The purposes of operations planning: an analytical framework

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Aim and rationale

Aim to offer insights into the functions and purposes of military planning – as part of a proposed analytical framework

Rationale is to provide a better foundation for identifying areas for planning capability improvement

Intent of presentation is to generate dialogue:
- What is (the essence of) planning?
- Why does planning take place?

Original research

Builds upon MOD Command, Inform and Battlespace Management (CIBM) research:
- Task 8, Planning & Decision Support
- Task 10, C2 Agility
**Descriptive research into military planning**

Typical problem: “How can we improve military planning capability?”

Descriptive research seeks to understand planning *as it is actually conducted*

Planning as a complex socio-technical endeavour

Research requires multiple ‘ways of seeing’

Aided by lenses, e.g.:

<table>
<thead>
<tr>
<th>Lens</th>
<th>Key Question</th>
<th>Aspects illuminated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-structural</td>
<td>How are planners organised?</td>
<td>How the work of planning is structured within a HQ and between actors; also the planning of deployed organisations (e.g. <em>roles, branches, groups</em>).</td>
</tr>
<tr>
<td>Computational</td>
<td>What problems do planners solve?</td>
<td>An abstract model of the 'planning problem' and of the computations necessary to 'solve' it.</td>
</tr>
</tbody>
</table>
Planning patterns

- Well-defined, repeatable and observable elements of planning practice, e.g. activity, role/structure, product
- Resolve tensions between conflicting requirements and/or constraints
- Describe *forms* of planning and thereby address “how is planning done?”
- Based on Christopher Alexander’s concept of patterns in architecture

**Example planning pattern**

**Liaison Officer**

**TENSIONS**
- Need for deconflicted, co-ordinated or collaborative action between components
- Different C2 and planning cycles
- Different military cultures
- Other (competing) requirements for use of assets
- (Asymmetric) time-pressure

**PATTERN**
- Parent Commander’s decision-making representative in host HQ
- Acute awareness of differences and opportunities, ‘culturally sensitive’
- *Provides the ‘elastic’ between components*
Logic of design vs. original analytical framework

Purpose (why) → Function (what) → Form (how)

**Logic of design**
(Brehmer, 2006)

**Original analytical framework**

- **PATTERNS, TENSIONS, LENSES**
- Original research approach
Towards functions and purposes: C2 agility

“C2 agility is
the contribution of command and control
to the ability of military forces
to respond effectively to planned and unanticipated changes
in either circumstances or operating conditions.”

CIBM Task 10 Final Report
Towards functions and purposes: applying C2 agility research

Clearly, planning plays a role in enacting C2 agility

C2 agility research provides a source of ‘insights into functions of planning’ – defined as facets of planning

Remainder of presentation:

• Defines the focus – operations planning
• Introduces facets (with support from observations)
• Maps facets to super-tensions – universal problems that planning must contend with
• Reasons about associated purposes of planning
Focus: operations planning

1. Pertains to a specific operation or mission

2. Concerned with both:
   a. Meeting the commander’s intent
   b. Adaptation in the face of changing circumstances

3. Seeks to design:
   a. Actions that must be performed in the environment
   b. The C2 organization (e.g. one or more Headquarters) that is competent to direct and control these actions in a coherent manner
   c. Necessary relationships with all assets and resources to be employed

4. Conducted by military commanders and staff, in conjunction with non-military partners

5. Conducted both prior to and during operations.
Facets of planning

Provisional and deferred commitments
Fixing actions, C2 organization and assets
Computation and performance
Command, leadership and governance
Understanding, planning and action
Harnessing expertise
Collaboration
Treatment of uncertainty
Provisional and deferred commitments

Planning viewed as a phased process of ‘commitment to action’

Plans include three types of elements:

- **Definitive**
  - Articulated in full

- **Provisional**
  - Articulated in full, expected to be changed later

- **Deferred**
  - Not fully articulated

Outputs from any planning phase may be:

- **Provisional**
  - In outline, details deferred

- **Definitive in outline but details deferred**

- **Definitive in outline, details provisional**

- **Detailed and definitive**

Agility enabled by ‘late commitment’, exploiting fact that some things can be adjusted rapidly

Phased commitments made in context of planning cycles and organizational levels:

- Planning cycles inherit (consequences of) plans from previous cycles
- Planning at one level conducted according to objectives and within constraints set by higher level
Computation and performance

Planning viewed as ‘plan construction’

- “what are the planning steps?” and
- “what is done to the plan?”

The objective, the situation and any constraints must be represented in a form that permits computation

Implicit assumptions:

- Understanding the situation must precede detailed planning
- The planning problem is complicated but not complex

Example – Three Column Format
Command, leadership and governance

Planning viewed as ‘development and adherence to a framework of command decision-making’

- ‘Allocation of decision rights’ – authority and responsibility
- Exercise of command and leadership
- Greater focus on planning the C2 organization rather than actions in the environment

Example – Command Arrangements

Example – Inter-Component Co-ordination & Liaison
Understanding, planning and action

Planning viewed as ‘enabling learning’

Developing understanding is an important aspect of planning rather than merely a side-effect

Complexity as a driver

- Understanding the situation cannot wholly precede action – nor planning
- Understanding the situation, the complex of actors and the response

“In preparing for battle I have always found that plans are useless, but planning is indispensable.”
Dwight D. Eisenhower

Different types of action:

- To effect desired outcomes
- Collecting information (passive)
- Probing or “shaking the tree” (active)

Suggests that planning must establish a framework for learning that goes beyond the assessment of achievement of desired outcomes
Super-tensions

More efficient planning processes, allowing acting to begin earlier

- Efficient planning processes
- Thorough planning processes, addressing more factors, risks etc.

A greater focus on acute, ‘faster-better-cheaper’ goals

- Acute goals
- Chronic goals
- A greater focus on enduring properties, e.g. robustness

Optimising the fit of C2 organizations for specific scenarios

- Optimal adaptation
- Resilient adaptation
- Ensuring the resilience of C2 organizations in the face of unpredictable demands

That situational appreciations are unified

- Unified appreciation
- Comprehensive appreciation
- That the set of appreciations is (collectively) comprehensive

Co-ordinating activities to achieve greater goals with given resources

- Central control
- Local control
- The ability to adapt plans opportunistically to local conditions

CIBM Task 8 Final Report, based on Hoffman & Woods
# Mapping facets to super-tensions

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Purposes of planning

1. To describe actions to be taken in the environment – the ‘moving parts’ of the operation or mission
2. To determine the ‘soundness’ of the plan of actions to be taken
3. To identify gaps in understanding which inhibit planning or which imply risks to soundness
4. To plan activities in support of learning (including further information collection actions)
5. To (re-)evaluate intent (with both computational and social dimensions)
6. To identify the assets, resources and services that are needed
7. To ensure the possession / allocation of assets and resources
8. To ensure that the use of assets, resources and services satisfies political and organizational requirements
9. To define the C2 organization
10. To determine the ‘soundness’ of the planned C2 organization
11. To understand the situation through an appreciation of possible / intended action
12. To understand the situation through recognition, relating it to previous experience
13. To enable the C2 organization to carry out the planned operation or mission
14. To justify changes in policy, objectives, constraints and allocation
15. To effect command and leadership (e.g. by communicating intent)
16. To fulfil requirements for due process
Logic of design vs. proposed analytical framework

**Logic of design** (Brehmer, 2006)

- **Purpose (why)**
  - **PURPOSES**

- **Function (what)**
  - **FACETS & SUPER-TENSIONS**

- **Form (how)**
  - **PATTERNS, TENSIONS, LENSES**

**Proposed analytical framework**

- **Purpose (why)**
  - **PURPOSES**

- **Function (what)**
  - **LIBRARY OF PURPOSES, FACETS & PATTERNS**
    - **Apply patterns in practice**
    - **Observe relevant practice**

- **Form (how)**
  - **LENSES**
    - **Identify patterns & tensions**
    - **Identify configurations of facets & super-tensions**
    - **Infer configurations of facets & super-tensions**
    - **Adjust / develop patterns**

**Proposed research approach**

- **Characterize planning circumstances & determine priority of purposes**
- **Seek adapted configurations of facets**
- **Identify unresolved super-tensions**
Questions?

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