Crashing the Stop Lights- Operations Assessment in a Changing Global Security Environment

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ABSTRACT

Operations Assessment (OpsA) is a significant function established in NATO, rooted in the traditions of Operations Research and Analysis (OR&A). However, OpsA is facing a number of challenges. Not least the changing global security environment and a range of recent critiques that existing OpsA methods simply don't work. The paper briefly describes the problems of actually doing OpsA in the real world and the ubiquitous PowerPoint "stop light" briefings, in the light of the major critiques highlighted in the literature over the past decade. The paper then considers the changing global security environment and what – if anything – has really changed. The paper concludes by outlining how a more behavioural OpsA approach, building on some core OR&A features, might answer the critiques made and challenges faced.

1.0 BACKGROUND

NATO Operations Assessment (OpsA) is a staff function intended to formally gauge progress towards assigned mission goals. According to NATO's Comprehensive Operations Planning Directive (NATO, 2013) OpsA informs decision making (DM) by measuring success in (and risks to) achieving operational and military strategic objectives, establishing Decisive Conditions, and effectiveness of actions in creating desired operational effects. NATO OpsA draws on an underlying systems framework to the extent that the desired Endstate, Objectives, Decisive Conditions and effects should be identified during the planning process. Nevertheless the principles of OpsA mean it should be "method agnostic," and therefore possible to assess progress towards mission goals whatever planning approach is taken, and whatever the type of intervention. The key to such assessment is a reliance on a basis of evidence. However, evidence alone is likely to be insufficient if the analysis or results cannot be communicated to the relevant decision maker.

However logical, even self-evident, these principles may sound, implementing effective OpsA has proven challenging. Common criticisms are that Commanders only want to hear positive assessments, that OpsA results are thus used selectively (cherry-picked) or ignored, and that therefore OpsA never really influences plan or policy changes. An additional concern is that OpsA appears to privilege the quantitative over the qualitative, attempting to distil complex issues into simple red/amber/green categorisations and thus the ubiquitous stop light charts. This leads to a form of feedback characterised as "output adjusting."[1] A lack of input adjustment means the overall process does not adapt to the needs of the DM, thus risking becoming irrelevant. (Figure 1)

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[1] Käki, et al (2019) *What to Do When Decision-Makers Deviate from Model Recommendations? Empirical Evidence from Hydropower Industry* EJOR Vol 278
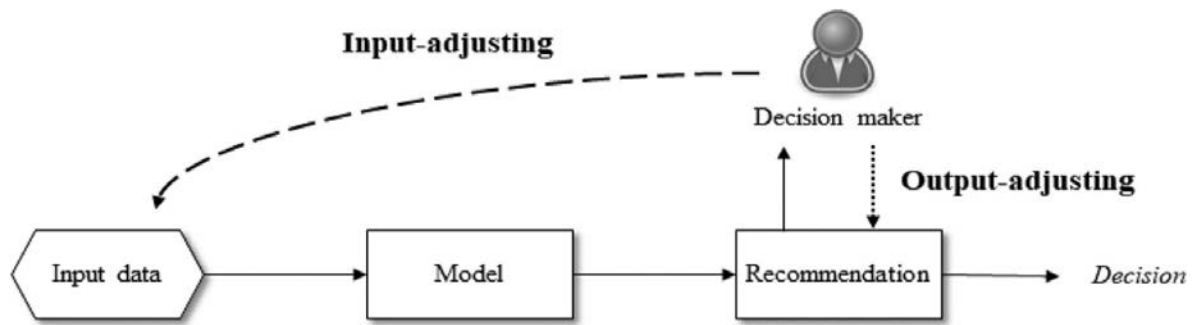
Figure 1: Output and Input Adjusting Feedback, (Source Kaki, 2019)

1.1   Global Security Environment- what's changed?

NATO's understanding of the security environment in the Euro-Atlantic area was transformed by the illegal Russian annexation of Crimea in 2014, bringing a new focus on Alliance defence and deterrence posture, while terrorism increasingly threatens the Alliance in diverse ways. NATO is still engaged in projecting stability more broadly, through its networks and partnerships and through security force assistance missions in Afghanistan and Iraq. In addition, both state and non-state threats have evolved due to the new dynamics of mass communication and influence, which are enabled by hyper-connected global networks which also underpin international trade and finance. Hence, previously discrete domains have become volatile to shocks of many kinds. Traditional boundaries between combatants and civilians, between criminals, terrorists and convential state actors, and even between peace and conflict, have all become blurred. The world is increasingly populous and crises more likely in urbanised, especially the cluttered, contested littoral.

Given these changes in the form of conflict, it is reasonable to question – as indeed this conference does overall – what needs to change in how we analyse the global security environment and conflict within it. However, in the rush to seek the new and novel, it is worth briefly considering what has **not** changed. Many eminent scholars persuasively suggests that much of a Clausewitzian view of conflict still remains relevant.[2] Firstly, Cluzewitzian's claim, conflict remains political at its heart, and globalisation merely exacerbates this. Similarly, for the moment at least, even if the means by which conflict takes place have changed, at its heart remains the *Zweikampf*- the dynamic struggle between adversaries, each of whom has to adapt to and counter the actions of the other. Success in conflict either comes from exhausting the resources of the adversary, or by identifying and attacking critical vulnerabilities. Finally, it seems that Clausewitzian friction - that invisible force which slows and constrains even the simplest manoeuvre - remains a constant, particularly in Alliance interventions, despite the hopeful claims of successive eras that some new technology (whether radio, radar, CIS systems, satellites or even "big data") will obviate it.

1.2   OPSA CRITIQUE- WHAT'S WRONG?

With this in mind, it is also worth briefly examining the critique of OpsA in the literature of the last decade. Downes-Martin,[3] Schroden,[4] Zvijac,[5] and Shilling[6] have all written on the challenge of OpsA, mainly drawing on experiences in Afghanistan, Iraq and other expeditionary, limited wars. However, their conclusions differ.

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[2] Strachan & Herberg-Rothe, Andreas. (2007). Clausewitz in the Twenty-First Century. OUP

[3] Downes-Martin (2011) *Operations Assessment in Afghanistan Is Broken—What Is to Be Done?* US Naval War College Review: Vol. 64, No. 4

[4] Schroden (2011) *Why Operations Assessments Fail: It's Not Just the Metrics.* US Naval War College Review Vol. 64, No 4
Mushen and Schroden (2014) *Are we winning? A Brief History of Ops Assessment* CNA

[5] Zvijac (2012), *An Alternative Approach for Operational Assessment* CNA

[6] Shilling (2018) *Using Questions to Frame Assessment Problems and to Connect Outcomes to Indicators for Effective Operations* (MORS Special Session)

Downes-Martin argues that OpsA has faltered because of a lack of rigorous logic linking metrics with endstates, and a lack of coherence between the tactical through to the strategic. Schroden et al takes a longer historical view, highlighting the fact that OpsA since Vietnam has oscillated between quantitative and qualitative approaches, while reflecting trends and techniques from civilian management science, and struggles to service diverse audiences. Zvijac argues that the complexity of the crisis means that assessing the plan is likely to be less informative than assessing the crisis system overall. Shilling recommends replacing the reductionist hierarchy of effects and subordinate Measures of Effectiveness (MOEs) with a more flexible set of questions to be answered to inform the progress assessment.

A common feature of these critiques is that the briefings OpsA staff give and their assessment products, often including a battery of stop light charts, thermographs and other "dashboards," are largely irrelevant or misleading. From a personal perspective, little of the critique appears unique to the contemporary global security environment. From a NATO perspective, what is striking is that none of this work has - as yet - provoked significant change in the NATO OpsA process. This is undoubtedly in part due to the close linkage between OpsA and the NATO Operations Planning Process which adds further inertia to any change initiatives.

1.3   WHat's changed ELSEWHERE?

Other analytical disciplines, faced by similar critique, have in the last decade experienced more profound adaptation. The most obvious example is the popularisation of "Behavioural" Economics, particularly since the perceived failure of conventional economic analysis to identify or handle the 2008 global financial crisis. Similar "behavioural" adaptation has taken place across other areas of public policy, even into engineering and design disciplines with the growth in "User Centred Design" or "design thinking." Operations Research, mainly outside the defence sector, has also seen interest in more behavioural approaches.[7] Concurrently however, the wider relevance of expertise and analysis is increasingly questioned in public debate, leading to decreased trust in institutions and a blurring or deliberate conflation between facts and opinion, what the Rand organisation have termed "Truth Decay." [8]

Behavioural analysis approaches share a motivation to bring greater focus on the human at the centre of the process.[9] Behavioural OR[10] therefore requires consideration of behaviour in its widest sense on decision making. Firstly, at the individual level, the need to reflect greater understanding of the limits on rationality typified by the impact of cognitive bias and issue-framing. Secondly, at system level, incorporating social, organisational and other influences on system performance. Thirdly the behaviour of analysts and OR practitioners, specifically the importance of advocacy and communication of analytical findings, and other often neglected craft skills. Whilst arguing strongly that decision *psychology* should thus be considered as equally important to decision *mechanics,* behavioural OR does not seek to discard core principles of rigour and evidence-based approach. Advocates claim that behavioural approaches have given greater insight and understanding into several classic OR problems such as the supply chain "bull whip" effect.

1.4   A Behavioural OPSA?

There is no direct evidence to suggest that developing a more behavioural OpsA (BOpsA?) would address the challenges highlighted above. However, given the traction obtained by behavioural approaches in economics,

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[7] Eg see Brocklesby, (2015). *The what, the why and the how of Behavioural Operations Research, an invitation to sceptics.* European Journal of Operational Research (EJOR) Vol. 232, Franco & Hamalainen (2015) *Behavioural operational research: returning to the roots of the OR profession.* EJOR Vol 249

[8] Kavanagh (2018) *Truth Decay: An Initial Exploration into the Diminishing Role of Facts and Evidence in US Public Life* (RAND)

[9] Gino (2007) *Towards a Theory of Behavioral Operations* (Harvard Business School)

[10] See Kunc et al. (eds.) 2016 *Behavioral Operational Research* University of Warwick (Palgrave), Käki, et al (2019) *What to Do When Decision-Makers Deviate from Model Recommendations? Empirical Evidence from Hydropower Industry* EJOR Vol 278

the media, and public policy, it is perhaps worth considering what a more Behavioural OpsA approach might look like, if only as a pointer to areas for further study.

1.4.1   Interdisciplinarity

Historically, interdisciplinarity is at the heart of OR, but it has perhaps become neglected (or taken for granted) in recent years. OR practitioners, as is the case for practitioners in other fields and disciplines, have become more specialists and narrowly focused in sub-domains.   Interdisciplinarity is an enabling capability for behavioural OpsA, reflecting the multi-faceted nature of most problems.   Interdisciplinarity is not new, and often advocated, yet it often fails.[11] Simply inviting a group of experts into the same room and waiting for the magic to happen rarely yields the desired benefit. Interdisciplinarity needs a development of trust and mutual respect between participants, coupled with a willingness to participate, to challenge and to learn. It also requires a common language or medium of discussion, which need not be elaborate. The author's personal experience supporting a 10-year SHAPE OpsA project suggests qualitative causal-loop diagrams, well established as an OR technique since the 1950s, can act as one such common medium of discussion, without the need for extensive tools or training.

1.4.2   Mixed Methods and Analyst Craft Skills

In part as a direct result of an interdisciplinary approach, a more behavioural OpsA will also require flexible integration of research and analytical methods from across the social sciences, such as focus groups or other attitudinal research. Recent focus on "big data" analytics within the OpsA discipline has brought with it a welcome spirit of innovation and openness to new analytic techniques, but also risks being seen as a panacea rather than one technique within a broader spectrum.[12]

Using mixed methods, just as for interdisciplinarity, brings its own challenges, such as how to plan, resource, conduct, and interpret mixed methods research. The impact will likely be on analyst craft skills, with greater focus on facilitation, collaboration and synthesis of research from multiple sources, rather than on any single analytical technique. The current privileging of quantitative approaches will thus become more balanced. This is not to say they should be abandoned, just that their utility in support of modeling and problem solving should not be conflated with some inherent superiority of numbers.

A second area of analyst craft skills to be strengthened in a behavioural OpsA approach would be facilitation of less formal methods such as Alternative Analysis and various types of "wargaming." This is not meant to advocate any specific wargame methodology, and certainly not a detailed facsimile or role play of the particular crisis or Course of Action (COA) in question, but simply to highlight the importance of an argumentative approach[13] in gaining insight and developing understanding.

1.4.3   Visualisation, Communication and Advocacy

Unsurprisingly given the title of this paper, this author believes that enhancing OpsA also requires greater attention to visualisation and communication of analytical findings- certainly beyond current "stop light" briefings. Again, the tools and techniques of other disciplines may offer pointers to potential enhancements, as well as the imaginative and innovative visualisations being developed among emerging data science communities.   A more behavioural OpsA approach will have to pay appropriate attention to the impact of problem framing and cognitive bias on interpretation of findings as presented. This will again bring focus on

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[11] Sandars (2008) *Operational Research: Interdisciplinary synthesis?* (Cranfield)

[12] NATO (2013) *Innovations in Operations Assessment (SACT)*

[13] Fisher & Forester, eds (2012) *The Argumentative Turn Revisited: Public Policy as Communicative* practice

the role of the analyst, no longer a simple transmitter of objective fact but a facilitator of debate and an advocate for one or more contingent futures, each with inherent uncertainty.

1.4.4 OpsA and Operational Design

Beyond the scope of this paper is a broader discussion on whether it is possible to develop a behavioural OpsA approach without a comparable development in NATO Operations Planning. After all, much of the critique of OpsA is linked to the mechanistic positivism of NATO operations planning. As yet, however, proponents of alternative approaches, such as Military Design thinking,[14] have not gathered a critical mass of support within NATO. It is interesting that, for example, even though a form of systems analysis and diagramming forms part of NATO Knowledge Development (the initial phase of formal operations planning), operations design is more usually visualised in a more linear, synchronisation matrix form.

1.5 CONCLUSION

Many OpsA shortcomings are identified in the literature, yet few concrete change proposals are on the table. The global security environment shows great change but many argue its fundamentals remain. Hence critique of OpsA as being ineffective in supporting or influencing DM is perhaps more profound than a failure to adapt to any new security paradigm. Current NATO OpsA remains focused on "decision mechanics" rather than "decision psychology," privileging the quantitative over broader mixed methods and is often exemplified by OpsA briefings packed with stop light charts which either confirm that the plan is on track, or are ignored.

In other analytical disciplines such as economics and public policy, more behavioural approaches have gained traction and there is some evidence that behaviourally focused OpsA might be a fruitful research area. Characteristics of a more behavioural OpsA would include an authentic commitment to interdisciplinarity, a greater focus on individual, social, system and organisational behaviours as they impact decision making, but without abandoning core principles of a rigorous, evidence-based approach. A more behavioural OpsA approach would also shift emphasis away from specific tools and processes, and reassert the role of the analyst as facilitator, advocate and communicator.

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[14] Jackson (2019) *A Brief History of Military Design Thinking* *(medium.com)*