

Yakov Ben-Haim, What strategic planners need to know in the age of uncertainty, ICORES 2022, (11th International Conference on Operations Research and Enterprise Systems), 3–5 February 2022, Vienna, Austria.

**Abstract** Strategic planners need two distinct intellectual capabilities. First, extensive topical or disciplinary expertise, supported by a broad understanding of the world, is needed for dealing with complex subtleties of human affairs. Second, methodological expertise in decisions under uncertainty is needed for dealing with unique situations involving innovation, discovery, and surprise by friend or foe.

We employ info-gap decision theory, and the concept of robust-satisficing, in support of strategic planning. Examples from national security, economic forecasting, and project management are presented.

Three arguments support our claim.

First, this dichotomy of intellectual capabilities is based on the uniqueness of historical circumstance, which often induces unprecedented behavior. Each strategic planning situation has many unique attributes of culture, geography, technology, ideology, etc. E.g. Britain's counterinsurgency (COIN) strategy in Malaya was, in many respects, quite different from its COIN in Northern Ireland, and both were different from British COIN in Kenya, Brunei, Malaysia, Radfan (Yemen) and Dhofar (in Oman). While there are generic aspects of all conflicts, historical distinctiveness and innovation are also characteristic. This makes the identification of useful concrete rules of strategy difficult. Thus, strategists need both profound understanding of human affairs and societies, and expertise in managing surprise and uncertainty.

The second argument for expertise in managing uncertainty is based on Shackle-Popper indeterminism (SPI), which will be discussed. SPI provides a generic epistemic framework for understanding historical idiosyncrasy and the prevalence of non-probabilistic Knightian uncertainty.

The third argument is that consensus of analysts' assessments is demanded by decision makers, but pluralism of understanding is prevalent in complex uncertain environments. We propose nurturing plurality of assessment, and embedding those assessments in the analysis of robustness to uncertainty. Specifically, for any proposed policy, the analyst evaluates the robustness (of that policy) to uncertainty (plurality) of assessment. A more robust policy is preferred over a less robust policy. In order to do this, the analyst must have both topical expertise in the relevant disciplines, as well as decision-theoretic expertise in managing uncertainty.

**Keywords** Strategic planning, uncertainty, info-gaps, robustness, national security, economic forecasting, project management.