

understanding, the UK security and intelligence services have also used matrix games.”

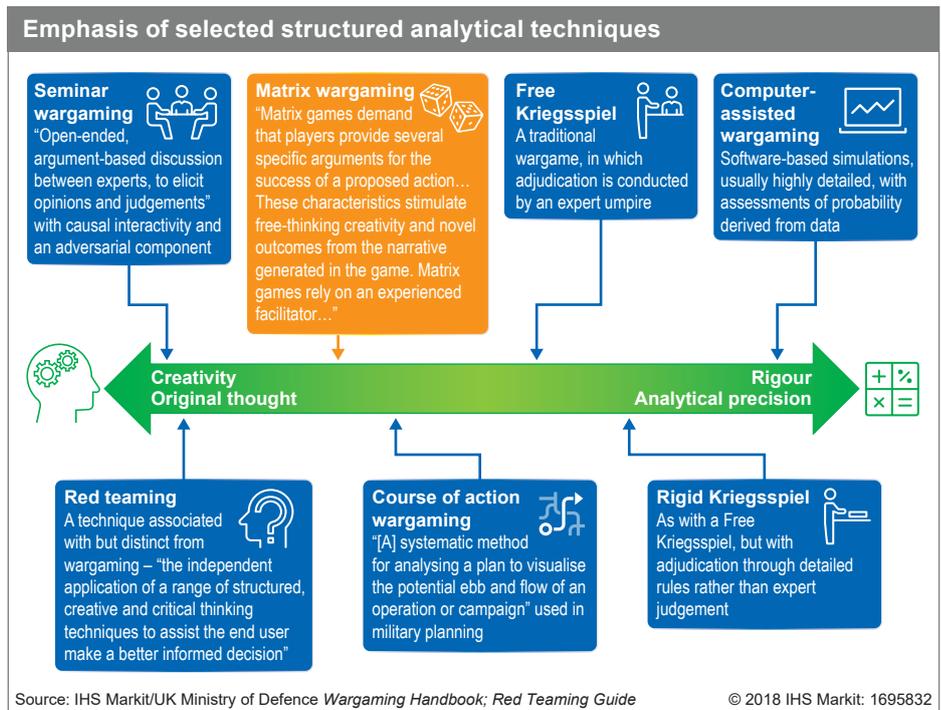
Advantages and limitations

One of the main advantages of matrix games is their simplicity. Brynen told *Jane’s* that matrix games “can be quick to design and run, and work well at crowd-sourcing ideas and analysis from game participants”. Such games can be easily repeated, making it possible to compare the results of multiple iterations of the same game.

The focus on effects in matrix games makes them useful for analysing scenarios that involve technical issues with players who may not be subject-matter experts, or where classification is a problem. Maj Mouat told *Jane’s*, “Because they concentrate on outcomes, rather than the details of techniques, [matrix games] can be a benefit in areas, like cyber, where constructive discussion is made very difficult because of the security classification of those techniques.”

In terms of limitations, Maj Mouat said that these games, and creative games generally, are “utterly unsuited for many other things, such as providing analytical data as to the thickness and angle of armour plate required to provide protection against roadside bombs”. Brynen agreed, noting, “Serious games should always be built around the analytical or educational needs being addressed.”

In addition, the low start-up costs behind a matrix game can be a drawback as well as an advantage. Maj Mouat told *Jane’s*, “They simply don’t look expensive ... a lot of military personnel are of the opinion that if it costs millions of pounds, it can’t be wrong”. Brynen concurred, saying, “Ironically, they may not look complex or expensive enough to impress some senior participants.”



Outlook

As with all analytical techniques, matrix games are only one tool in the analyst’s toolbox. Maj Mouat told *Jane’s* that matrix games “are best used in the early stages of looking at a problem because they are really fast to design and cheap to execute.” However, for some analytical questions they are unlikely to be the most appropriate analytical technique. Moreover, the pivotal role played by the facilitator requires organisations using matrix games to either develop that capability in-house, or to rely on external expertise.

Ensuring the engagement of senior stakeholders is a longstanding challenge for professional wargaming. However, Maj

Mouat told *Jane’s*, “One of the advantages of matrix games is that they use oral arguments to advance your position in the game – senior people are used to that, so there aren’t any complex rules or procedures to follow to get them started. Another advantage is that most matrix games reach a logical conclusion in three or four hours.”

Although such games are comparatively inexpensive and simple to run, they require more effort to organise than a seminar game or discussion involving subject-matter experts. The onus is therefore on proponents of the technique to show that matrix games produce better user experiences and output than easier methods. Maj Mouat was optimistic, saying, “DSTL is the principal MoD organisation for wargaming and they are even widening matrix game use to look at low-level tactical issues.” ■

This is an abridged version of an article first published online: 18/07/2018

Using nested wargames

The High North matrix game in May 2018 was part of a collaborative project between the UK MoD, Cranfield University, and University College London. This project aimed to develop a nested family of wargaming systems to examine an issue or threat from the strategic, through the operational, to the tactical level.

The matrix game provides the geopolitical element, generating a plausible narrative and high-level insights. These flow down to shape the operational-level wargame. Vignettes from that game are then selected for study at the tactical level.

Graham Longley-Brown, a military reserve officer and lead author of the UK MoD’s *Wargaming*

Handbook, told *Jane’s* in July, “The High North project was triggered by a presentation by the Development, Concepts and Doctrine Centre [DCDC] at [professional wargaming conference] Connections UK in 2017, but [was] inspired by a similar approach taken by the US Navy in the inter-war wargaming that helped win the war in the Pacific.”

Longley-Brown said, “One objective is to demonstrate that different types of wargaming can be used in a complementary manner, even – in fact, especially – those supported by manual and computer simulations. Another is to elicit observations, insights, and lessons identified pertaining to the Arctic.”

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