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Organizational persistence in the use of war gaming and scenario planning[☆]

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A B S T R A C T

Even though war gaming and scenario planning are widely used in business contexts, there is little evidence that either practice is associated with superior performance. Why, then, spend the costs? In this paper we address this puzzle and suggest why the extant empirical findings have so far proven limited. We consider the development of these practices and find that they have a substantially entangled and overlapping history, particularly at the RAND Corporation in the 1950s. Despite shared historical roots, the treatment of war gaming and scenario planning in the scholarly literature branched out into different streams. This separation is unfortunate because it obscures a better understanding of the premises under which these practices are effective. We propose an analysis of the overlaps and contrasts of war gaming and scenario planning that sets out clear boundary conditions for their use and efficacy. We find that each practice is tailored to provide strategic guidance in a context where the organization is facing different forms of uncertainty. This suggests they may be effective, and thus improve organizational performance, where the relevant uncertainties are operative. Such benefits would be apparent over longer time scales, and only if the relevant boundary conditions are met. However, to the best of our knowledge, no longitudinal empirical test of either war gaming or scenario planning is available. We therefore conclude that more research is needed to ascertain the true relationship between these popular practices and their performance outcomes.

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Introduction

War gaming, among the oldest tools aiding strategy formulation and planning, has been in use for almost 200 years and its younger intellectual cousin, scenario planning, has existed for over 50 years. Over time, the two have evolved into different literature and differentiated professional practices for organizations who wish to anticipate and understand possible futures.¹ However, despite the popularity of both war gaming and scenario planning as strategic management tools there is yet no clear evidence that either is associated with superior outcomes. This creates an obvious gap in research on these practices: Why do organizations persist in using war gaming and scenario planning when the evidence of their benefits is ambiguous?

In this paper we suggest why the extant empirical findings have so far proven limited. We observe that war gaming and scenario planning have developed into distinct literature streams, but this separation obscures a historical relationship that is intertwined and is worth understanding (Millett, 1988; Ginter and Rucks, 1984). While these developmental histories have been recounted separately (Bradfield et al., 2005; Van Creveld, 2013), in fact there is much to be gleaned about the theoretical basis for these practices by looking at them together, and this is our focus.

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¹ The popularity and differentiation of the scholarly literature on war gaming and scenario analysis is documented in the Appendix.

We examine the underlying theoretical linkages and shared intellectual DNA between war gaming and scenario planning by taking a detailed look at several important episodes in the history of scenarios and war gaming in order to carefully understand the intellectual genealogy of these techniques. Specifically, we look at the evolution of these ideas in the early German tradition of war gaming and subsequent developments in the U.S. at RAND Corporation during the middle years of the twentieth century. The latter was a ripe period of intellectual inquiry related to the challenges of predicting human and organizational behavior in uncertain and potentially catastrophic task environments. In the light of these challenges, and the perceived limitations of analytic approaches such as systems analysis and game theory, RAND scholars conceived of scenario planning and further developed war-gaming to address uncertainties relating to military and political conflicts during the Cold War.² For an overview of a timeline capturing some of the key events, see Fig. 1:

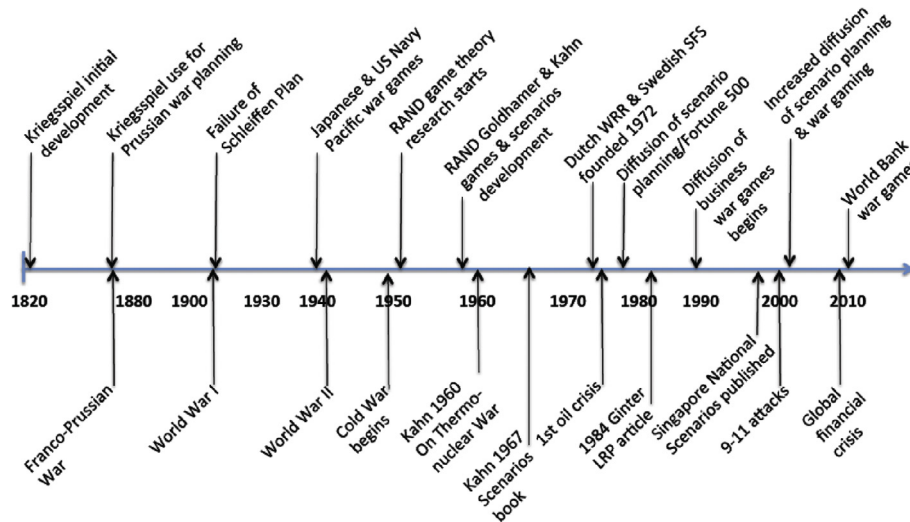


Fig. 1. Timeline of slices in the evolving history of war gaming and scenario planning.

The “slices” of the timeline in Fig. 1 represent important episodes in the intertwined history of scenarios and war gaming. The bulk of these slices – or fractions of history – that we focus on relate to early German war gaming and the amplifications at RAND. But why not include the use of war gaming in the Soviet Union, China, or France? To be clear, we do not aim to write an authoritative or comprehensive history of scenarios and war gaming; rather, in Section 2 we ground our thesis in selected episodes that are particularly important for the understanding of our proposed theoretical framework presented in Section 3.

It is no coincidence that the historical episodes we have selected represent ripe periods of intellectual inquiry related to addressing the very different challenges of endogenous uncertainty (relating to nuclear war) and exogenous uncertainty (relating to the changing power balance among nations). We find that war gaming and scenario planning are tailored to provide strategic guidance in contexts where the organization is facing these two very different forms of uncertainty. The first is exogenous uncertainty, which refers to uncertainty about the dimensions of the task environment beyond the firm’s influence. This form of uncertainty relates to strategy and policy contexts that exhibit turbulence, uncertainty, novelty, and ambiguity (Ramirez and Wilkinson, 2016). The second is endogenous uncertainty arising from the interaction with competitors and other stakeholders. Rather than being a feature of megatrends, macro issues, and other facets of the policy context outside the strategist’s influence, endogenous uncertainty originates in a setting where (own) strategic actions and (competitors’) responses jointly determine outcomes. This distinction between exogenous and endogenous uncertainty is redolent of the classification of environments in Emery and Trist (1965) and Ramirez and Wilkinson (2016), but different from the taxonomy offered by Alison et al. (2015) who considered uncertainty from a psychological point of view.³

Scenario planning is designed to grapple with exogenous uncertainty relating to possible contextual shifts in the organization’s task environment. In contrast, war gaming is designed to tackle endogenous uncertainty relating to an organization’s interactions with competitors and other stakeholders. Although both war gaming and scenario planning are loosely specified, leave considerable room for improvisations, and admit a broad range of variants (Huss and Honton, 1987), we argue that any evaluation of their potential benefits is contingent on correctly identifying the problem spaces in which each may

² Ginter and Rucks (1984) point out that: “The military has mad many significant contributions to management theory and practice.” (p. 124).

³ Alison et al. (2015) considered uncertainty from a psychological point of view where uncertainty was dichotomized as deriving from either the problem situation itself (referred to as endogenous sources) or the operating system that is dealing with the incident (referred to as exogenous sources).

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