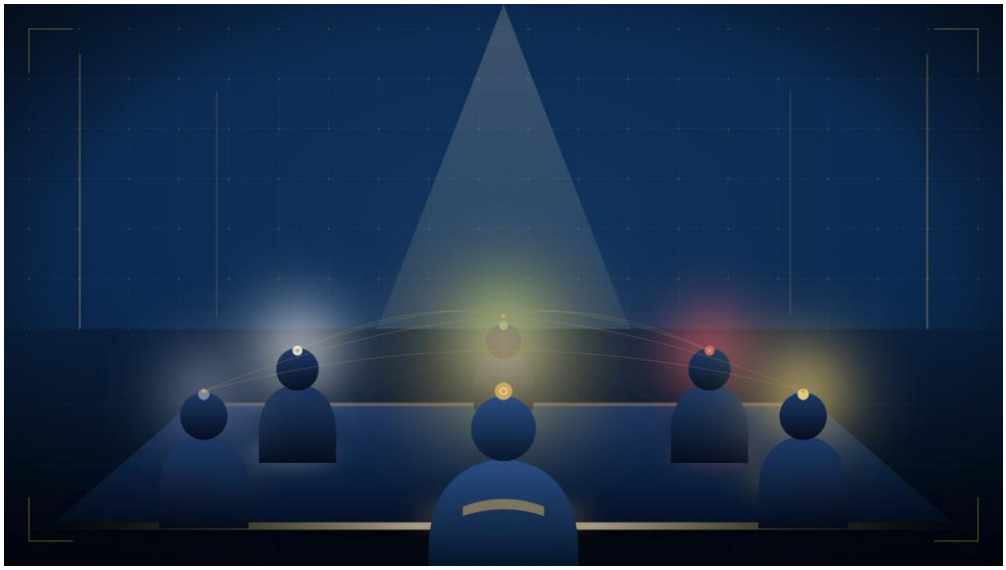
973 LABS • BBK SPARK

AI ADVISORY BOARD

Structured Decision-Making Through Coordinated AI Agents

FROM CONCEPT TO EXECUTION



Bank of Bahrain and Kuwait B.S.C. | 973Labs W.L.L

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INTRODUCTION

AI Advisory Board by 973 Labs

In boardrooms around the world, leadership teams are asked to make consequential decisions faster, with more uncertainty, and under tighter scrutiny. Yet the traditional model of governance has a structural limitation: the information and expertise required to evaluate modern risks and opportunities often exceed what a human board can realistically acquire on its own. The result is a familiar tension; leaders want sound decisions, but the cost, time, and bandwidth needed to bring in ever more specialized directors or advisors can be prohibitive.

This is where the idea of an "AI Advisory Board" built from a coordinated set of AI agents becomes compelling. Instead of replacing the board of directors, these AI agents would function alongside it: continuously scanning relevant signals, testing assumptions, and offering decision support that complements human judgment. Think of it as extending the board's "thinking capacity" without extending the organization's hiring costs.

One of the most powerful aspects of this concept is its ability to embed structured decision-making models directly into the advisory workflow. For example, the Six Thinking Hats framework can be translated into distinct agent roles, each operating with a different lens such as analytical rigor, creativity, risk evaluation, or stakeholder empathy. Rather than generating a single, blended response, the tool can produce a deliberately balanced set of perspectives, helping decision-makers see what they might otherwise miss.

The objective is not merely faster answers.
Better questions. More complete reasoning. Clearer trade-offs.

The trigger behind this idea is practical; the high cost of hiring additional board members or highly specialized independent directors. Beyond compensation, there are onboarding delays, limited availability, confidentiality constraints, and the challenge of aligning a diverse group of experts around consistent evaluation criteria. An AI advisory board can address these friction points by offering scalable expertise ready on demand, configurable to the organization's context, and capable of revisiting decisions as new information emerges.

Objectives

- Enhance informed decision-making by providing multi-perspective analysis and structured reasoning.
- Reduce advisory bottlenecks through rapid, always-available agent support.
- Strengthen governance quality by making assumptions, risks, and options more explicit.
- Enable cost-effective expertise without over-reliance on expensive incremental leadership hires.
- Complement human judgment, not replace it, supporting directors with clearer thinking, not automatic decisions.

The future of governance won't be defined solely by who sits at the table. It will be defined by how well leaders can think and how effectively they can operationalize diverse perspectives when the stakes are high. An AI advisory board of coordinated agents offers a new path: disciplined, structured, and decisively practical.

INDUSTRY CONTEXT

Industry Adoption and Real-World Precedents

Across leading institutions, elements of the “AI Advisory Board” concept are already beginning to emerge, even if they are not yet formally described in those terms. Large financial institutions such as Lloyds Banking Group have introduced AI-powered tools to support executive and board-level discussions, helping leadership teams analyze complex data, test assumptions, and prepare for strategic decisions. JPMorgan Chase has also integrated AI across several areas of its operations through platforms such as COiN, which support the rapid review and analysis of legal and operational information that would traditionally require significant human time and resources. A similar direction can be seen at Goldman Sachs and Citigroup, where AI is increasingly applied in areas such as risk modelling, investment analysis, and strategic scenario evaluation.

Beyond the financial sector, companies such as Unilever and Siemens are using AI to simulate market dynamics, operational outcomes, and business scenarios, providing leadership teams with deeper insights to support decision-making. Collectively, these examples point to a significant shift in corporate governance and executive management. Rather than discarding existing governance frameworks, leading organizations are gradually strengthening them through AI-enabled systems that can operate as always-available sources of analysis, challenge, and decision support.

Where it’s already happening

JPMorgan Chase COiN platform for rapid legal and operational audits	**Lloyds Banking** AI tools for executive and board-level discussions	**Goldman Sachs** Risk modelling and investment scenario analysis	**Citigroup** AI for strategic evaluation across business lines
Unilever Market simulation to support brand strategy	**Siemens** Operational outcome modelling for leadership	**EY • McKinsey** Research showing higher governance quality with AI	**973 Labs** Live AI Council for innovation governance

THE ECONOMICS

The Economics of Board Governance

According to industry sources from Deloitte and PwC, it appears that among major banks, non-executive directors often earn between USD 150,000 and USD 400,000 per year, while those who chair committees can exceed USD 500,000. When all members of a board are taken into consideration, the total cost of remuneration can be in the millions of dollars annually, more so if costs for external advisory services, governance reviews, travel, and coordination overhead are included. More importantly, with the increasing need for boards to have expertise in areas such as cybersecurity, sustainability, or advanced analytics, organizations make use of external consultants whose costs can be upwards of USD 500,000 per year per domain.

$150K–$400K	$500K+	30–60%
ANNUAL DIRECTOR FEES	PER SPECIALIZED CONSULTANT	POTENTIAL ADVISORY COST REDUCTION

Boards are increasingly expected to address complex issues, yet traditional methods of expanding expertise remain slow and costly. , yet the most obvious way for them to increase their expertise, that is, the traditional methods, is both sluggish and costly. An AI advisory board brings in an economic model that is radically different at the core. It is like investing in a system that can be deployed repeatedly for different decisions and contexts rather than continuously hiring human expertise at a great cost each time.

AI can keep itself updated on regulatory changes, model strategic alternatives, and perform risk assessment without incurring any incremental fees associated with attracting new advisory personnel or consultants. Gradually, this transforms the board's governance from a fixed-cost structure to a more flexible pattern of sourcing expertise whenever it is needed. McKinsey & Co. research has found that those companies that are heavily using AI could cut down the use of external advisory services by 30%-60%, especially in knowledge-intensive areas. Besides that, better and quicker access to relevant information also decreases indirectly the costs of delayed decision-making that is often unseen but quite significant in large organizations.

Beyond cost — a step-change in decision quality

However, the benefits of this method go far beyond cost reduction. Traditional boards face cognitive constraints that significantly limit their effectiveness. Members are required to work with condensed reports, operate under severe time pressure during meetings, and often rely on personal experience, which together can cause both qualitative and quantitative analysis to remain relatively shallow.

An AI advisory board fundamentally changes this dynamic. It continuously sifts through vast amounts of data on a daily basis, runs decisions through a range of modeled outcomes, and generates structured, real-time insights. This enables leadership to revisit and adjust decisions as new data emerges and to explore a broader set of strategic options without being constrained by natural human deliberation limits.

In essence, it expands the organization's cognitive capacity while its physical size remains unchanged. This, in turn, has a direct impact on quality of governance. Research by EY and McKinsey & Company shows that although AI integration can initially appear disruptive to management practices, organizations that adopt AI at the board level demonstrate stronger capabilities in risk management, more effectively challenge the status quo, and better align strategy with market dynamics.

AI is not about accelerating decision-making at the expense of quality. On the contrary, it enhances rigor and clarity in reasoning. Key assumptions are surfaced, trade-offs become explicit, and alternative outcomes can be explored before a final decision is made. At its core, the role of the board is to ensure that decisions can withstand uncertainty—and AI provides meaningful support in achieving that objective.

TECHNICAL IMPLEMENTATION

BBK Spark AI Council

The following section details the technical architecture and live implementation of the AI Advisory Board concept as built and deployed by 973 Labs.

System Architecture Overview

Layer	Technology	Purpose
Frontend	Modern web stack	Real-time streaming UI
Backend API	Enterprise application framework	Council orchestration and prompt engineering
AI Engine	Self-hosted LLM infrastructure	On-premise inference across multiple model families
Database	Managed relational database	Session persistence and audit trail
Hosting	Private cloud with global delivery	Secure delivery and traffic management
Real-time	Event streaming protocol	Live streaming of responses

AGENT ROLES

The Six Thinking Hats

Each agent operates with a distinct cognitive lens and a temperature setting tuned to its purpose; lower for analytical roles, higher for creative ones. The Chairman synthesizes all perspectives into a single recommendation.

WHITE HAT
The Strategist
Facts, data, market intelligence

RED HAT
The Customer Advocate
Emotions, intuition, user empathy

BLACK HAT
The Risk Officer
Risks, compliance, caution

YELLOW HAT
The Engineer
Benefits, feasibility, optimism

GREEN HAT
The Innovator
Creativity, alternatives, trends

BLUE HAT
The Chairman
Synthesis, recommendation

SESSION FLOW

51 LLM Calls Per Question

The architecture deliberately separates independent thinking from debate. Round 1 prevents groupthink by asking each member to respond in isolation. Round 2 introduces structured challenge — members see each other's Round 1 outputs and must agree, disagree, or refine. The Chairman then produces the synthesis.

= 51 total LLM calls per strategic question

How a session unfolds

- Round 1 — Independent Views. Each member responds in parallel; no member sees another's answer. (5 parallel LLM calls per hat.)
- Round 2 — Debate and Challenge. Members receive all Round 1 responses and must engage — agreeing, disagreeing, refining. (5 parallel LLM calls per hat.)
- Chairman Synthesis. Produces a structured recommendation: Executive Summary, Key Insights, Risks, Recommended Action, Next Steps.

DIFFERENTIATORS

Key Technical Differentiators

Feature	Detail
Parallel Execution	Concurrent agent execution reduces session time by ~80%
Real-time Streaming	Each response streams live as it's generated
Structured Debate	Round 2 receives full Round 1 context
Temperature Control	Calibrated creativity settings per role
Session Persistence	Full audit trail retained for governance review
Self-hosted AI	No data leaves the organization
Bank-grade Security	Enterprise-grade encryption, authentication, rate limiting, and audit controls

Data Sovereignty

Unlike cloud AI services, the AI Council uses self-hosted LLM infrastructure. No board discussions or strategic data leave the organization's controlled environment, supporting internal governance standards and applicable regulatory data residency requirements.

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DEMONSTRATION

Live System Screenshots

The screenshots below provide a walkthrough of a single end-to-end session.— from question submission to the Chairman's final recommendation — with one figure per stage.

1. AI Council — Board of Directors Interface

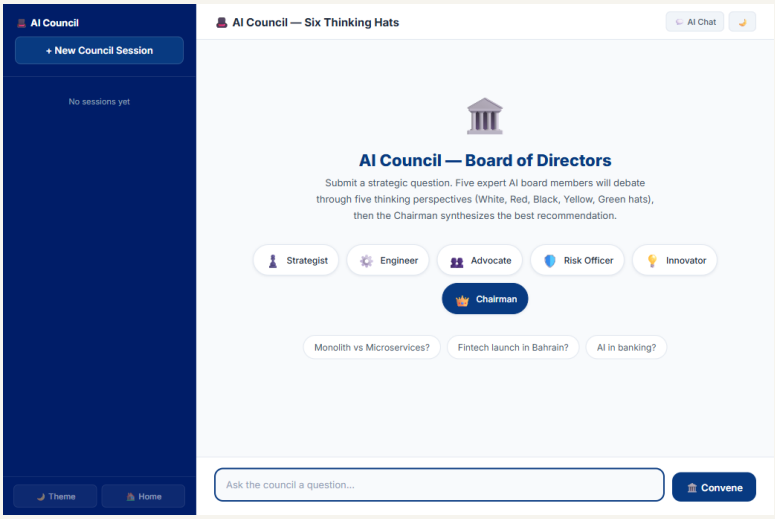

Figure 1. *The AI Council interface showing five board members and the Chairman. Users submit strategic questions and the council convenes automatically.*

2. Submitting a Strategic Question

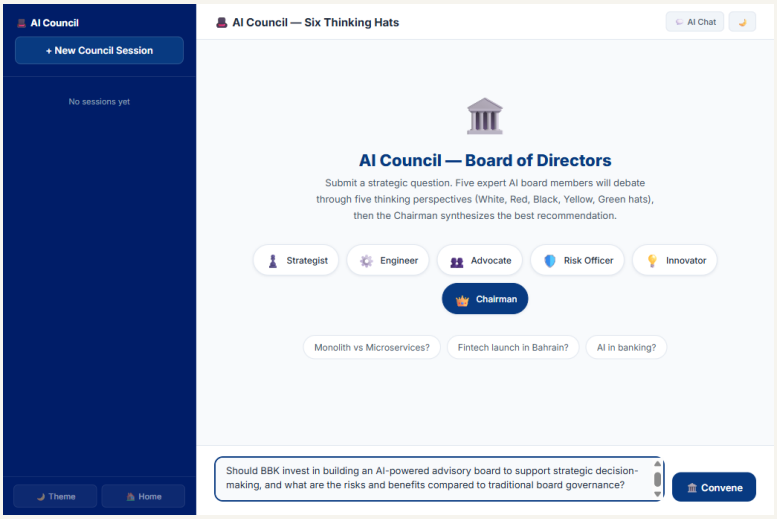

Figure 2. *Strategic question submitted: "Should we invest in building an AI-powered advisory board?"*

3. Council in Session — Hat Rounds Processing

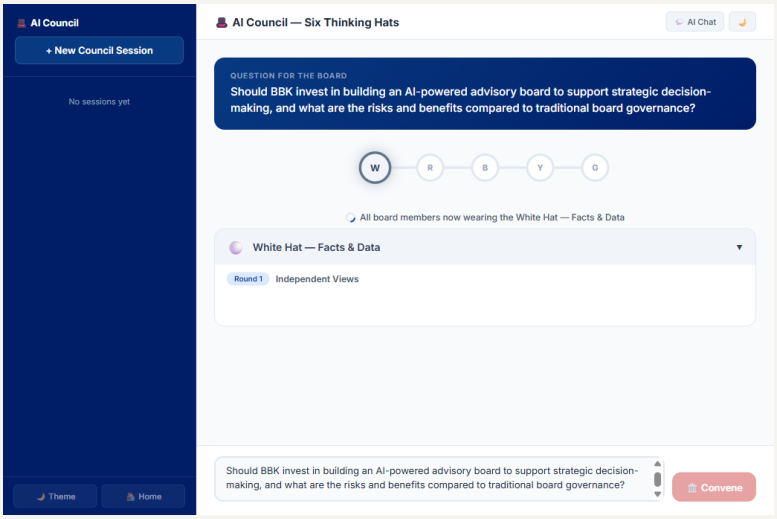

Figure 3. White Hat (Facts & Data) round begins. Progress indicator shows the W-R-B-Y-G sequence. Members provide independent analysis via real-time streaming.

4. Member Responses — Multi-Perspective Analysis

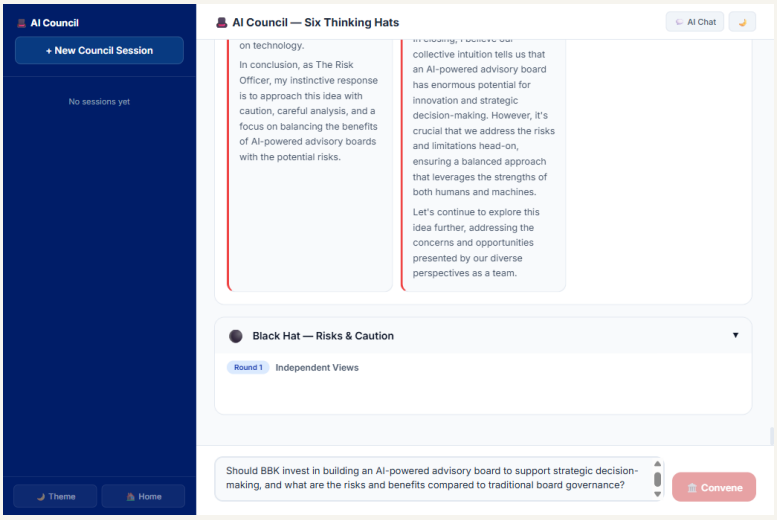

Figure 4. *Risk Officer and Innovator providing contrasting perspectives, demonstrating the structured multi-perspective approach.*

5. Chairman's Synthesis — Final Recommendation

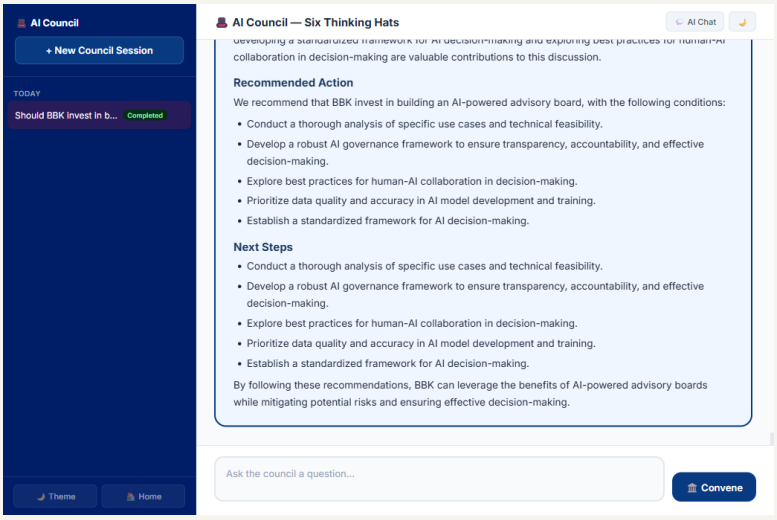

Figure 5. *Chairman synthesizes all 50 responses into Recommended Action, next steps, and a balanced conclusion.*

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THE TEAM

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