

Wargame

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Al and Wargames (Knack and Powell, 2023)

- Red Teaming in general (political/security/other simulations, table-tops -> identification of gaps in a strategy, SWOT analyses, policy analyses etc.).
 - Narrow (safe) usage: Repetitive tasks within sims and wargames (background info creation, automatic translation/transcription, textual data analysis, visuals etc.).
 - High-risk usage: Red team, game manager etc.
- Low cost/questionable reliability.
- Better on tactical/operational level than on the strategic one.

Wargame theory – introduction I (Appleget et. al, 2020)

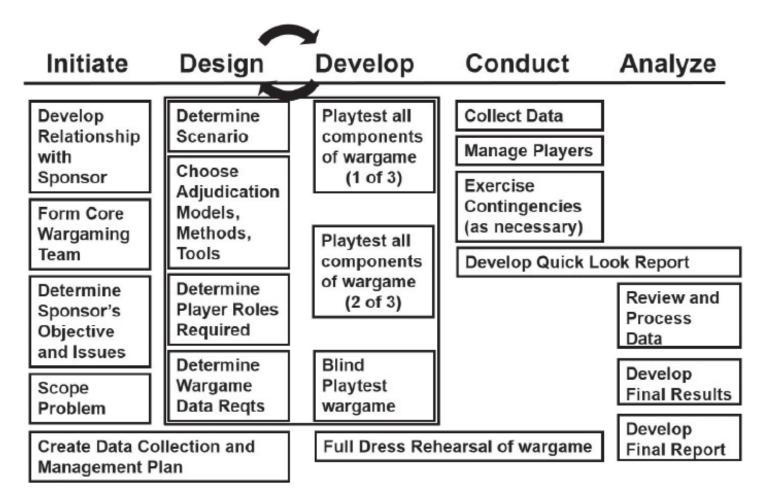
- Usually a sponsor sets goals and timeframe.
- Sole purpose of the analytic wargame is to collect analytic data to answer sponsor's (research) questions – data determine wargame's success → well tought-out data collection plan is needed!
- Roadmap = data collection and management plan (DCMP).
- Not just for combat/conflict scenarios, but for Analysis of alternatives (AoA) – e.g., M1A2 Abrams and its replacement options.
- + pedagogic, research tool.



Wargame theory – introduction II (Appleget et. al, 2020)

- Course of action wargaming.
- BOGGSAT = "bunch of guys and gals sitting around a table,...
- Vs.
- Seminar wargames designed around the DCMP (Decision-Centric Methodology Process) and have a structured approach.
- Quantitative/qualitative/hybrid models.
- Strong role of **probability** and chance (dice rolls) + conditioned probability (e.g., missile interception of Iron Dome AA system – informed by statistics).





Five Phases of Wargame Construction

Source: Appleget et al. (2020, p. 73).



Process:

- Choose the arena of the simulation
 wargame/strategic tabletop/policy analysis/COA etc.
 - Why? justification, purpose -> litreview
- Choose the specifics of the simulation framework – actors, setting, dividing into teams, roles etc.
- 3. Proceed while adhering to the literature.



Al and Wargame (Appleget et al., 2020)

- Will it be an analytic wargame? If so, how will we collect data? → Data Collection and Management Plan (DCMP).
- BOGGSAT vs. seminar wargame (designed around the DCMP)? Do not choose only because it is easy!
- Who will be the fascilitator?
- Establish a wargame plan every task that needs to be accomplished for preparation, execution, analysis, and reporting.
- Incorporate AI tools into the wargame adere to literature!

DCMP (Appleget et al., 2020, p. 104)

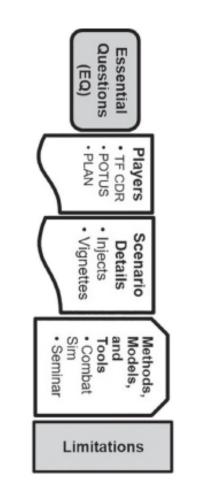
The questions that the team derived from the Sponsor's Issues.

The players that need to interact in order to answer the associated EQ.

Events or interactions that need to occur in the wargame so that the players can answer the associated EQ.

The MMTs that are needed to adjudicate player interactions that are necessary to answer the associated EQ.

The limitations the study team has WRT answering the associated EQ.



The assumptions that must be made to accommodate a limitation or to better define the measurement space for an associated EQ.

Information (data) required for the wargame that is requested from an external source.

The information (data) that must be collected BEFORE the wargame begins.

The information (data) that must be generated DURING the wargame to inform the players on the impact of their decisions.

The information (data) that we are seeking to answer this EQ! This information will be collected DURING the wargame.

Assumptions

Requests for Info

Player Info – In (Initiate Data)

Player Info – Feedback (Feedback Data)

Player Info – Out (Analysis Data)

Design (Appleget et al., 2020)

- Measurement space (if analytical) quantitative/qualitative?; conceptualisation and operationalisation; function of the scenario e.g., TTDs of MBTs).
- **Scenario** sets scene + narrative for players; must be plausible (we do not want players to "fight the scenario").
- Data initiate (data we need before the wargame begins), feedback data (needed to keep players playing injects, responses etc.), analysis data.
- Methods, models, and tools.
- Players.
- Assumptions all scenarios set in future need assumptions! → time setting needs to be decided as well (past, present, future).
- \rightarrow Practical exercise (p. 128).

References I

- Appleget, J. Burks, R. & Cameron, F. (2020). The Craft of Wargaming A Detailed Planning Guide for Defense Planners and Analysts. Annapolis: Naval Institute Press. ISBN 9781682473771
- Knack, A. & Powell, R. (2023). Artificial Intelligence in Wargaming An evidence-based assessment of AI applications. The Alan Turing Institute.



