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Extending CA with AI COAs for Wargaming

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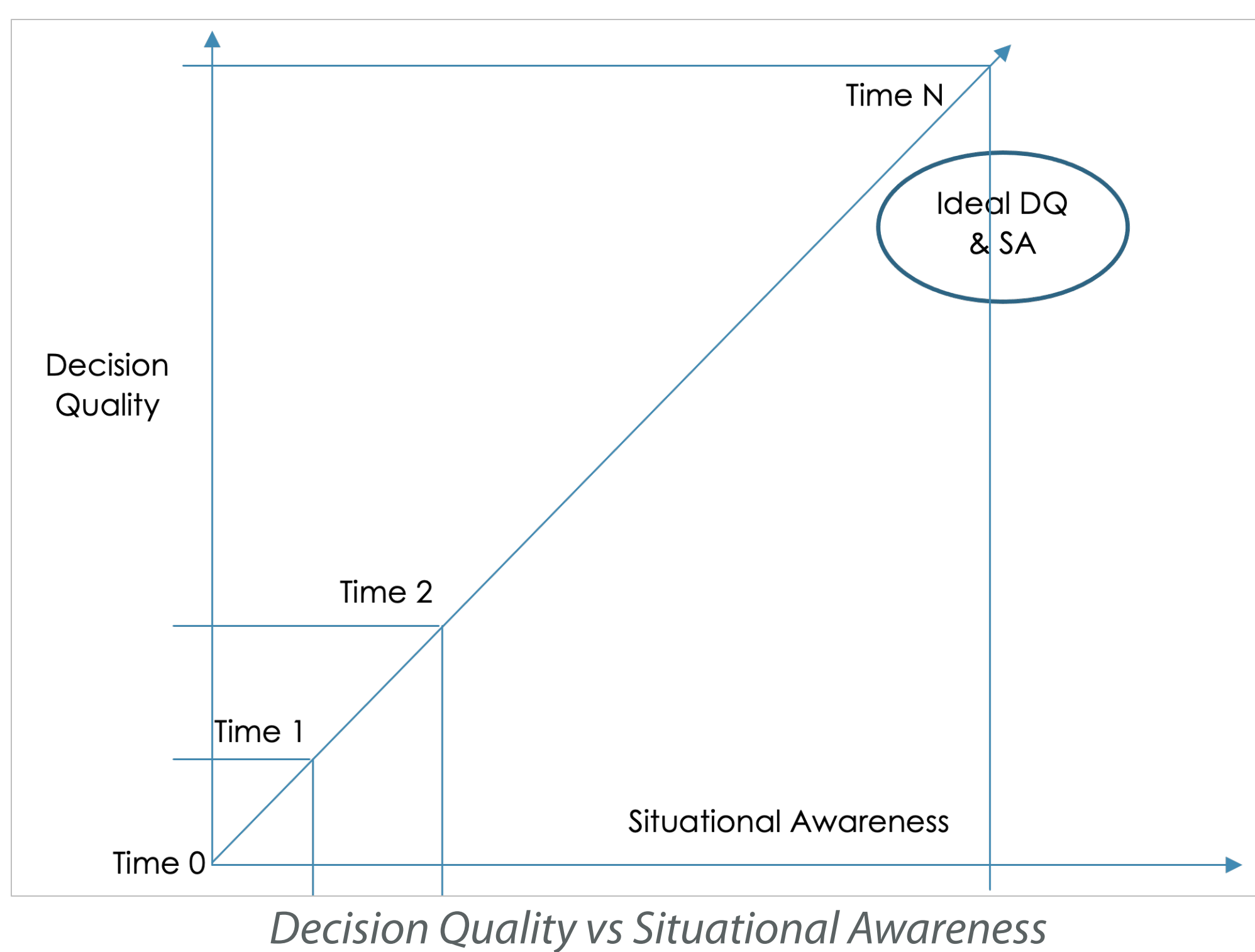
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Background/Motivation

- The motivation for this research is to develop a novel framework for a decision support system (DSS) that provides:
 - Relevant and timely critical information,
 - Automate and/or digitize planning activities,
 - Provide courses of action (COAs) in real-time.



Fire Support Coordination (FSC) Unit Map & Charts



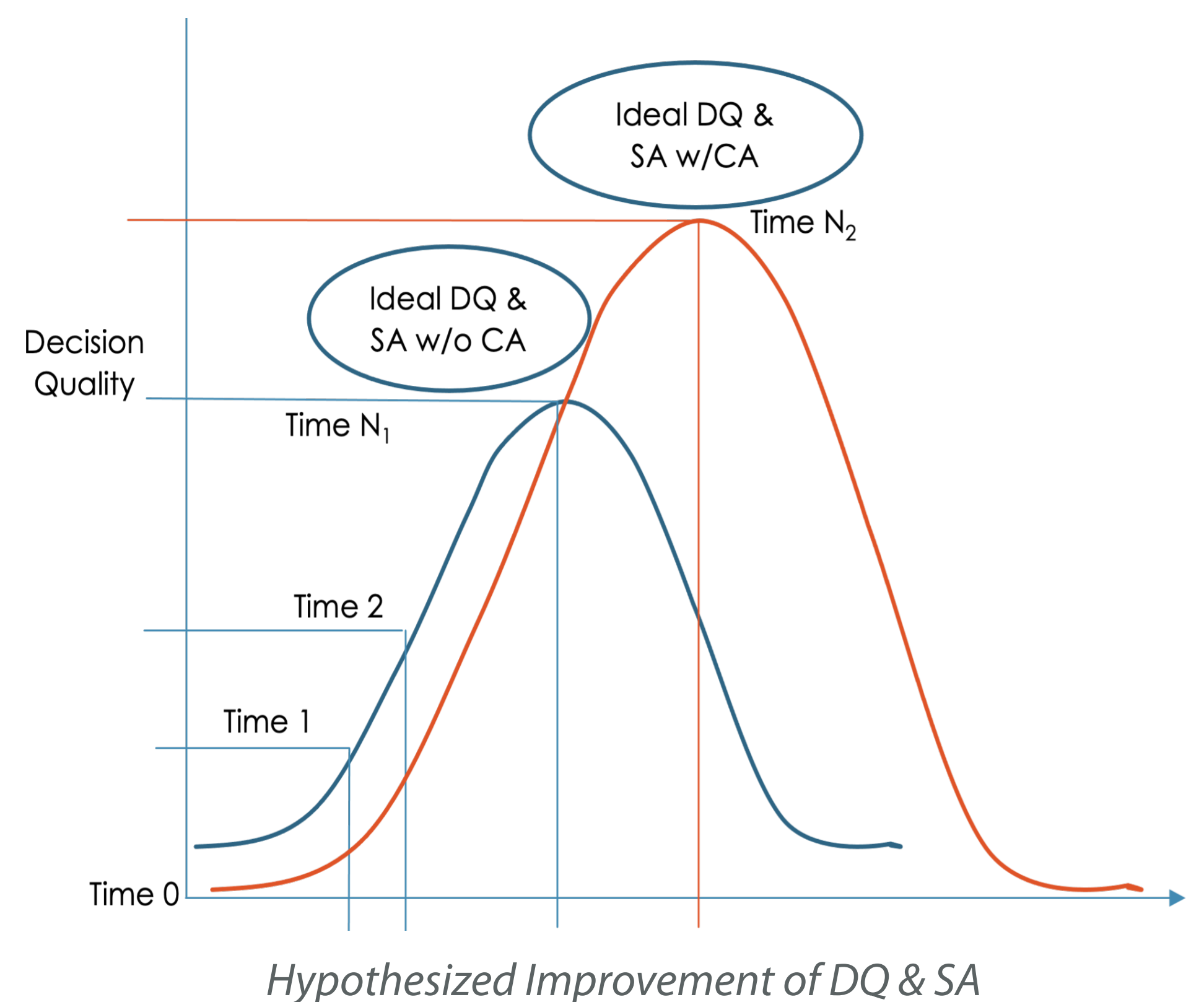
Problem Discussion

- The Fire Support Coordination (FSC) Unit within the US Marine Corps continues to use old, antiquated, disparate systems.
- Critical information is often communicated verbally or manually on maps, as depicted (above).
- The FSC Unit Officer must make critical decisions with the right information, at the right time.

Hypothesis & Objectives

One may expect that with more situational awareness (SA) that decision quality would improve. However, this research attempts to show that in a high tempo operational environment, more situational awareness may lead to greater cognitive fatigue sooner resulting in a decrease in decision quality sooner.

A cognitive assistant that can provide relevant & timely information while automating or digitizing planning activities and provide COAs may be able to reduce cognitive fatigue, provide more SA by handling the more routine tasks, thereby improving decision quality.



Recommendations & Contributions

- Identify factors/dimensions of decision fatigue
- Develop conceptual framework of a cognitive assistant
- Design a war game for theory testing
- Theory testing of Naturalistic Decision Making and Systems Theory
- Provide scientific evidence linking an AI enabled DSS to improved decision making



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