Summary Post

by Mariam Ibrahim Ismail Hasan Almarzooqi - Friday, 17 October 2025, 4:14 PM

After participating in the discussions on Agent-Based Systems (ABS) and reviewing the contributions from my peers, I have developed a stronger understanding of how these systems function and their relevance in modern organizational contexts. ABS are intelligent, autonomous entities that can interpret their surroundings, make independent decisions, and take action to achieve defined goals (Zuo, 2025). Unlike traditional centralized systems, ABS are designed to adapt and operate efficiently within complex, real-time environments, making them highly suitable for sectors such as logistics, healthcare, finance, and urban planning.

I found it particularly insightful to learn how ABS enhance operational responsiveness and risk mitigation, especially in the financial sector. They process large volumes of data instantly, react to market changes, and support automated decision-making, demonstrating the power of decentralised intelligence (FAREA et al., 2024). Additionally, I now better understand how agents can work independently yet contribute collectively to broader organizational goals, an essential trait in industries that demand speed and adaptability.

The discussions also expanded my knowledge of how ABS are applied across various domains. For example, in supply chains, they assist with demand forecasting, inventory tracking, and route optimization. In public health, ABS are used to simulate the spread of diseases and improve resource distribution. In financial markets, they help model investor behaviour, while in smart cities, ABS contribute to optimizing systems like traffic flow, energy usage, and emergency services (Quazi et al., 2024).

Overall, this learning experience has reinforced my view of ABS as essential tools for innovation and resilience in dynamic environments. I now see even greater potential in combining ABS with technologies like AI and digital twins to enhance predictive analysis, strategic planning, and autonomous problem-solving in complex, data-driven organizations.

References:

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