

Business Analytics Framework: Components and Application



- Business analytics: turning data into decisions; distinct from BI and performance management.



- A structured framework—not just tools—is the foundation for reliable analytics.



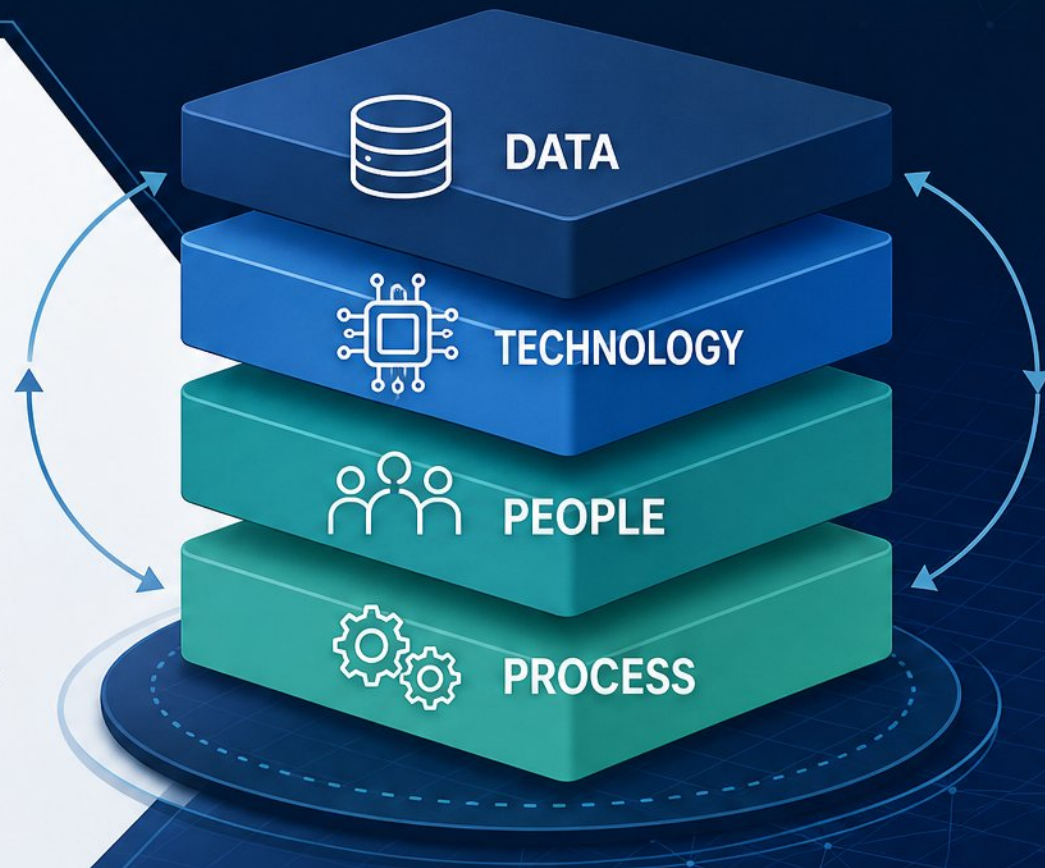
- Four core layers: data, technology, people, and process.



- Course preview: aligning components and applying the framework end-to-end.



- Self-assess expected outcomes for analysts, data teams, and business leaders.



Why Frameworks Matter in Analytics

- Most analytics failures stem from misaligned components, not missing software
- Frameworks give analysts, data teams, and leaders a shared vocabulary and accountability model
- Core structure: data, technology, people, process—guided by performance
- Surfacing gaps, overlaps, and biases early prevents costly investment missteps
- A chain is only as strong as its weakest layer; weak data stalls the system



Evolution of Business Analytics



- Analytics progression: descriptive → diagnostic → predictive → prescriptive → AI-driven



- Drivers: data volume, cloud adoption, cheaper AI/ML, real-time expectations



- Roles shifted: report producers → insight partners → decision enablers

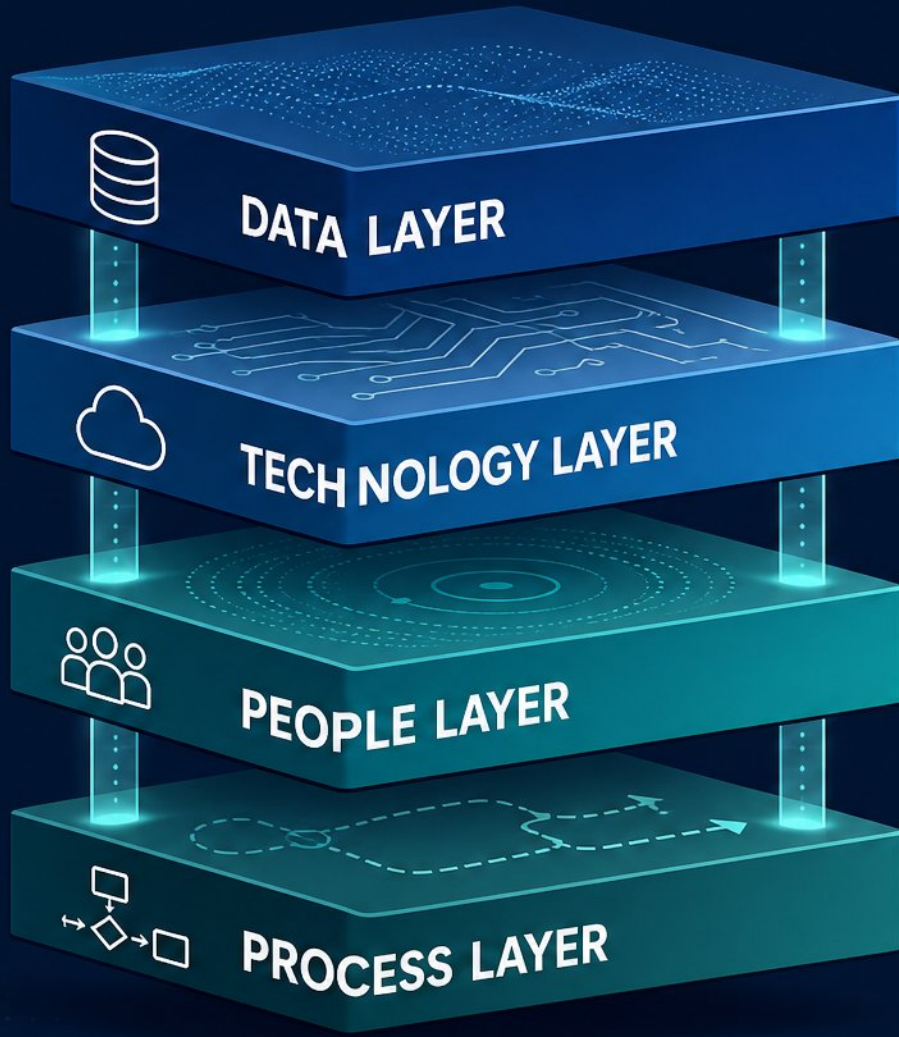


- Most organizations overestimate their maturity stage



- Maturity requires coordinated progress across data, people, and processes

The Four-Layer Framework



- **Data layer:** sources, quality, governance of analytics-ready data
- **Technology layer:** storage, processing, visualization, ML platforms
- **People layer:** skills, roles, business-data team collaboration
- **Process layer:** workflow, decision loops, prioritization, measurement
- Value emerges from aligned layers, not single-layer optimization

Data Preparation and Quality



- Workflow: discovery, profiling, cleansing, transformation, integration
- Manage six quality dimensions: completeness, uniqueness, timeliness, validity, accuracy, consistency
- Business analysts own data requirements and quality rules
- Data preparation consumes most analytics effort; plan accordingly
- Prioritize critical data products with clear owners

SIX QUALITY DIMENSIONS

 COMPLETENESS	 UNIQUENESS
 TIMELINESS	 VALIDITY
 ACCURACY	 CONSISTENCY

Choosing the Right Analytical Method

- Match the method to the question: descriptive, diagnostic, predictive, prescriptive, or causal
- Descriptive answers “what happened” and often settles debates
- Escalate to predictive or prescriptive only when the decision depends on it
- Prefer the simplest method that supports the claim
- Avoid causal claims from correlational methods



Technology Enablement

- Tools span data warehouses, BI, statistical, and ML platforms
- Evaluate scalability, usability, integration, governance, and TCO
- Match tool to team maturity, business goals, and ecosystem
- Self-service BI and advanced analytics solve different problems
- Prototype with a bounded proof of concept before scaling



Designing the Analytics Operating Model

- Four models: centralized, decentralized, federated, hub-and-spoke
- Match the model to how decisions are actually made
- Hub provides standards; spokes deliver domain-specific insights
- Clarify decision rights: priorities, data ownership, quality resolution
- Track business outcomes, not just report counts



Applying the Framework End-to-End

- Start with a clear business question and measurable success criteria
- Work through data, methods, and technology iteratively, not linearly
- Translate results into decision-ready communication for non-technical stakeholders
- Avoid common failures: unclear problems, skipped data quality, overclaiming methods
- Use a structured workflow: define, prepare, analyze, communicate, implement, monitor—with feedback loops



Real-World Case Patterns

- Successful programs: single trusted source of metrics
- High-value use cases: revenue attribution, supply chain visibility, retention
- Value comes from embedding insights into workflows
- Measurable outcomes: faster decisions, lower operational risk
- Start narrow, high-impact; expand after trust is built



**REVENUE
ATTRIBUTION**



**SUPPLY CHAIN
VISIBILITY**

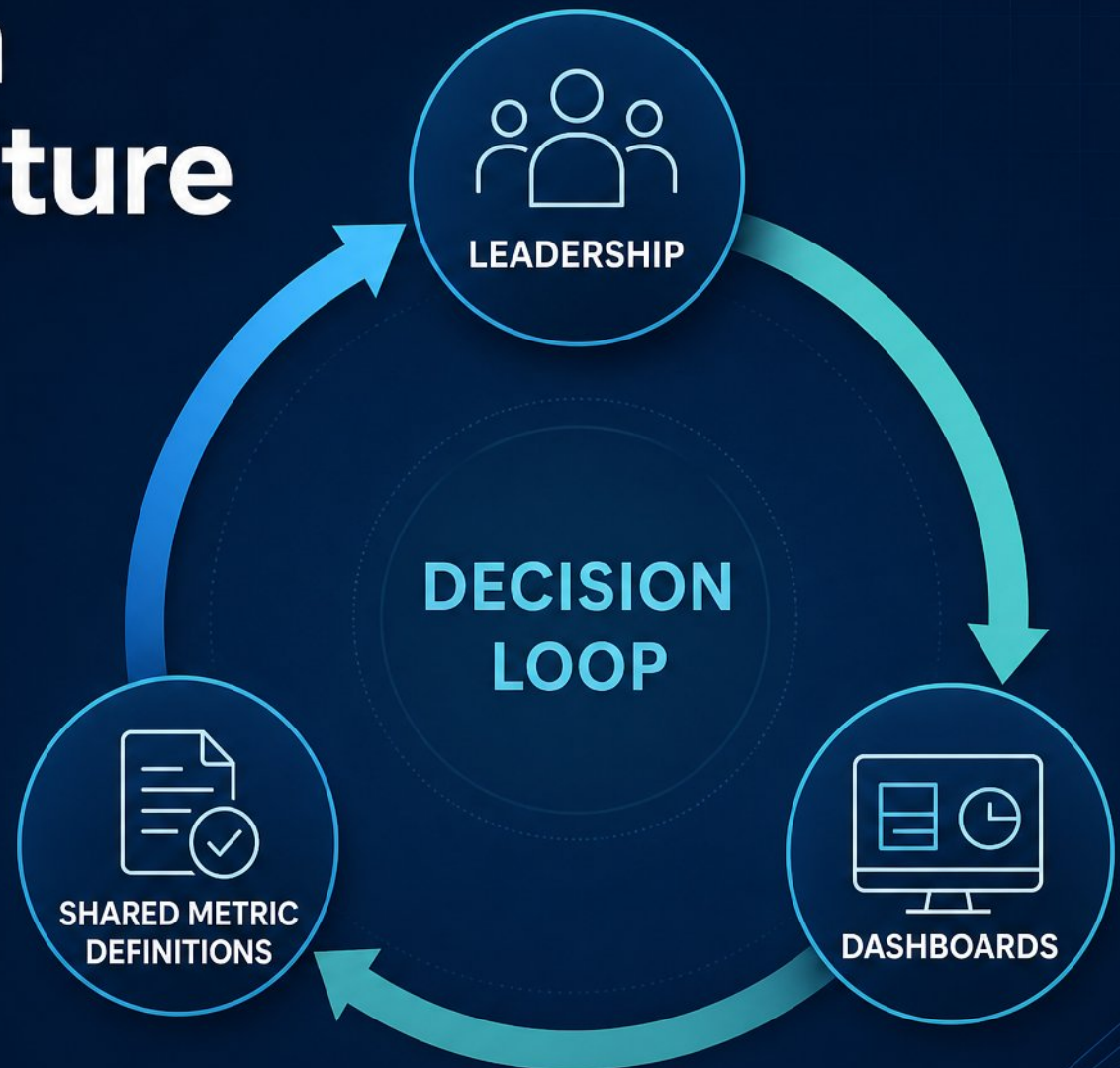


RETENTION



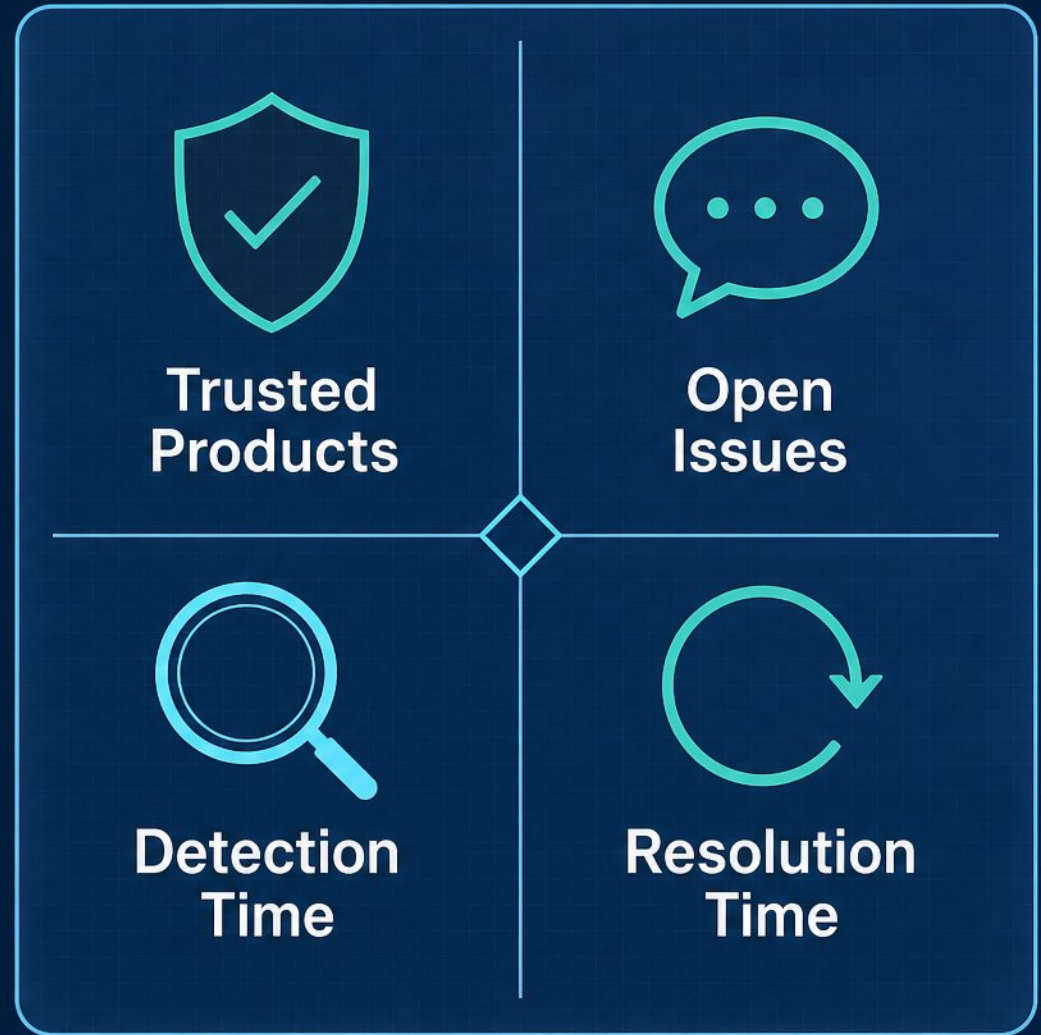
Data-Driven Decision Culture

- Technology amplifies culture; it does not create it
- Leadership and clear decision frameworks matter more than dashboards
- Shared metric definitions and documented standards unlock trust
- Avoid dashboard sprawl, tool chasing, and waiting for perfect data
- Embed analytics into recurring decisions and feedback loops



Governance and Quality in Practice

- Governance sets rules and ownership; quality measures fitness for purpose
- Assign business and technical owners to critical data products
- Automate checks close to pipelines with contextual alerts
- Track trust via simple scorecard: status, issues, detection, resolution
- Start centralized, then federate as standards mature



Pragmatic Adoption Roadmap



- > – Assess capability across data, technology, people, and process first



- > – Start with one or two high-value, low-complexity use cases



- > – Build buy-in through visible, trusted results, not big programs



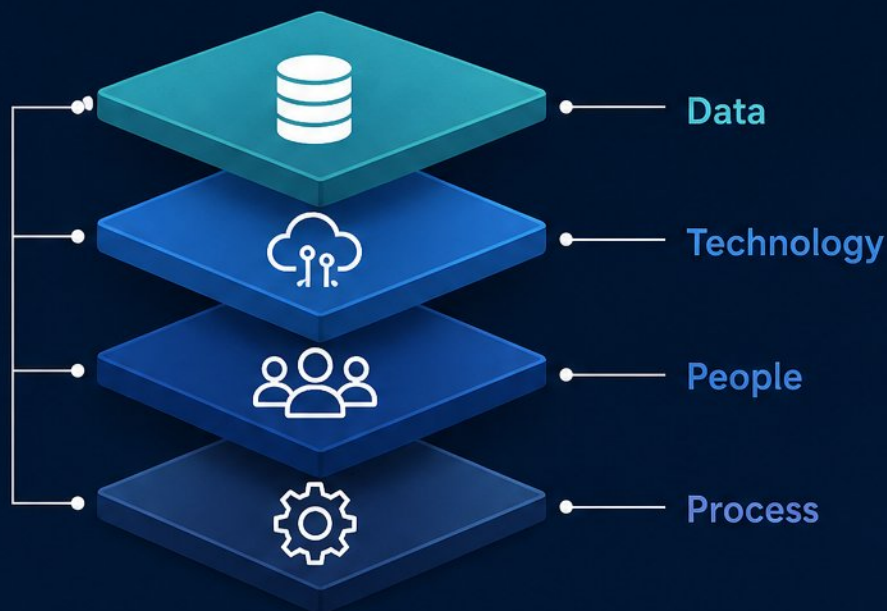
- > – Scale from pilot to practice by codifying standards and roles



- > – Measure success through business outcomes, not analytics activity



Summary and Next Steps



- Recap the four layers: data, technology, people, and process
- Analysts define quality needs, data teams build foundations, leaders set priorities
- Immediate actions: assess maturity, pick a narrow use case, clarify owners, pilot fast
- Follow-up: document metrics, map decision rights, build a champion network
- Sustained progress depends on governance, leadership, and a continuous improvement cadence

NEXT-STEP ACTION GRID			
	 ANALYST	 DATA TEAM	 BUSINESS LEADER
 IMMEDIATE ACTIONS	Assess maturity	Pick a narrow use case	Clarify owners, pilot fast
 FOLLOW-UP	Document metrics	Map decision rights	Build a champion network

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