Trinity Planning Framework™

A planner-first, secure, strategic and orchestrated supply chain planning framework for the AI era

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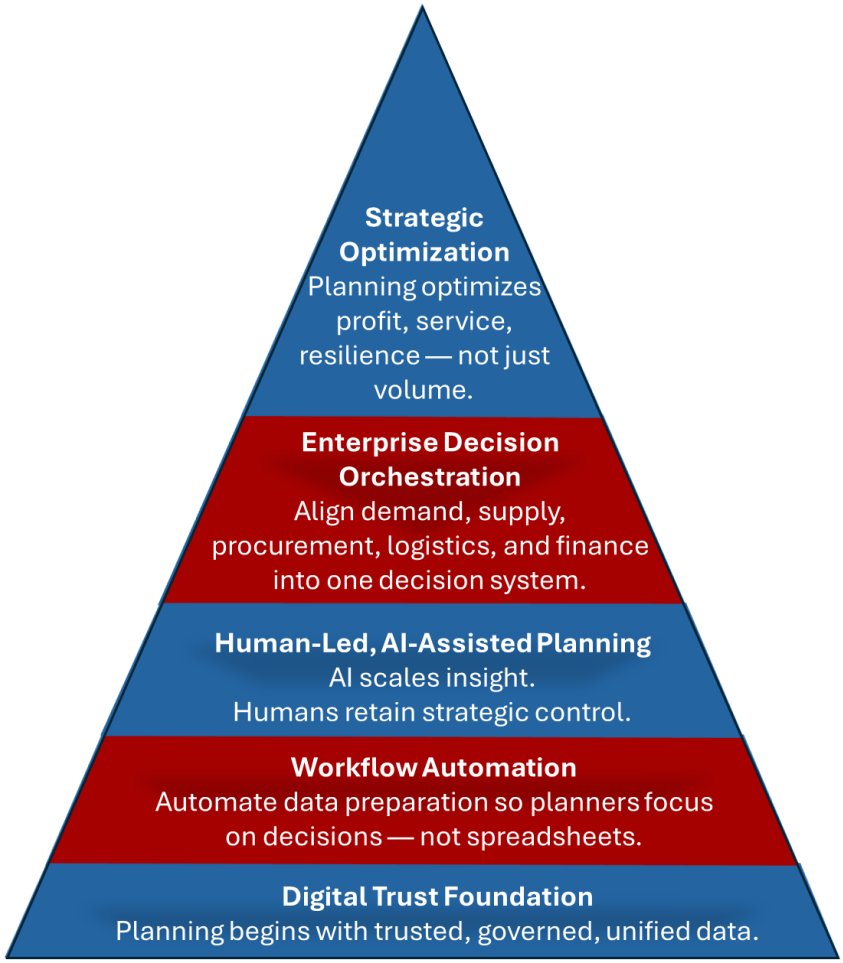


Executive Summary

Supply Chain Planning has undergone its greatest change in decades. Organizations have historically treated planning as a **forecast-driven** process - create a forecast, align supply, and manage exceptions. This approach is insufficient today.

AI, automation and volatility worldwide are moving planning from being **forecast-centric** to **decision-centric**. The objective is not solely to "be right" about the future, but to be **prepared for any future** through faster, coordinated decisions across all aspects of the supply chain including demand, supply, procurement, logistics and finance.

Trinity Planning Framework is a methodological structure and implementation methodology used by Trinity Solutions LLC to assist organizations to develop and implement new planning capabilities utilizing digital tools (composable digital technologies such as Microsoft Power Platform, Dataverse, Power BI, Power Automate) and integrate them into existing ERPs and execution systems.

This white paper provides an overview of Trinity's **5-layer planning maturity model**, a practical roadmap for developing **a secure, planned and orchestrated planning environment** that allows for **AI-assisted decision-making** and maintains **strategy and intent as human-led**

Vision

By 2030, planning will become more automated in execution, yet human-led in intent. AI will continually assess, simulate and prepare decisions, while human leaders will continue to define strategies, prioritization and trade-offs. Trinity Solutions is creating the framework to make this vision possible - secure, orchestrated and strategically aligned.

The Structural Change: From Forecasting to Orchestrating

Traditionally, planning systems optimize within functionally separate silos. However, most planning decisions are made through cross-functional decisions, such as allocation decisions, capacity trade-offs, procurement constraints, logistics realities and financial priorities. In the AI era, the value of planning is not the production of a number; it is the orchestration of decisions.

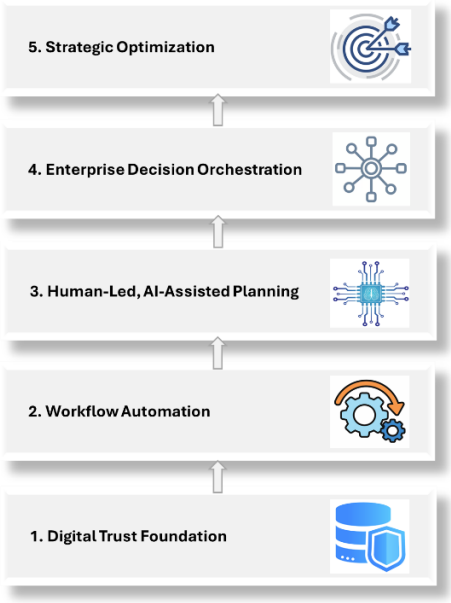
Pic-1: Trinity Planning Framework – Pyramid View

Introduction: Trinity's 5-Layer Planning Framework

The framework is built as a maturity model. As each layer is added to the others, they provide a scalable planning capability.

At a glance, the Trinity Planning Framework™ consists of five progressive layers:

1. **Digital and Trust Foundation**
2. **Workflow Automation Layer**
3. **Human-Led, AI-Assisted Planning Layer**
4. **Enterprise-wide Decision Orchestration Layer**
5. **Strategic Optimization Layer**



Layer 1: Digital and Trust Foundation

Planning decisions are only as good as the data and systems supporting them. Layer 1 creates the unified, secure foundation needed for planning today.

- Unified planning data model for all aspects of the demand, supply, inventory, procurement, logistics and finance
- Master data governance for items, lead times, MOQs, yields, sourcing rules, service policies
- Integration of planning systems with ERPs and execution systems to remove "offline truth"
- Cybersecurity as a planning requirement: protecting the integrity of decisions, not just systems
- Principles of zero trust: role-based access, least privilege, auditable
- Low-latency planning signals: reducing data freshness gaps through near-real-time or event-driven updates when feasible
- **Importance:** A non-trusted planning environment makes planning more a negotiation than a decision.

Layer 2: Workflow Automation Layer

Planning teams spend much more time collecting and validating data than making decisions. Layer 2 automates the planning workflow so that planners can concentrate on trade-offs and results.

- Automated data collection and validation
- Detection of exceptions (service risks, capacity constraints, supplier issues, inventory imbalances)
- Preparation of scenarios (what changed, what's at risk, what options are available)
- Automation of planning cadence (inputs, cutoffs, approvals, handoffs)
- Standardized playbooks for repetitive decisions
- **Result:** Shorter cycle times, fewer manual touches, and consistent decision-readiness.

Layer 3: Human-Led, AI Assisted Planning Layer

Layer 3 adds AI to increase speed and scale but retains the fact that the decision-making is still led by a person. The best way to plan sustainably is to use AI to assist in your planning, not to remove you from the planning completely.

Principle: The AI suggests; The Planner decides. The AI offers a means to rapidly scale computations while humans can offer strategic nuances.

- Risk sensing and early warning indicators
- Generating scenarios and exploring trade-offs
- Providing recommendations under conditions and assumptions
- Using forecasting when needed (for example, as a signal for demand sensing) and with governance.
- Natural-language summary reports to help executives quickly agree on decisions.

Layer 4: Enterprise-wide Decisions Orchestration Layer

Decision Orchestration connects decisions made across departments so the organization makes the best possible decisions — not decisions driven by local KPIs. Layer 4 coordinates demand, supply, procurement, logistics, inventory and finance into a single decision engine.

- Cross-functionally aligned decision-making work flows with specific owners and escalation paths
- Integrated S&OP / SIOP decision logic (service, cost, margin, cash, risk)
- Constraints-based planning across suppliers, capacity, labor, transportation, and inventory
- A unified "Decision Cockpit" dashboard for Leaders
- **Outcome:** Faster decision making, less surprise, and measurable alignment between operations and financial results.

Layer 5: Strategic Optimizations Layer

Planning has to be directed toward achieving organizational goals (i.e., profit, customer satisfaction, resiliency and long term positioning). Layer 5 ensures that all decisions are made to optimize for enterprise objectives.

- Margin and Profit optimization (not simply optimizing for volume)
- Prioritizing customers based upon strategic value and service commitments
- Optimizing for Risk across Supply Chain, Geopolitics, Logistics and Supplier Health
- Adding circularity and ESG constraints to planning (as planning constraints where required) (and not as optional add-ons)
- Efficiency and Long Term Capacity Strategy
- **Outcome:** Planning becomes a sustained strategic capability that will continue to perform during periods of volatility.

Closed-Loop Learning

Planning has to evolve as it learns from the execution of those plans. Closed-Loop Learning takes the difference between what was planned and what actually occurred (variance) and uses that variance to continually improve decision logic going forward.

- Were the Service, Cost, Margin, and Cash results that we had hoped for realized in our chosen scenario?
- What assumptions did we get wrong (lead times, yields, demand signals, supplier constraints)?
- How do we need to adjust our Policies and Parameters for the next cycle?
- **Outcome:** Planning will become an evolving asset as opposed to a static tool.

Composable Technology Enabling

The Trinity approach is Composable: Clients create their planning capabilities using modular components that integrate with existing systems they have already invested in. This allows clients to minimize the Total Cost of Ownership (TCO) and avoid being dependent on Rigid Proprietary Stacks.

Components used for typical enablement may include:

- Microsoft Power Platform for automating Work Flows and Guided Decision Processes
- Dataverse for Governed Data Models and Tables Ready for Integration
- Power BI for Dashboards and Executive Cockpits
- Power Automate for Approvals, Exceptions, Alerts and Orchestration Workflows
- ERP Systems and Execution Systems as Systems of Record (Orders, Inventory, Procurement, Logistics, Finance)

How Trinity Works with Clients

Trinity Solutions implements the Trinity Planning Framework™ using Consulting-led Enablement:

1. Measure Current Maturity Against the 5 Layers (Capability Gaps)
2. Create Target Planning Operating Model and Planning Data Foundation Design
3. Implement Workflow Automation and Dashboards to Accelerate Decision Readiness
4. Implement AI-enabled Components with Governance and Measurable Results
5. Maintain Improvements Through Closed-Loop Learning and Continuous Optimization

Conclusion

Future of Planning will not be defined by better forecasts alone. Future of planning will be defined by better decisions — made faster, with trusted data, automated workflows, AI assistance and enterprise-wide orchestration.

The Trinity Planning Framework™ provides a practical road map for creating that capability — securely, planner first, strategically optimized.