Sovereign by Decision

Managing Decentralised AI in the Shadow of Impending Data Protection Obligations

A Comparative Study of Government Departments, Public Sector Undertakings, Global Capability Centres and IT Services Firms in India

The comparison of authority and proof is the core contribution.

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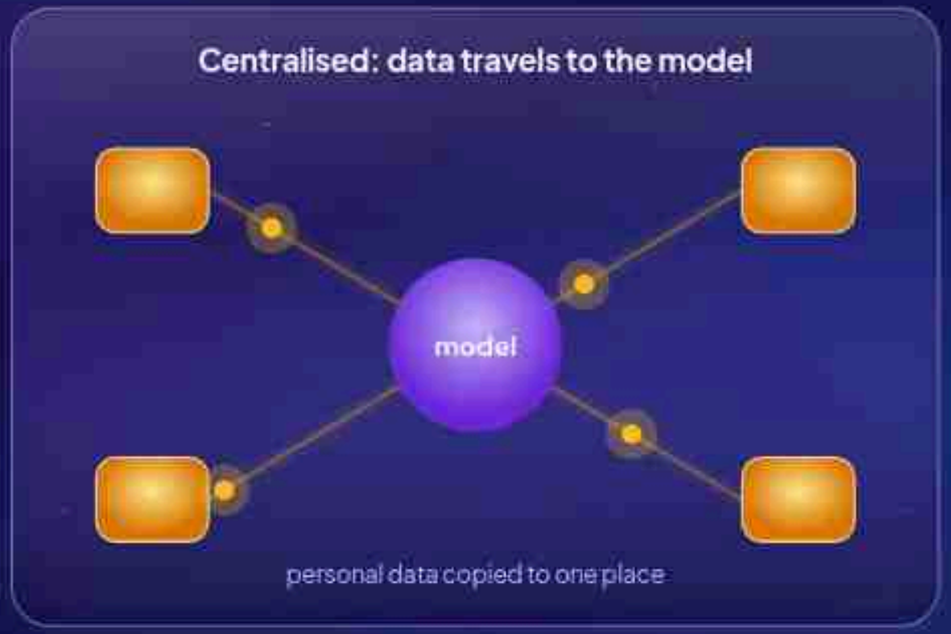
Preliminary Research Proposal · Ph.D. Programme in Management 2026–27 · Department of Management Studies · NALSAR University of Law, Hyderabad

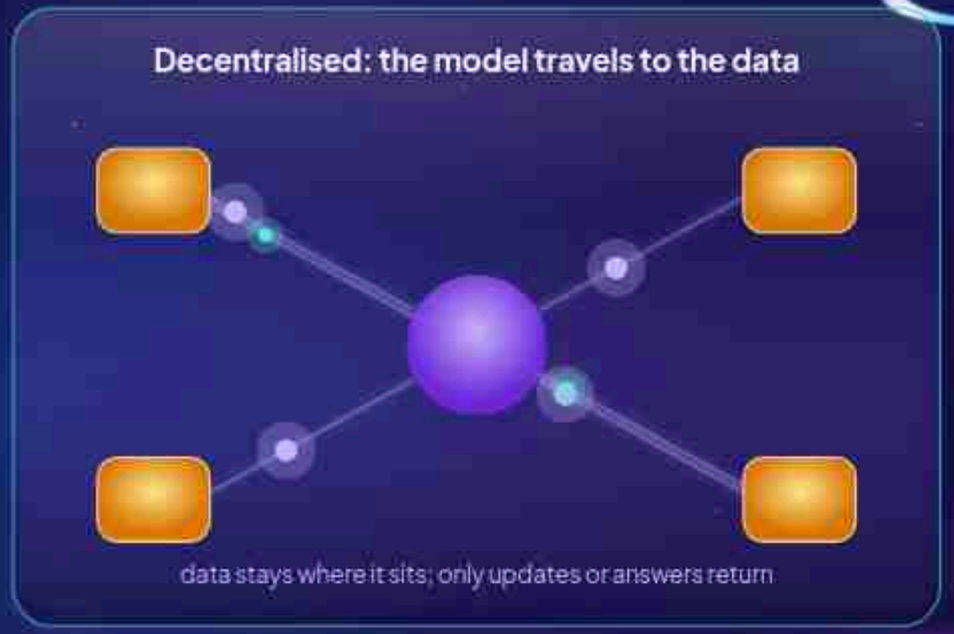
Next · First, the practical issue …

THE PRACTICAL ISSUE

The model goes to the data

Instead of copying the data to a central server.





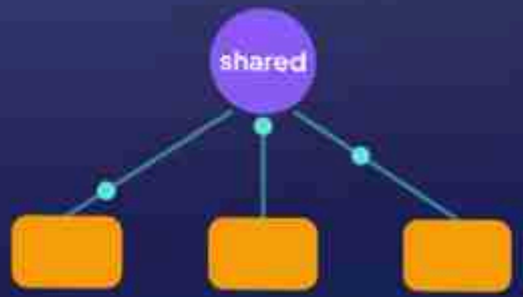
*"Decentralised AI complicates the conventional mapping of data processing because computation, model parameters, intermediate representations and outputs may be **distributed across different devices, organisations and jurisdictions**, even where raw personal data remains at its original location."*

Proposal §2

Next · Three ways the computation travels →

DECENTRALISED AI

Three ways the computation travels



Federated learning

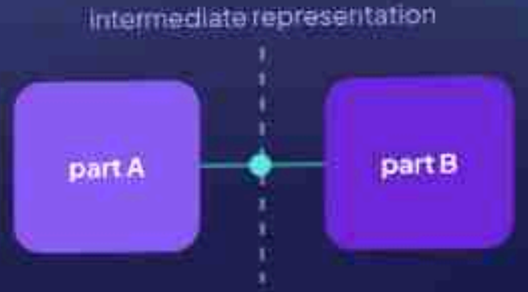
A shared model is trained separately on many local devices or servers; only the resulting numerical updates are returned and combined.

McMahan et al.



Edge inference

A finished model is installed on a local device, and only its answers leave.



Split learning

A model is cut into two parts that run in different places; what passes between them is an intermediate representation, not the original records.

Gupta & Raskar · Vepakomma et al.

Hybrids combine the first and third (Thapa et al.). For split learning, no authority has said whether what crosses the boundary is personal data, although training updates can sometimes be reversed to reveal the data behind them (Zhu et al.).

Proposal §2

Next · And the law that governs it is unsettled →

THE LEGAL SETTING

An unsettled law

The statute regulates processing generally but treats **the movement of personal data across a border as an identifiable event**. When authoritative clarification will come is uncertain.

Decentralised architectures complicate the practical identification of where processing occurs, who directs it and what information moves.



The adjudicating Board: it has been established under the Act, but as of 31 October 2026 no chairperson or members have been publicly announced.

That the law is unsettled rests on others' commentary, not the researcher's own reading.

Proposal §2

Next · Yet projects must be approved now …

THE PRACTICAL ISSUE

The same question, which each may answer differently



A government department

FORM **Government departments**

Layered hierarchies, formal clearance norms



A defence-linked undertaking

FORM **Public sector undertakings**

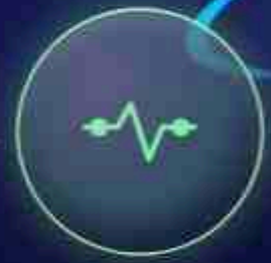
State ownership, mandated oversight



A foreign bank's captive centre

FORM **Global capability centres**

Indian law and a foreign parent's risk culture



A listed IT firm

FORM **IT services firms**

Suppliers: client contracts set the bar

How they do so is this study's practical issue.

Proposal §2, §3.4

Next · What the literature explains, and what it does not →

REVIEW OF LITERATURE

Four streams, four gaps

1 Deciding when the odds cannot be known §3.1
Knight · Simon · Cyert & March · Ocasio · Kahneman & Tversky · March & Shapira · Weick · Pettigrew

2 Legitimacy, ambiguity and convergence §3.2
Meyer & Rowan · DiMaggio & Powell · Oliver · Suchman · Edelman · Scott · Thornton et al.

3 Governing technology and constructing proof §3.3
Weill & Ross · COBIT 2019 · ISO/IEC 42001 · Bamberger & Mulligan

4 Organisational form in India §3.4
Dept of Public Enterprises · Lewin et al. · Mudambi & Tallman · Nasscom & Zinnov · Khanna & Palepu

THE RESEARCH PROBLEM

Where unknown rules, technical convergence, contested proof and Indian organisational form meet

§3.5

Deciding when the rules are unknown
Assumes the rules are known, even when outcomes are not

Convergence on technical artefacts
Seldom examines convergence on artefacts such as encryption methods or audit logs

Contested evidentiary sufficiency
Rarely treats sufficiency as contested

No comparison of the four forms
No study known compares them against the same unsettled question

Proposal §3.1–3.5

Next · Where the four gaps meet →

THE RESEARCH PROBLEM

Where the four gaps meet

When the same unsettled legal question about decentralised AI confronts all four forms, even though their exposure to it differs, it is not known how or why differently structured Indian organisations differ in **where they place the authority to approve**, **what they accept as enough proof**, *and* **when they escalate, defer or avoid** *the decision, nor whether they* **converge on the same technical safeguards** *and why.*

Hence the question

- **Who decides**
- **What counts as enough proof**
- **When to escalate, postpone or avoid**

A research question, not a hypothesis.

Proposal §3.5, §4

Next · Hence the question →

THE QUESTION THIS THESIS ASKS

When the data protection duties attached to decentralised AI remain unsettled, how and why do government departments, public sector undertakings, global capability centres and IT services firms in India differ in who decides whether to approve such systems, what they accept as enough proof to approve them, and when they choose to escalate, postpone or avoid the decision?

Authority
where the right to approve sits

Evidentiary sufficiency
what is enough to say yes

Escalate · postpone · avoid
when the matter is not simply decided

A research question, not a hypothesis: the study is interpretive, explaining how a process unfolds and why it differs between settings.

Proposal §4

Next · The whole study on one page →

Sovereign by Decision

Managing Decentralised AI in the Shadow of Impending Data Protection Obligations

PhD Research Framework

Management Domain (Core of the Proposal)

- How approval decisions for decentralised AI are actually reached in practice.
- What evidence is considered enough to approve, defer or refuse deployment.
- Where authority sits, how matters are escalated, and when delay or avoidance is used.
- How organisational structure (Govt. depts., PSUs, GCCs, IT services) shapes these decisions.
- Whether organisations converge on safeguards before any authority mandates them.



Legal Domain (Regulatory Setting)

- Digital Personal Data Protection (DPDP) Act, 2023
- Cross-Border Data Transfer provisions and criteria
- Applicability to decentralised data processing
- Regulatory silence, ambiguity and emerging practice

Technology Domain (Enablers & Variants)

- Federated Learning (local training, shared updates)
- Edge Inference (local execution, outputs only)
- Split Learning (distributed model, intermediate data)
- Hybrid approaches (e.g., SplitFed)

Comparative Research Context

Government Departments | Public Sector Undertakings (PSUs) | Global Capability Centres (GCCs) | IT Services Firms

Next - The unit of analysis →

UNIT OF ANALYSIS

The authorisation episode

What it is

A specific internal proposal to deploy a decentralised AI system, followed **from the first documented discussion to its outcome**.

Each case is an organisation, which may contain several episodes.



Decentralised AI

federated · split · edge · hybrids

Or it begins with discovery

An organisation discovers an existing deployment and moves to bring it under control.

Retrospective ratification is coded separately: sunk costs and operational dependence, not sufficiency alone, constrain it.

Outcomes

- Approval
- Approval with conditions
- Refusal
- Deferral
- Abandonment

Avoidance, never seeking approval, is coded apart from deferral.

The path the interview guide follows

1. What triggered the decision
2. Where authority lay
3. What evidence was sought and contested
4. How the matter was escalated
5. How it ended

Compared across episodes and forms — Who decides · What counts as enough proof · When matters are escalated, postponed or avoided · Whether safeguards converge, and why

Proposal §4, §6.3, §6.4

Next · What might explain convergence →

CONCEPTUAL CONTEXT · A PROVISIONAL PROPOSITION

Techno-institutional isomorphism

The tendency of organisations facing the same legal uncertainty to adopt similar **technical safeguards** in order to be **seen as responsible**.

How it differs

Not imitation of peers
What is copied is an artefact chosen for its power to reassure several audiences at once.

Not professional-norm convergence
No authoritative standard requires it.

Not competitive isomorphism
Valued less for what it does operationally than for what it signals.



The safeguards in question

Hardware-based proof
that computation ran in a protected environment

Tamper-evident logs
any later change to the record shows

Several audiences at once
the board, the parent, the client and a future regulator

They surround the system being approved; they are not the architecture itself.

Test and reach

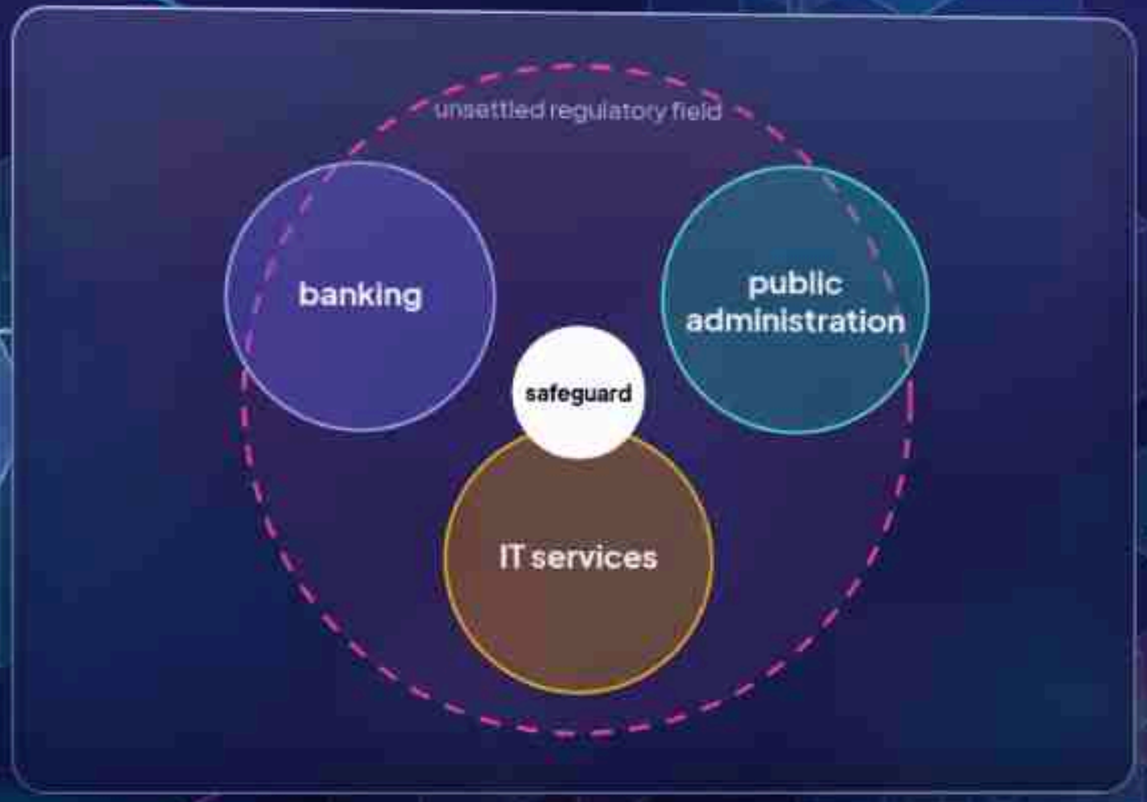
- Visible where adopted before any regulator has asked, and before 2027
- Extending Edelman: an artefact adopted before any adjudicator exists
- A proposition the design allows to be disproved

Proposal §5

Next · Why structure matters →

CONCEPTUAL CONTEXT

Settled fields meet an unsettled one



Strategic action fields

Settled fields share an understanding of the rules; in unsettled ones, order must be built through skilled action that aligns competing interests.

Fligstein & McAdam

A security head who adopts a recognised safeguard gains something to show **the board, the parent, the client and a future regulator** at once.

Behavioural theory of decision

What reaches decision-makers, how they frame losses and how their disagreements are resolved depend on how the organisation is built.

Ocasio · Cyert & March

Proposal §5

Next · How it will be studied →

RESEARCH DESIGN

A qualitative, comparative multiple-case study

8
cases
two per form

12
organisations approached
four as reserves

24–32
semi-structured interviews
three to four per case

60–90
minutes each
some participants seen twice

CASE
The organisation
Two per form; a case may contain several episodes.

UNIT OF ANALYSIS
The authorisation episode
From the first documented discussion to its outcome.

EVIDENCE
Interviews, documents, dated decision records
Several accounts of one episode, set against the record.

COMPARISON
Patterns across episodes and forms
Where authority sits, what counts as enough proof, when matters are escalated, deferred or avoided.

Proposal §6.1–6.3

Next · Which organisations →

SELECTION OF CASES

Four organisational forms, two cases each

Government departments

Layered hierarchies and formal clearance norms

2 cases

CHOSEN WITHIN THE FORM

Central and state bodies of comparable data scale

Public sector undertakings

State ownership and mandated oversight

2 cases

CHOSEN WITHIN THE FORM

Defence-linked and other critical-infrastructure; power, telecom or energy as reserves

Global capability centres

Embedded twice: Indian law and a foreign parent's risk culture

2 cases

CHOSEN WITHIN THE FORM

Differing in parent jurisdiction and ownership model

IT services firms

Decide as suppliers; client contracts often define a reasonable safeguard first

2 cases

CHOSEN WITHIN THE FORM

Matched on listing and export scale

How episodes are chosen

- For the richness of their episodes, not statistical representativeness
- Priority: computation crossing an organisational or national boundary
- Purely local edge inference only where the model or its outputs are controlled from elsewhere

12 approached · 4 reserves

Plan B: if two government and two public sector cases are not secured within the first six months of fieldwork, keep **one case in each form, studied in greater depth**, so the comparison across forms is preserved.

Proposal §3.4, §6.2

Next · How the evidence is analysed →

ANALYSIS

Abductive, inspired by the Gioia methodology



Sensitising ideas, not a fixed frame: Oliver's typology of responses and the attention-based view. NVivo keeps the audit trail; a second coder without a defence or government background independently codes a share of transcripts.

Avoidance ≠ deferral
Never seeking approval is coded apart from seeking it and postponing.

Retrospective ≠ prospective
Ratifying a system already running is constrained by sunk costs, not sufficiency alone.

Rival explanations
A refusal of what peers approved; a captive with little oversight; vendor- or consultant-driven convergence.

Proposal §6.4

Next · Keeping it trustworthy and ethical →

TRUSTWORTHINESS, REFLEXIVITY AND ETHICS

Responsible conduct, visible in the design

Researcher reflexivity

Prior service
Defence, public administration and enterprise technology

What it brings
Familiarity with clearance protocols and vocabulary; it may also colour interpretation, especially of government and defence norms

Reflexive measures
A reflexive journal; debriefing with peers outside the professional circle; a second coder without a defence or government background

Stance
Nothing from prior roles is used; no generalising from personal experience; every interpretation tested against independent evidence



Ethical commitments

- ✓ University ethics clearance before the study begins
- ✓ Informed, written consent, withdrawable at any time
- ✓ Nothing classified, confidential or commercially privileged is requested
- ✓ Anonymity, or composites where a case is too distinctive
- ✓ Participants offered their transcripts for review
- ✓ A possible lapse is recorded only as evidence of how the decision was reached; its legality is not assessed
- ✓ Records stored securely and kept to the minimum the study requires

Trustworthiness — **Credibility** · interviews against documents and each other · **Transferability** · detailed description · **Dependability** · the audit trail · **Confirmability** · reflexive journal, peer debriefing

Proposal §6.5, §7 · Lincoln & Guba

Next · Three years, in sequence →

FEASIBILITY

Three years, in sequence

Year 1
Foundation and access

- Coursework
- University ethics clearance
- Interview guide piloted with four or five practitioners from at least two forms
- Access negotiated: twelve organisations approached, four as reserves

Year 2
Fieldwork

- Twenty-four to thirty-two interviews, three to four per case
- Captive centres and IT firms first, while government clearances proceed
- Documents and public disclosures set against the interviews
- Plan B checkpoint six months into fieldwork

Year 3
Analysis and writing

- Each case written up as a sequence of events, then compared
- Coding inspired by Gioia, audit trail in NVivo
- Rival explanations tested; each safeguard dated and traced
- Thesis written

Throughout — Developments at the regulator and in the courts tracked as context · Analysis guards against size or maturity passing for differences of form

Proposal §6.2, §6.3, §6.5

Next · What it will contribute →

CONTRIBUTIONS

An explanation of deciding under unsettled regulation

INSTITUTIONAL THEORY

Convergence that comes before coercion

Whether organisations converge on technical safeguards no authority has asked for, and through which mechanism.

BEHAVIOURAL STUDY OF DECISIONS

Deciding when the rules are unknown

How structure shapes where authority sits, how matters are escalated, and when delay or avoidance is used.

INFORMATION SYSTEMS GOVERNANCE

Evidentiary sufficiency, contested

What each kind of organisation treats as enough evidence when there is no ruling or practice to lean on.

"The comparison of authority and proof is the core contribution: if organisations also converge on technical safeguards before any authority has asked for them, institutional theory needs a fuller account of why."

Extending Edelman

There, organisations construct compliance through procedures that courts later endorse. Here, a technical artefact adopted before any adjudicator exists.

What would disprove it

No adoption before 2027, or adoption only after it; adoption wholly through vendors; divergence despite shared pressures.

1 **The issue**
distributed processing, unsettled law

2 **The gap**
four streams, one problem

3 **The question**
authority, proof, escalation

4 **The lens**
techno-institutional isomorphism

5 **The design**
four forms, eight cases

6 **The contribution**
authority and proof compared

Sovereign by Decision

The comparison of authority and proof is the core contribution.

Thank you

Explore the framework

Viva Q&A