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THE GENESIS OF A NEW STRUCTURE TO SUPPORT MILITARY PLANNING AT THE OPERATIONAL LEVEL

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Introduction.

The (UK) Defence Science and Technology Laboratory has an objective to conduct research on *Emerging Technologies for Defence.* There are three separate strands of activity: *Emerging Technologies*; *Innovative models, methods and tools*; and *Defence Efficiencies*. Within the strand for innovative models, methods and tools, Dstl commissioned a task through the Analysis Support Construct to examine how to support military planning at the operational level. Polaris Consulting (operating now as part of TPG Consultancy and Programme Services) teamed with Sandbox Services and Products (SSPL) to investigate how better data could lead to better understanding and hence to better decisions and better plans.

Why do we need to improve military planning, particularly at the operational level? Surely, the military have been doing this forever, and there is a plethora of writing describing what needs to be done?

Well, yes there is a lot of written doctrine but as noted by *The Report of the Iraq Inquiry* (aka *The Chilcott Report*) and demonstrated by Frank Ledwidge in his book *Losing Small Wars*, there is much that needs to be done better. Chilcott is scathing in his condemnation that the strategic failure of military operations in Iraq was 'the result of faulty and inadequate understanding of the operational context'. Frank Ledwidge demonstrates how the legitimacy of military operations in Iraq and Afghanistan was consistently undermined by inappropriate and faulty decisions based on inadequate understanding of the consequences.

Allied Joint Doctrine (AJP-01) provides the doctrinal capstone for joint operations and describes the strategic context for military operations. It lists key operational considerations[1]; these include factors at the heart of legitimacy of military action - 'consent', 'mutual respect and understanding', and 'transparency'. The criticisms from Chilcott and Ledwidge appear to focus on these key 'legitimacy' factors.

AJP 5-00 *Allied Joint Doctrine for Operational Planning with UK national elements* captures the British approach to military planning. A crucial insight is that doctrine informs 'what needs to be done' but offers no clear guidance or direction on 'how it should be done'. It can be argued that giving detailed step-by-step guidance would be too proscriptive and would stifle creativity and innovation. In any

[1] AJP-01 *Allied Joint Doctrine*, Edition.Version 1 dated February 2017, paragraph 1.35.

case, as Moltke The Elder[2] remarked, 'no battle plan survives contact with the enemy', so why bother? But failing to take account of the consequences of actions when planning, is tantamount to planning to fail!

The engagement of military forces on a definable, designated battlefield is very likely a thing of the past. Military operations of the modern era are, and will likely always be, conducted within a cluttered and congested landscape that includes adversaries, allies, civilians and neutrals in the same space and at the same time.

The challenge

The study team had a mantra – 'better data leads to better understanding, leading to better decision-making and better plans.' As the study progressed it quickly became apparent that the key element was not 'better' data (although the quantity and quality of the data available and used remain matters of significant concern); the crux of the matter was how the data is used, handled and processed to support perception, inclusivity and recognition of the consequences of decisions. This insight led to the challenge of how could it be done better, and the emergence of the proposed new method.

A joint military headquarters is divided into 9 staff branches: administration and personnel; intelligence; operations; logistics and health support; policy and plans; communications and IT; training and doctrine; resources and finance; and civil-military co-operation. It is a hierarchical structure, with senior officers being deferred to by more junior ones, and with 'responsibility' for representing the civilian environment centred on one advisor (who may not be a civilian). The organization for a joint military headquarters is often illustrated thus.

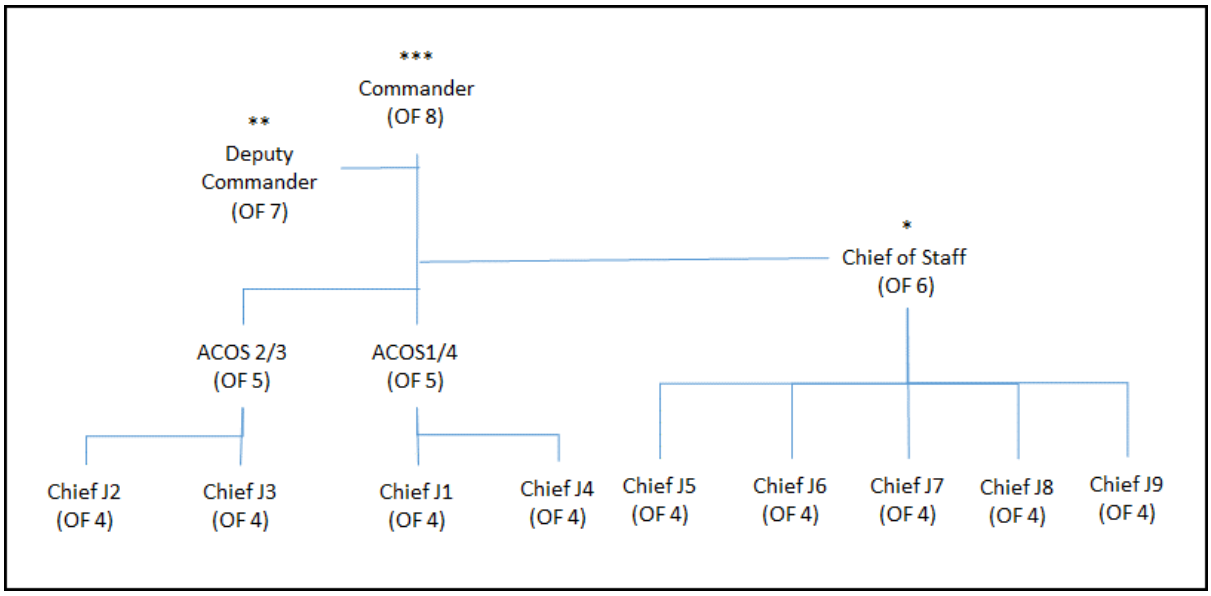

Figure 1: Joint force headquarters organization

In a hierarchical structure, the personality and behaviour of the leader is critical to the cohesion and inclusivity of the whole. Military personnel occupy most of the posts – there are very few civilians, none in the top five posts. The preponderance of military staff means that it is difficult to reflect broader societal and community issues. There is constant churn as individual staff officers are 'posted' (re-appointed) every two years or so. However, the organization is more responsive to tight and demanding timelines.

[2] Chief of the Prussian General Staff 1857-1871.

This churn in appointments leads to a lack of experience in the 'art' of operational planning at the level of individual officers. In his career, a Joint Force Commander may only have direct experience of contributing to or involvement in about four Operational Plans, most likely within a training/exercise context. This lack of experience (especially as training and exercise scenarios never, in practice, have the granularity to reflect the complexity of the real world) is poor preparation for senior appointments.

In an enduring situation, even the operational commander will be rotated frequently (early in Iraq and Afghanistan, it was every 6 months and later became every 12 months), and there is little encouragement to continue or 'to see to fruition' the plans of the predecessor. There was no continuity. So there is a tendency to re-invent the wheel and generate a new plan every time the Commander changes – there is an absence of cohesion and consistency of approach. Changing frequently also diminishes the ability to learn from experience and adjust and adapt in the light of the lessons learned – by the time the lesson has been identified, the formation and the plan will often have changed. Frequent change of personalities undermines the long-term engagement with the civil population and actors, and detracts from the development of mutual respect and trust.

The challenge for the operational commander (and the planning staff) is how to reflect (recognise and identify) and take account of (measure and evaluate) nebulous concepts and influences (often difficult to quantify adequately) such as legitimacy, consent, social and ethnic acceptance, religious observance, tolerance and the consequences on patterns of life and the domestic economy. We must be careful to recognise the local situation as it is and not merely through the eyes of British values and mores - life in Kabul is very different from that in Lower Beeding or Toxteth. All this within the context of staff churn and inexperience.

So what methods can help address the challenge?

Study proposition

The heart of our proposition is to investigate whether or not the approach to evidence gathering can be applied to the military planning structure. In concept, such a combined approach might be illustrated as shown at Figure 2. The objective is to create a structure that encourages sharing of data and mutual awareness across traditional stovepipes to generate more holistic decisions and plans.

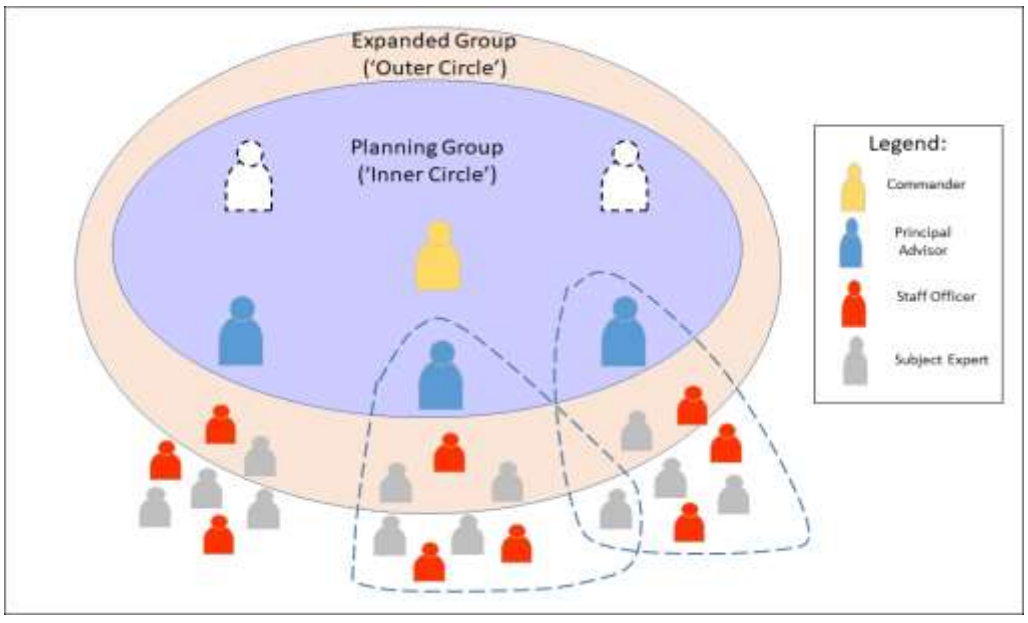

Figure 2: Concept for combined planning approach

In this scheme, the principal advisors remain the focus of consideration for their domain but each is informed and briefed by a team containing a broader spectrum of knowledge and experience, mixing military staff officers with civilian specialists and across areas of interest. We considered planning to occur iteratively in a succession of meetings, each of which we described as a Data Intelligence Planning Forum (DIPF).

Figure 3 below depicts the DIPF process, which is in three broad parts: RFI Formulation, Searches, and Information Representation. This study is mainly concerned with Stage 1 – RFI Formulation, the first iteration. The DIPF process is perceived to have utility at almost any phase of planning or crisis management but, in this instance, is assumed to be quite early in the process, very soon after the CDS Directive[3] has been issued.

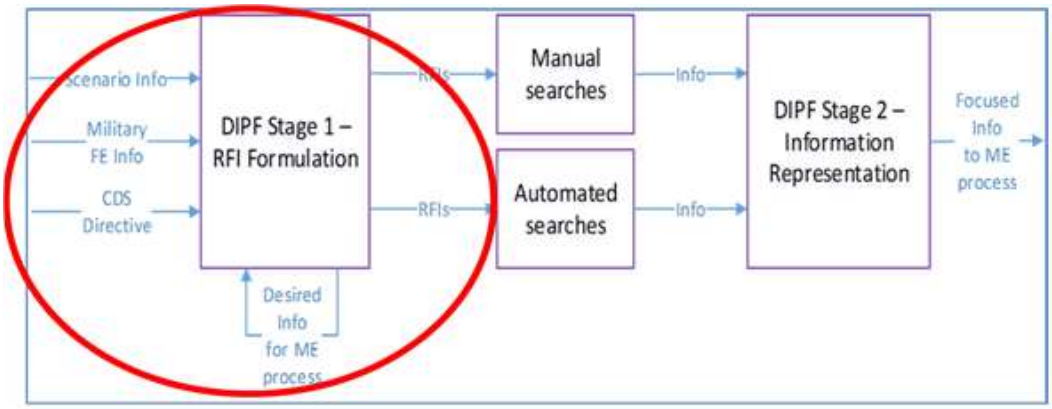

Figure 3: DIPF process, Stage 1 RFI formulation

At each iteration, the data retrieved will be assessed and used to support premises or hypotheses which will need to be tested, triggering the next iterative cycle.

DIPF Experiment

A core part of our study was to conduct an experiment, intended to demonstrate the potential utility of a novel mechanism. This experiment is linked to solid Joint doctrine but is certainly not seeking to be a complete solution to the JFC's planning process. The structured approach for RFI generation we proposed is iterative; as data is retrieved and evaluated in response to the RFI, it will be refined and developed, to provide broader, more comprehensive and inclusive understanding. This paper is concerned with the experimental DIPF workshop we conducted on 25th March 2019.

The three main doctrinal bases for this DIPF scoping-experiment were:

- JDP-04: *Understanding and Decision-Making.*
- AJP-5: *Allied Joint Doctrine for Operational Level Planning*.
- National Police Improvement Agency – *Practice Advice on Analysis – Inference Development*.

[3] The Directive issued by the Chief of the Defence Staff (CDS) is the legal authority for the deployment and employment of UK military forces.

Figure 4 below, extracted from AJP-5, provides the framework of key issues for the Op Estimate.

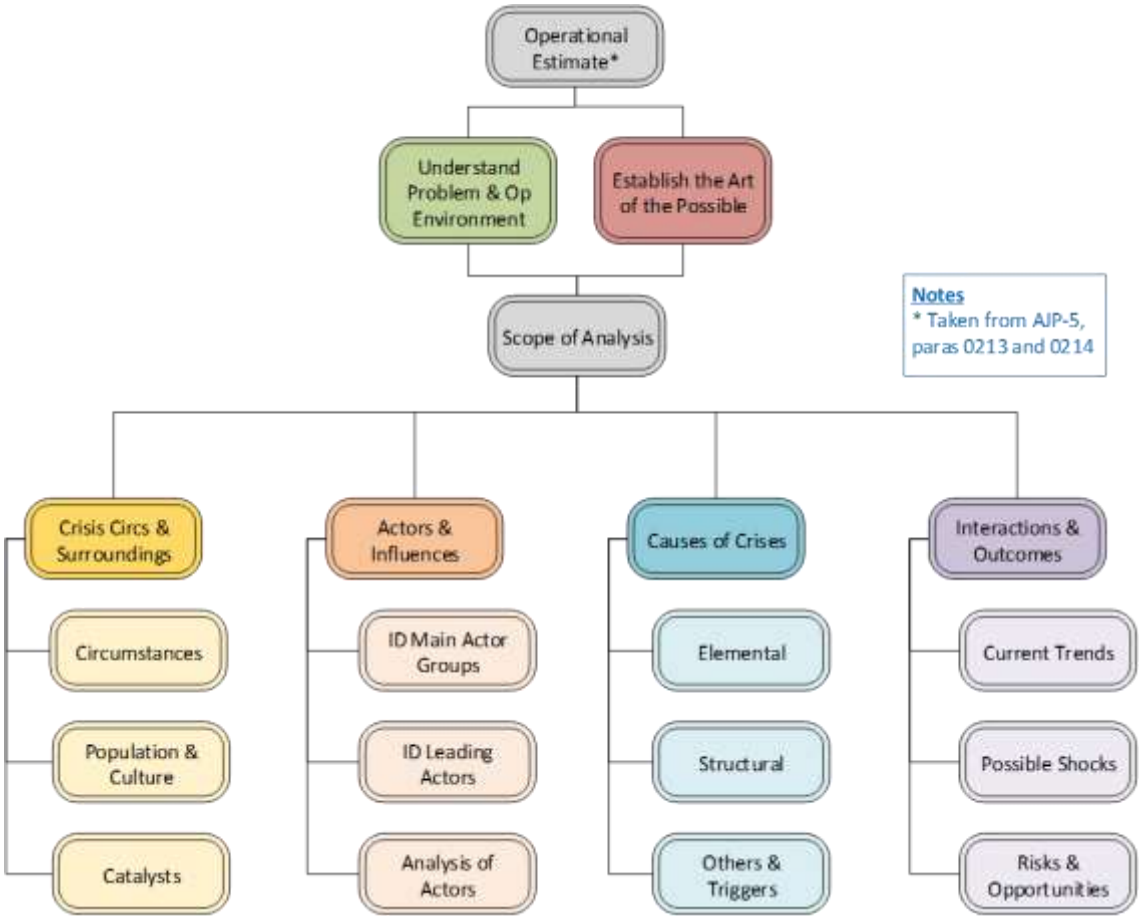

Figure 4: AJP-5 Operational Estimate Factors

Note that the Operational (Military) Estimate informs two aims, firstly to understand the problem and its context, and secondly to establish the 'Art of the Possible' in terms of military actions that may be taken in conjunction with the other 'actors' in the situation. We noted further that taking actions should lead to greater understanding and that this is hence iterative in nature. Essentially, the factors provide a structure through which to understand and consider the impacts of military actions.

Experiment Hypothesis

Our hypothesis was that structuring the generation of RFIs will lead to more complete and accurate information to assist JFC's understanding and construction of military planning.

DIPF Stage 1 – Inputs

With reference to Figure 3, the effectiveness of RFI Formulation is enhanced by a number of elements, typically: the breadth of background/scenario information; the stage of the operation – broadly, as the operation develops, more information tends to become available; the time available for decision-making or, in this case, RFI formulation; and, the expertise of the DIPF participants. Input information is depicted in three strands: operational scenario, military Force Element (FE) details and the CDS Directive. This being a scoping experiment, the input information was necessarily limited but was all included in a representative CDS Directive. An unstated or assumed input is current Operational Planning doctrine, here largely covered by Allied Joint Publication (AJP) 5. Other doctrine could be used, depending on the scope of the operation for the DIPF.

Figure 3 shows a small loop of 'Desired Information for the Military Estimate (ME) Process'. This denotes the iterative nature of the RFI process and, indeed, the DIPF process more generally. Ultimately, RFI generation acts in support of the ME for the JFC.

DIPF Stage 1 – Experiment vs. Adopted Form

The form in which the DIPF was facilitated during the experiment is different to that anticipated should the DIPF process be adopted for use in JFC planning. Specifically, two significant differences are anticipated. The first is that the serial 'staged' application of the various structuring mechanisms outlined below was used *so that we may assess the contribution of each mechanism separately*, through the experiment, in order to inform their place in a future revised DIPF process. A more simultaneous application of the mechanisms is envisaged for such a revised DIPF process. Secondly, we anticipate that future users of a DIPF process would be trained in its structures and their application, and have gained some familiarity. Hence the application of the individual mechanisms would feel more 'integrated'.

Experiment

In the first stage of the experiment, we briefed the following potential tactical actions that the military force may take to inform the 'Art of the Possible' aspects of Figure 4.

Typical Tactical Activities [Land links to CDS Directive]	Time Frames (est) for Actions			Stability Operations and Activities Focus			
	D 1-10	D 10-30	D 30+	Security & Deterrence	Counter-Irregular	Human Aid	Capacity Building
Air							
Border flights	✓	✓	✓	✓			
Cbt Air Patrols		✓	✓	✓			
Sea							
Off-shore presence		✓	✓	✓	✓		
ORCA Bay patrols		✓	✓	✓	✓		
Land							
Support/assist SDSF		✓	✓	✓	✓		✓
Deter OG incursion: joint patrols			✓	✓	✓		✓
Intelligence Liaison		✓	✓	✓	✓		✓
Build SDSF capacity: training and equipmt			✓	✓	✓		✓
Reassure ROS People:		✓	✓	✓		✓	✓
Prep Humanitarian Aid			✓			✓	

Figure 5: Tactical Activity Analysis

Subsequently, we briefed our proposal that the DIPF should use the method of Inference Development and Testing set out in a document entitled '*Practice Advice on Analysis, 2008*' (PAA) produced by the National Policing Improvement Agency (NPIA) on behalf of the Association of Chief Police Officers. The key ideas we used are shown in Figure 6 taken from the NPIA document.

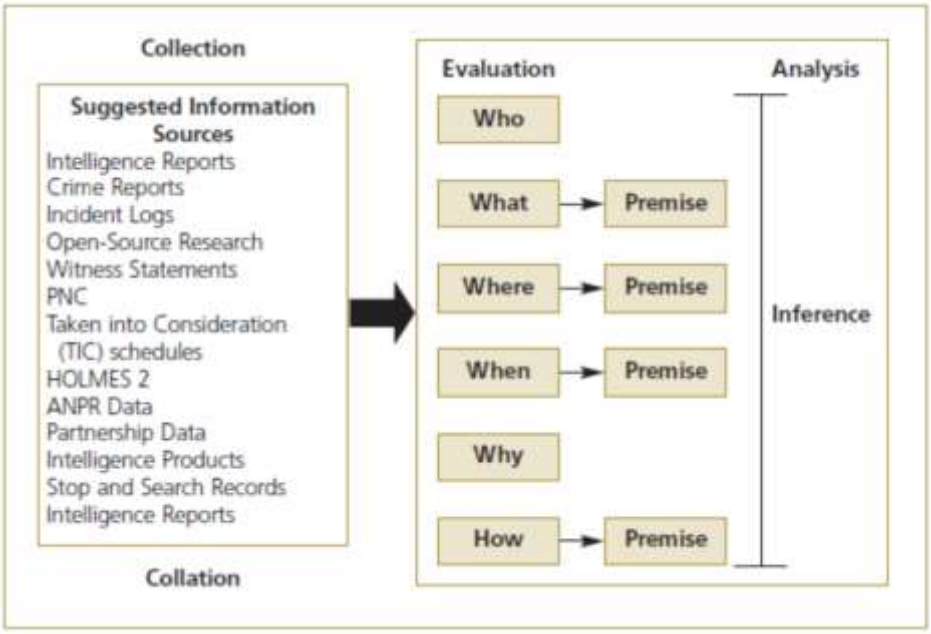

Figure 6: Inference Development Basis

Then we asked the participants to role play one of four domains of expertise: Military, Economic, Governance and Rule of Law. We proposed a set of structured mechanisms for them to consider the interactions between the various roles, in relation to the goals of 'understanding' and 'art of the possible' from AJP-5. The first mechanism was termed the 'Interactions Visualisation' and provided focus on the interactions between the domains considered. The second mechanism, termed the 'Appreciation Visualisation' used four Interaction Visualisations simultaneously to represent the different combinations of 'understanding' and 'art of possible' actions, and friendly / neutral actors and 'other' actors including adversaries.

We used a questionnaire after the role-play was completed to participants to self-assess their status as 'Suitably Qualified and Experienced Personnel' (SQEP) within their role. We also used the questionnaire to record their assessment of the value of each of the structured mechanisms they had applied.

The SQEP assessment criteria against we asked them to self-assess are shown in Table 1 below.

Table 1: Scoring of relevant qualifications and experience

Area	Relevant Quals Score	Justification
Quals	1	Less than Batchelors degree in relevant subject or unable to ascertain
	2	Batchelor degree in relevant subject
	3	Masters or PhD in relevant subject
Experience	1	Less than 2 years relevant experience or unable to ascertain
	2	2-5 years relevant experience
	3	5+ years relevant experience

Using this scoring scheme, Figure 7 depicts the relevant levels of qualifications and experience of each participant to represent their associated domain. The blue columns show the relevant qualification scores, and the orange columns show the experience.

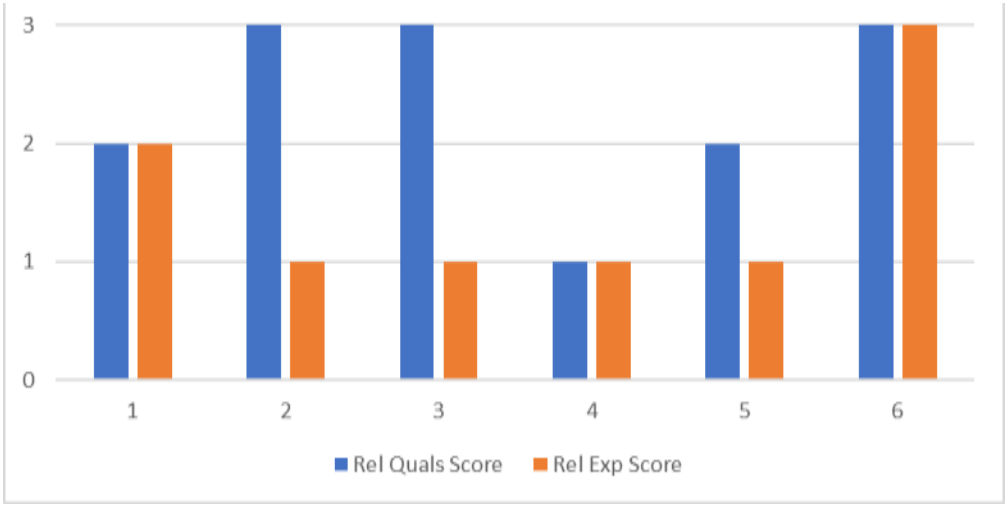

Figure 7: Relevant Qualifications & Experience Scores by Participant

As can be seen in the figure, one participant was both well qualified and well experienced to represent their domain (Rule of Law). Whilst two further participants were well qualified (Governance and Military), neither had significant experience in their domain. One further candidate had mid-level qualification and experience in their domain (Economy). The lack of experience relevant to the domain they were representing of four of the six participants was noted.

Results and Analysis

The results of the Questionnaire are presented below at Table 2. An analysis of the mean scores and the associated standard deviations (SD) is included for each of the structuring mechanisms used in the DIPF process.

Table 2: Questionnaire Statements

Response	Questionnaire Statement
Q1	How useful was the AJP-5 framework in your formulation of RFIs?
Q2	How useful was the Inferences framework in your formulation of RFIs?
Q3	How useful was the Interactions visualisation in your formulation of RFIs?
Q4	How useful was the Appreciation visualisation in your formulation of RFIs?
Q5	How useful was the Tactical Activity Analysis diagram in your formulation of RFIs?

The mean scores for each mechanism are shown in Figure 8, and the associated SDs are shown in Figure 9. The score range was 1 (low utility) to 10 (high utility) for each question. As may be seen, the score for Q3, the Interactions Visualisation structuring mechanism, was noticeably above average.

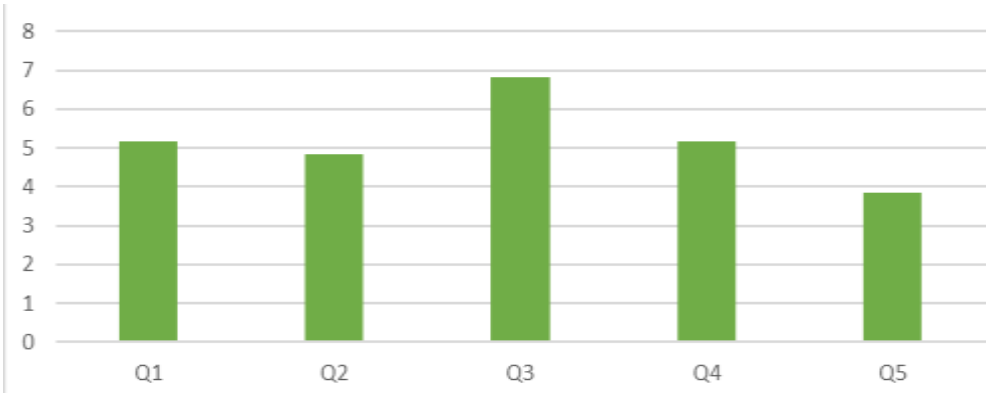

Figure 8: Questionnaire Mean Scores

The associated SD was noticeably lower than that of the other structuring mechanisms, so it may be concluded that the method was viewed positively by most of the participants. The mean scores for the other mechanisms showed a mid-level contribution, but higher SDs, showing that the utility of each to the participants was viewed as more mixed.

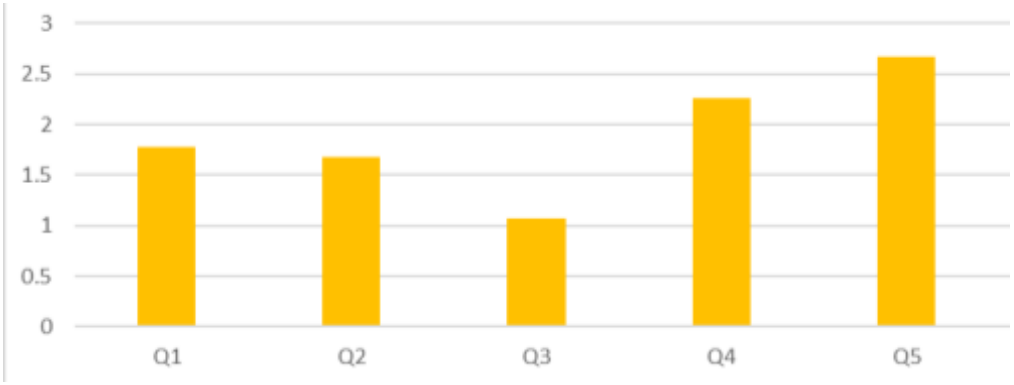

Figure 9: Questionnaire Standard Deviations

The DIPF was a scoping experiment, in a workshop setting, designed to work through and assess an innovative approach to the structured development of RFIs to support a JFC estimate for an expeditionary operation. The DIPF Stage 1 experiment met the aim of the workshop which was as follows: "The information identified and accessed through [the DIPF] will enhance the understanding of the emerging crisis, its key players and characteristics, strengthening the … military estimate … At each iteration, the process will review and refine the search criteria." Evidence gathered from the participants indicated that the experimental hypothesis was also met.

Considering the novelty of this approach, the overall results for the main DIPF Stage 1 exercise were encouraging. With some adjustments outlined by the SMEs, there was good evidence to suggest future utility of the structured DIPF approach. However, there was a feeling amongst the participants that there may be a lack of interest amongst the military planners to change their ways of working to adopt the structured approach. This will need to be tested by a senior analytical advocate to determine whether in practice, this would be the case.

To provide a context for the development of the approach, we developed a fictional situation – a crisis scenario that needs a military intervention to contribute to the delivery of the UK government's desired outcome. Why a fictitious event and not a real-world, historical event? A historical, real-world event has real data that can be interrogated, analysed and assessed but there are sensitivities associated with the use of identifiable actors and locations. Also, being historical, the natural starting

point is the plan that was generated and used rather than other, alternative options. The fictitious narrative provided sufficient context to allow generation of requests for information (RFIs) and, as the experiment evolved, showed how these RFIs were refined and refocused to be more reflective and inclusive.

Conclusions and recommendations

The structured approach proposed was shown by experiment with the small team of SMEs available to have good potential. We recommend further development with wider military participation and the testing of the acceptability of change in the operational planning process by a senior analytical advocate.

Other considerations

Making the operational commander responsible for the development of the operational plan, and then its execution, creates turmoil every time the commander changes. The transition between one formation and the next is especially difficult (the incoming formation has trained to deliver the new plan but must work alongside the departing formation working to the old plan until handover). One argument is that the operational staff have a better comprehension of the plan because they were involved intimately with its development and articulation. However, in our view, it would be better to develop the plan at a higher level (e.g. PJHQ) and leave the commander to digest then implement it, feeding back changes identified in practice and delivery.

Concentrating the planning activities in a permanent planning organisation, staffed by a mix of military personnel and civilian experts, allows continuity of approach and consistency which would mitigate many of the issues of inexperience and lack of coherence exacerbated through churn. A permanent planning organisation would encourage members to stay for extended periods (up to 10 years?), during which time they will be exposed to, and involved in, tens, twenties or more of operational planning cycles and learn the best, most accurate and reliable sources on which to base their calculations, building a wealth of knowledge and experience.

For further details

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