

Terrorist Evolutionary Assessment – Model (TEAM)

The TEAM (Terrorist Evolutionary Assessment) Model of motive and intent addresses exogenous factors derived from various knowledge sources to track and predict adversarial resolve and tactics. The TEAM modeling framework is extensible allowing fusion of multiple types of data and the creation of a collection of plausible models forming a virtual network of expert contextual (semantically consistent) perspectives on the same domain space. Moreover, such models form the basis for describing and projecting the complex dynamics (strengths, capabilities, vulnerabilities, and critical gaps) of adversaries within the user defined operational environment. The main challenge in understanding the battle space and consequently confronting the System-of-Systems Analysis (SoSA) is the ability to make informed decisions about threats, such as terrorist entities¹, based on large quantities of incomplete and semantically inconsistent information.

The TEAM framework provides predictive capabilities within an extensible framework for a SoSA to evaluate the coherence and validity of various views of the world (i.e., including indicators of enemy motive and intent and to derive comprehensive threat indicators. Motivation & Intent determinants drive the SoSA dynamic adversarial risk assessment. Accurate predictions of the future actions are only possible when the opponent's motives - which may involve multiple inter-relations of political, military, economic, social, information, and infrastructure (PMESII) dimensions - are understood. To facilitate PMESSII SoSA the TEAM framework will provide for rapid model prototype development for determining confidence levels, probabilities and intelligence gaps.

TEAM is built upon the theory of rational extremism [Lak02], bounded rationality [Rub98] and a bargaining model of war [Bra04]. The conceptual base for the model is provided by Langlois & Langlois [LL02, LL05]. TEAM is a dynamic version of the static model Bargaining Theory of War (BTW) [LL02, LL05], which has been extended to model asymmetric power conflicts including insurgencies and terrorism.

Terrorist decision-making occurs in the context of strategic interaction. Terrorist groups do not evolve tactics in a political/strategic vacuum. Tactics are conceived as a means to an end. Governments can influence strategic choices of opposition groups because their joint behaviors are interdependent. TEAM agents make decisions regarding a contentious issue with independent modes (loops) for bargaining and conflict (reference the dual loop figures). Evolutionary model dynamics can demonstrate a convergence in stated positions of an opposition group or state as well as a divergence in stated positions of an opposition.

TEAM models will be created within an extensible plug & play framework for SoSA to evaluate the coherence and validity of various indicators of enemy motive and intent; to guide information extraction/discovery and to derive comprehensive threat indicators. Motive and intent determinants will drive the SoSA dynamic adversarial risk assessment, since accurate predictions of the future actions are only possible when the opponent's motives are understood. **POC:** Schryver, Warren

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¹ The term "terrorist entity" is used in a neutral way to refer to any adversarial entity that is related to an act/individual/group etc., whether directly, such as a leader/follower of an adversarial group or indirectly (e.g., charities set as fund-raising operations, supporters, or other critical/influential factors and key indicators).