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BARC Spotlight

AI in Financial Planning: Modeling Agents, Data Foundations, and Continuous Model Change

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Are You Prepared to Embrace AI in Planning?

For many finance teams, planning has always involved a difficult trade-off. The business wants speed, but finance needs control. Executive team members and line of business leaders want more scenarios, but modelers have limited time. Stakeholders want planning to reflect the latest assumptions, but changing the model can require work across dimensions, hierarchies, driver logic, allocations, workflows, security, and data integrations.

That tension is becoming harder to manage when systems grow and businesses become more volatile.

Volatility is the new norm in business and it demands more frequent planning. At the same time, artificial intelligence (AI) is moving from a supporting capability into the center of the finance technology conversation. Predictive planning, natural language interaction, automated insights, and agentic AI are all being discussed as the next phase of enterprise performance management (EPM).

Many corporate FP&A teams still spend outsized efforts on collecting and validating data. This is validated by BARC's CPM Trend Monitor 2026, which identified data management as the number one priority for enterprise performance management teams. While the need for data management has been around for decades, the velocity of AI adoption has created a greater need, with more urgency, for clean, well-governed data.

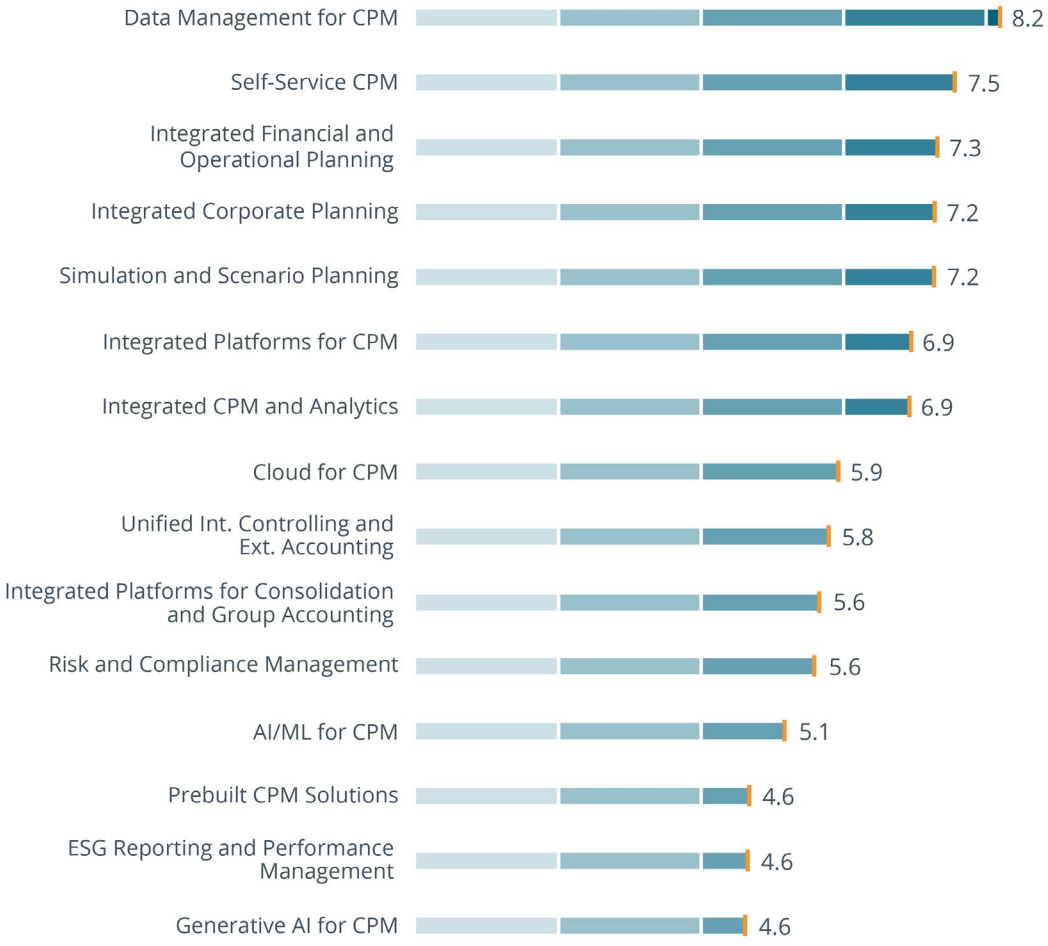


Figure 1: Importance of Current CPM Trends and Priorities for 2026, on a scale from 0 (not important at all) to 10 (very important). Source: BARC "CPM Trend Monitor 2026", n=989

This need becomes even more visible in volatile environments. According to BARC research on resilient planning, 72% of organizations report that external disruptions such as market shocks, cost volatility, and changing customer behavior are materially impacting planning and operations.

Organizations that can incorporate these external signals into their planning models faster gain a clear competitive advantage. This too, though, is clearly another example of a requirement straining data management and modeling resources for planning and EPM.

The question is not whether AI will become part of financial planning. It already is. The better question is whether organizations are prepared to use it in a way that improves planning outcomes. We might even be on the precipice of financial planning and analytics (FP&A) turning into FP&AI.

The preparation for using AI starts with the planning model itself.

AI does not remove the need for a strong planning foundation. It raises the bar for one.

In many organizations, planning systems still struggle to keep pace with business change. When teams cannot adjust models quickly enough, they work around the system. They create spreadsheet side models. They duplicate logic. They rebuild calculations outside governed workflows. Over time, the organization loses confidence in the planning process.

Simply put, AI does not remove the need for a strong planning foundation. It raises the bar for one.

From AI for Dashboards to AI for Planning Models

Much of the early AI discussion in analytics focused on dashboards. AI could summarize a variance, explain a chart, or help users ask questions in natural language. These are useful capabilities, but they are quickly becoming baseline expectations.

The more interesting question for FP&A is different: Can AI help finance teams change the planning model itself? Can it do so in the timeframes needed, at scale, and at the level of quality demanded by finance teams?

That is where modeling agents become important. A reporting assistant can explain what happened. A modeling agent can help translate business intent into a proposed planning structure, rule, workflow, or scenario that a finance expert can review.

The distinction matters. A conversational planning assistant might help a business user ask: "What happens if revenue drops by five percent in EMEA?" A modeling agent supports the human modelers behind the scenes by helping create or adapt the model that makes that question answerable.

Both capabilities are useful. They just solve different problems.

The ability to incorporate external signals into the planning model helps finance and planning teams use context more systematically, quickly, and reliably. When those signals are contextualized within the model, teams can assess potential impacts faster and with greater confidence.

Definitions that Matter for FP&A

Modeling agents support FP&A power users and modelers in creating, adapting, and documenting planning models. Their value is in shortening the loop from business intent to a tested and reliable solution / model.

Conversational planning assistants support business users in executing planning actions through natural language.

AI has the potential to transform corporate planning by speeding up processes and making them more adaptive. We distinguish between three types of AI in corporate planning:

- Quantitative or "traditional" AI and machine learning (ML)
- Generative AI (GenAI)
- Agentic AI (AI agents)

Machine learning analyzes vast amounts of data to identify patterns, outliers, and trends. ML can detect deviations, calculate predictions for forecasts and simulations, and detect key business drivers. These capabilities enable organizations to respond quickly to market shifts and improve the efficiency of their planning processes. Furthermore, ML can automate routine tasks, thereby freeing up resources for strategic decision-making.

Generative AI is powered by large language models (LLMs). It makes planning more as it allows users to interact with planning systems through natural language. GenAI can also generate and optimize code and scripts. Furthermore, it can extract insights from unstructured data.

Agentic AI designs workflows independently with the available tools and then executes tasks without requiring manual intervention. Unlike traditional automation, AI agents don't need scripting or predefined workflows: they interpret natural language instructions and run in the background. What defines which tasks an agent can perform are its tools and skills.

Modeling as the Persistent Bottleneck

Enterprise planning does not stall because finance teams lack ambition. It slows down because the model must reflect an increasingly complex business.

As planning expands beyond finance into sales, supply chains, and operations, the model becomes more valuable. But it is also harder to change. A shared planning environment introduces dependencies across dimensions, calculations, workflows, and permissions, meaning even small changes can have wide downstream impacts.

At the same time, many organizations rely on a limited number of specialists who understand how the model works. This creates a bottleneck, as the speed of planning becomes tied to the availability of a few individuals. When the platform cannot keep pace, users often revert to spreadsheets to solve immediate problems. This comes at the cost of fragmented logic and reduced governance.

Many organizations rely on a limited number of specialists who understand how the model works.

Why Model Change Velocity is the New Constraint

These challenges reflect a broader shift. Planning effectiveness is no longer constrained by data availability or processing power, but by how quickly the model can be adapted.

Business conditions are evolving faster than traditional planning cycles can accommodate. As a result, the long-term cost of planning lies not in initial implementation, but in the ongoing effort required to maintain and evolve the model to make it meet ever-changing needs. When updates take too long, organizations either rely on outdated assumptions or bypass the system entirely.

In this context, model change velocity becomes a direct proxy for decision speed.

What Modeling Agents Could Change and Could Not Change

Modeling agents can help address these constraints by improving how models are created, adapted, and maintained. Their value lies in enabling finance teams to work faster and more consistently, not in replacing expertise. In fact, they would transform the most knowledgeable finance team members into the most powerful modelers.

They shorten iteration cycles by translating business intent into structured proposals that can be reviewed and refined, reducing the gap between identifying a change and implementing it. They also make experimentation more practical, allowing teams to test new drivers and scenarios without disrupting production models.

Improved documentation and transparency reduce key-person risk, while earlier detection of signals supports a shift to more strategic and impactful planning. Together, these capabilities make it more feasible for enterprise planning platforms to support ad hoc, decision-driven scenarios that have traditionally relied on spreadsheets.

Modeling agents do not remove the need for governance or human oversight. Planning models remain central to decision-making and require clear traceability, approval processes, and accountability.

Human review is essential because planning logic reflects business judgment, not just technical configuration. Data quality also remains a limiting factor, as AI will amplify both strengths and weaknesses in the underlying data.

Rather than reducing the importance of skilled modelers, these changes make their role more strategic. As routine work decreases, their focus shifts toward model design, validation, and ensuring alignment with business reality.

Trustworthy Data is Essential

Trustworthy data is essential because AI outcomes are bounded by the quality, consistency, and interpretability of the underlying data. AI output suffers when hierarchies are inconsistent, master data is unstable, or integration pipelines are fragile. In fact, applying AI in this scenario can actually scale those problems. Weak data foundations show up as spreadsheet-based side models, duplicated logic, and a loss of confidence in planning outputs.

Modern data platforms are attractive in this context because they can store large volumes of detailed data in open formats, integrate external signals, and support advanced analytics and AI/ML workloads alongside business intelligence. They also encourage reusable data engineering practices such as versioning, testing, and automated deployment. This helps when planning needs to draw from many internal source systems and more external data sources.

However, proximity to the data platform does not eliminate the need for planning-specific capabilities. Planning still requires:

- Business-user modeling
- Workflow and approvals
- Scenario creation and comparison
- Security and auditability
- Write-back for planning values
- Versioning and change control
- Performance at planning scale

This is where buyers should be careful with simplified narratives. Moving planning data closer to where analytics already lives can reduce duplication and improve governance. But it also introduces practical requirements around usability for finance teams, predictable performance for calculations and write-back, and clear operational ownership between finance and data teams.

The practical test is not an AI demo. It is change velocity with control. The winning architecture is not the one with the most AI features. It is the one that combines planning usability, governed access to shared data, and enough flexibility to adapt models and assumptions quickly as the business changes.

External Signals: Opportunity and Risk

External signals represent one of the most important opportunities in AI-supported planning.

Organizations that can identify, contextualize, and act on these signals faster than competitors gain a structural advantage.

BARC research highlights a persistent gap between perceived importance and practical adoption. In The Planning Survey 25, simulations and scenario analysis are widely regarded as important for decision support, yet only a small share of organizations actively use them in corporate management processes.

This gap reflects a broader maturity challenge. Scenario planning is widely recognized as valuable, but it often remains hard to execute because many organizations cannot change planning logic quickly and safely. That ability. Continuous model change. is not yet widespread, but it distinguishes more advanced FP&A teams. It turns scenario planning from an occasional exercise into a repeatable capability.

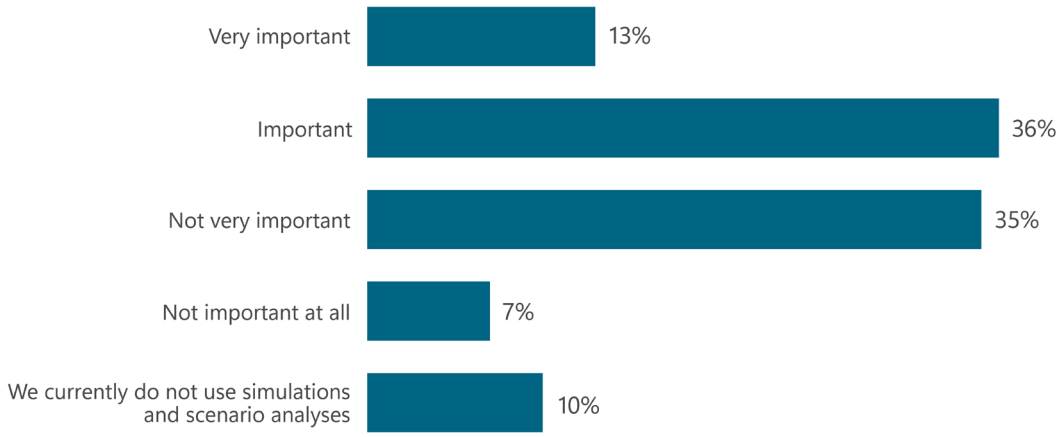


Figure 2: How important are simulations and scenario analyses in your company for corporate management and decision support? (source: BARC "The Planning Survey 25", n=483)

Data Evaluation

Finance teams should approach external data with the same rigor applied to internal data. This means understanding where the data originates, assessing whether it is truly relevant to the planning decision, and ensuring that its impact can be explained. Just as importantly, external signals must be governed appropriately, with clear ownership, usage rights, and controls over how they influence planning assumptions.

What Buyers Should Validate

In modern architectures planning increasingly sits at the intersection of enterprise planning platforms, data management layers, and core transactional systems such as ERPs. This convergence matters because modeling agents depend on both planning context and governed data context. An agent can add more value if it understands the structures, dependencies, permissions, and data flows that define the planning environment.

In this context, buyers should focus less on high-level AI capabilities and more on how the system supports real model change. This includes how proposed changes are generated, tested, and validated before being applied, as well as how dependencies are identified and managed across the model. Equally important is the ability to version and govern planning logic so that changes remain transparent, explainable, and auditable over time. A clear separation between what the system suggests and what is ultimately applied is essential, particularly in environments where planning outputs directly influence financial decisions.

Another critical capability is experimenting within sandboxes. Organizations need to understand how new scenarios and model changes can be tested in isolation and then safely integrated back into governed production models. This also extends to how different data sources are combined within a single planning context. Most organizations operate in heterogeneous environments, so the ability to integrate data products based on internal and external data consistently is a key requirement.

Finally, buyers should evaluate whether a platform supports true closed-loop planning. This means not only generating insights and recommendations but also enabling those decisions to be written back into operational systems. The ability to move from analysis to execution within the same environment defines effective performance management. Without this, AI-enabled planning risks remaining an analytical layer rather than becoming a driver of action.

Readiness Checklist for FP&A Leaders

Organizations that benefit most from AI-supported planning already treat planning as an integrated, governed, and continuously evolving capability. Rather than focusing first on AI features, they focus on whether their planning environment can support change at the pace the business requires.

This readiness can be assessed across several dimensions. Data and semantic consistency form the foundation, ensuring that planning structures, hierarchies, and metrics are aligned and reliable. Model agility is equally important, particularly the ability to implement meaningful changes without excessive effort or reliance on scarce technical resources. Governance and accountability must be clearly defined so teams can review, approve, and trace model changes, whether human- or AI-generated.

In addition, organizations need an operating model for managing AI-generated logic, including how proposals are tested, validated, and either accepted or rejected. Finally, adoption and enablement play a critical role. Finance teams must understand how to interpret and act on AI-supported outputs, and where accountability ultimately resides.

When these elements are in place, model change becomes faster and safer. At that point, enterprise planning platforms can support not only structured planning cycles, but also more immediate, decision-driven scenarios that require rapid response.

From AI Potential to Impact

AI in financial planning is moving beyond dashboards and variance explanations. The next phase will be defined by how quickly finance teams can adapt models, assumptions, and scenarios to reflect changing business conditions.

Modeling agents have the potential to accelerate this shift by reducing routine technical work, improving documentation, enabling more frequent experimentation, and supporting a more holistic approach to planning. However, they do not replace the fundamentals. Strong data foundations, robust governance, and skilled modelers remain essential to ensuring that planning outputs are accurate, explainable, and aligned with business reality.

The organizations that benefit most will not be those that simply layer AI onto existing processes. They will be the ones that build planning environments where AI operates on trusted data, within clearly defined guardrails, and under human accountability. For modern FP&A, this is the real test of whether AI can move from promise to impact.

About SAP

Founded in 1972, SAP has grown from a small, five-person endeavor to a multinational enterprise headquartered in Walldorf, Germany, with more than 105,000 employees worldwide.

With the introduction of its original SAP R/2 and SAP R/3 software, SAP established the global standard for enterprise resource planning (ERP) software. Now, SAP S/4HANA takes ERP to the next level by using the power of in-memory computing to process vast amounts of data, and to support advanced technologies such as artificial intelligence (AI) and machine learning.

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The company's integrated applications connect all parts of a business into an intelligent suite on a fully digital platform, thereby replacing the process-driven, legacy platform. Today, SAP has more than 230 million cloud users, more than 100 solutions covering all business functions, and the largest cloud portfolio of any provider.

MESSAGE FROM THE SPONSOR

Finance teams must respond faster to change while maintaining governance and trust. SAP's approach enables this by extending planning into operational, ad-hoc decision-making, connecting insight directly to execution on governed data. By balancing agent-driven automation with human oversight, finance can plan continuously, explicitly without sacrificing control, transparency, or confidence in results.

Learn more at sap.com/fpa.



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