Organizational Troop-to-Task (OT3) Wargames

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Organizational Troop-to-Task (OT3) Wargames

• Overview
• Wargame Design
• Wargame Execution
• Data Analysis
• Conclusions
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- **Overview**
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The case for organizational wargaming

• Difficult to know how an organization will work a priori
  ▪ Most “right-sizing” methodologies require data about time spent on activities
  ▪ Structure choices should be driven by processes and touchpoints (within and external to the organization)

• Most organizational analysis is heavily qualitative
  ▪ Appropriate, but could be bolstered by quantitative data

• Benefits are two-fold
  ▪ In-game learning and exploration
  ▪ Insights from analyzing data produced by the game
Why we do organizational analysis

Making changes to structure/process
- Increase efficiency
- Improve effectiveness
- New environment, mission, responsibilities

Implementing a new organization
- What it should do
- Where it should live
- Required resources and authorities
- Appropriate structure
Gaming creates a synthetic environment

• Synthetic environments let us study things that do not currently exist...
• ... Or things that do exist in ways that aren’t allowed by the laws of physics
  ▪ Speed up/Pause/Rewind time
  ▪ Bridge geography
  ▪ Surpass technical impediments
• Most feasible, least intrusive way to get workplace data!
• Unburdened by today’s baggage
• **Theoretical not actual**
OT3 gaming has produced findings such as:

- Pareto distribution of work across billets
- Stove-piping of work with staff sections
- Suggested subject and participants of standing OPTs
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OT3 is a resource management wargame

• People are the limited resources
• Worker-placement game with scenario-driven events
• Requirements:
  ▪ Organization structure
  ▪ Reasonable scenario narrative
Requirement: Organizational Structure

• Wire diagram of people
• What are the resources that will be used?
• How many tasks can each person execute?
Requirement: Players

- Players as division heads
- Need working knowledge of personnel expectations in their shops
Requirement: Mission, Function, and Tasks

• Why does the organization exist?
• What is it there to do?
• How does it do it?
Requirement: Scenario

• Complete narrative of events that might impact the organization
• “80%” stress level
• Timeframe/turn length should be scaled to the organization’s activity speed

Snakebite Fatality

U.S. service member dies after being bitten by venomous snake.
Tasking:
• Conduct personnel recovery (PR) mission
• Conduct investigation and additional training / SOP updates

No Significant Changes
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Three “flavors” of work

- Dynamic tasking
- Consistent tasking (e.g., battle rhythm)
- Sustained (e.g., IT support, security)
Wargame Execution: Sustained tasking

- Sustained tasking identified in wargame setting as "steady-state"/"basal metabolic rate" employment
- Little fidelity regarding appropriate numbers

Intent is to eventually analyze these by comparing support billet : organization size ratios for like organizations
Wargame Execution: Consistent tasking

- Steady drum-beat of anticipated tasks
- Battle rhythm or TEEP, for example

- Regular events identified
- Personnel aligned to events
- Personnel time “rolled up” to approximate time spent on consistent tasking
Wargame execution: Dynamic tasking

- Remaining personnel capacity can be employed for dynamic tasking
- Represents work that is aligned with responsibilities
- But exact content, volume, and timing cannot be anticipated

Dynamic tasking

Consistent tasking (e.g., battle rhythm)

Sustained (e.g., IT support, security)

This is the sweet spot for OT3 wargaming
Wargame Execution

Scenario Events ➔ MF&T ➔ Commander’s Intent ➔ Execution Plans ➔ Personnel Tasking
Wargame Execution: Dynamic Tasking

Players determine task requires staff at level of effort.

- **Snakebite Fatality**
  - U.S. service member dies after being bitten by venomous snake.
  - **Tasking:**
    - Conduct personnel recovery (PR) mission
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**Events**

**Turns**

- **N50**
  - **CTR**
    - CTR
    - RESOURCE MANAGEMENT ANALYST
    - **Origin:** Current and Future Strategy
    - **Origin:** 84

- **N502**
  - **CTR**
    - CIV
    - **Origin:** Current and Future Strategy
    - **Origin:** 21

- **N502**
  - **CIV**
    - **Origin:** Current and Future Strategy
    - **Origin:** 23
Wargame Execution: Dynamic Tasking

- Dynamic tasking is heavily dependent on the intensity of the scenario
- Care must be taken in the development and analysis to understand the impact of the scenario on the availability of personnel
Wargame Execution: Data Collection

Scenario Events

Data

Commander’s Intent

Execution Plans

Data

Personnel Tasking

Data
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### Analytic insights from OT3 wargaming

Note-taking and recording billet allocations yield a wealth of data on how the organization might act.

<table>
<thead>
<tr>
<th>From qualitative data</th>
<th>From quantitative data</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Need for additional/ different capabilities</td>
<td>• Utilized capacity</td>
</tr>
<tr>
<td>• Points of tension or disagreement</td>
<td>• Alignment of tasking “communities”</td>
</tr>
<tr>
<td>• Boundaries of roles and responsibilities</td>
<td>• Key/core personnel</td>
</tr>
<tr>
<td></td>
<td>• Touchpoints with external organizations</td>
</tr>
</tbody>
</table>

Note-taking and recording billet allocations yield a wealth of data on how the organization might act.
### Post-hoc analytic insights inform multiple levels of design

<table>
<thead>
<tr>
<th>Org’l design element</th>
<th>RFA characterization</th>
<th>Alignment of tasking</th>
<th>Coding for themes</th>
<th>Billet-level employment</th>
<th>Social network analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>MFT document</td>
<td></td>
<td>Changes based on discrepancies between wargame and MFT</td>
<td>Debates or confusion over responsibility</td>
<td></td>
<td>Community-related tasking and directorate overlap</td>
</tr>
<tr>
<td>Battle rhythm/SOP</td>
<td></td>
<td>Indications of important coordination meetings</td>
<td>Areas requiring further development (e.g., PPRs, SOPs)</td>
<td></td>
<td>Heterogeneous communities suggest B2C2WGs</td>
</tr>
<tr>
<td>Structure</td>
<td></td>
<td>LNO alignment based on external coordination tasking</td>
<td></td>
<td></td>
<td>-Network alignment with directorate structure</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-Core personnel to centrally locate</td>
<td></td>
</tr>
<tr>
<td>Manning document</td>
<td>Additional billets to consider including</td>
<td></td>
<td>-Billets to consider eliminating or switching to reach-back/augmentation</td>
<td>-Core personnel to ensure on document</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Tweaks to staff right-sizing</td>
<td>-Informed placement of unplaced personnel</td>
<td></td>
</tr>
</tbody>
</table>
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Challenges

• Detaching the players from present day MF&T, staffing
• Player understanding of future MF&T
• “Event Tails” – what work needs to be done once the work is over?
• Scenarios that accurately capture a possible future
Conclusions

Campaign Modeling → OPLANs

Wargaming → Operations

OT3 Games → Organization Design

Thank you! Questions?