrangements can reduce the first-mover risk that currently makes experimentation personally costly for procurement officials (Rogers, 2003; Walker, 2014).

On core competency, GeM's vendor qualification process should be expanded to incorporate operational capability accreditation for fleet service providers. Accreditation criteria should assess workshop infrastructure, technician qualifications, geographic coverage footprint, parts supply chain depth, and financial resilience over multi-year contracts. Procurement training for government transport officials should be redesigned to include service contract management skills — KPI design, performance monitoring, dispute escalation — as core rather than optional content (Prahalad & Hamel, 1990; Baines & Shi, 2015).

Supply chain fragmentation requires a response that goes beyond contract design. The National Highways Authority of India and state public works departments should explore public-private co-investment in regional fleet service infrastructure — service hubs at highway depots and logistics nodes that improve coverage in non-metropolitan areas. Servitised fleet contracts should include mandatory geographic

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coverage standards with credible financial penalties for non-compliance, supported by performance bonds that give government agencies practical remedies when regional service delivery fails (Cooper et al., 1997; Mentzer et al., 2001).

7. Conclusion

Government fleet procurement in India is a domain where the gap between what current practice delivers and what is theoretically achievable is genuinely large. Asset-based procurement has persisted not because it performs well on lifecycle value, sustainability, or accountability metrics, but because it is institutionally familiar and procedurally legible. Servitised procurement — where the government pays for mobility outcomes and the supplier takes responsibility for the asset — offers a structurally different arrangement with real potential advantages, but those advantages do not materialise automatically. They require the right institutional conditions, and creating those conditions involves working on five interconnected fronts simultaneously.

This paper has examined those five fronts — stakeholder value alignment, circular economy and lifecycle sustainability, diffusion constraints, core competency misalignment, and supply chain fragmentation — through qualitative investigation with 22 stakeholders spanning the full B2G transport procurement ecosystem in India. The multi-theory framework developed from these findings integrates Stakeholder Theory, Circular Economy Theory, Diffusion of Innovation, Core Competency Theory, and Supply Chain Management to provide an analytical structure that is more adequate to the complexity of the adoption problem than any single-theory account could be. The framework asserts that adoption is blocked when any one of these five dimensions is left unaddressed, regardless of progress on the others — a point with direct practical implications for how procurement reform is designed and sequenced.

The theoretical contribution lies in demonstrating how these five traditions can be integrated coherently in a B2G procurement context, and in showing that circular economy thinking and supply chain management are not peripheral concerns for servitisation research but central ones when the focus shifts from private sector manufacturing to public sector fleet management. The practical contribution lies in the specificity of the framework's policy levers, which are intended to be actionable rather than aspirational.

The study has its limitations. The qualitative, single-country design does not support claims about the generalisability of findings beyond the Indian context, and the cross-sectional design does not allow for observation of how adoption processes unfold over time. Future work should test the framework quantitatively through large-sample structural equation modelling, pursue cross-national comparative research in analogous emerging economy procurement contexts, and track the adoption journeys of pioneer agencies through longitudinal case studies. The transition from asset ownership to service procurement in government transport is not inevitable, but this research suggests it is achievable — given deliberate, coordinated institutional investment in the conditions that make it possible.

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