

CANONICAL LESSON

Start With the Decision

Decision-centred foundations for accountable sector intelligence

Production Unit	PU-B07-C01
Notebook	V7_0_N01
Status	Publication candidate v0.2
Data boundary	Synthetic instructional data only

Central decision: Define the public decision, accountable owner, horizon, lawful intervention, and abstention rule before selecting a model.

Learning outcomes

- By the end, you can: (1) define a public decision before choosing a model; (2) name the accountable owner and lawful intervention; (3) state the decision horizon and error trade-offs; (4) define abstention and escalation; and (5) produce a machine-readable decision contract.

Why this matters

A technically accurate signal can still be unusable when nobody has authority, time, capacity, or a lawful intervention.

The analytical workflow is useful only when evidence, uncertainty, authority, and action are connected explicitly. The model supports professional judgement; it does not replace accountable institutional authority.

1. Why the decision comes first

- A forecast is useful only when a named institution can act within the forecast horizon.
- We therefore separate: signal, analytical interpretation, recommendation, authorization, and action.
- The model owns none of the last three.

2. A worked agricultural contract

- The analytical system may identify areas requiring field verification.
- It does not declare a food-security emergency or allocate resources automatically.

3. Loss is not the same as model error

- A false negative can be more consequential than a false positive, or vice versa.
- The relative cost is a policy judgement to document—not a number for the model to invent.

4. Actionability gate

- A high accuracy score is insufficient.
- A candidate passes only if the owner, intervention, horizon, authority, and operational capacity are all present.

5. Abstention is a valid output

- When required evidence is missing, the safest analytical output may be: insufficient evidence—refer for review.
- This protects decision-makers from false precision.

6. Cross-sector exercise

- Complete the contract below for an attendance/dropout early-warning service.
- Do not write 'the AI system' as the accountable owner.

Worked cross-sector example

An attendance early-warning service identifies cases for authorized review; it does not impose sanctions or determine eligibility.

Boundary: The example supports learning and review. It does not constitute an official statistic, eligibility determination, enforcement action, clinical judgement, or operational authorization.

Practice and reflection

1. Why must the decision horizon be defined before model selection?
2. Who owns the final decision?
3. Give two reasons to abstain.
4. Why is accuracy alone insufficient?

Answer key

- It determines whether data latency and forecast lead time permit intervention.
- The named lawful institutional authority, never the model.
- Examples: inadequate data quality; uncertain probability band; failed linkage; distribution shift.

- Accuracy does not encode consequences, equity, calibration, actionability, authority, or operational capacity.

Operational readiness checklist

- Purpose and decision owner are named.
- Evidence definitions, provenance, and lawful access are documented.
- Uncertainty and abstention are visible.
- Human review, escalation, monitoring, incident response, and retirement are assigned.
- Equity, accessibility, security, and sector-specific approval are complete.