The Game of Strategy: Exploring Theoretical Frameworks for Decision-Making

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Abstract

Strategic decision-making is a complex process influenced by cognitive biases, uncertainty, and adaptive learning—factors that are equally significant for effective leadership. This paper explores the theoretical foundations of game theory, wargaming, and cognitive psychology, their role in enhancing both decision-making and leadership capabilities across military, political, and civil domains. Beginning with Von Neumann and Morgenstern's (1944) formulation of game theory, the discussion examines key concepts such as Nash equilibrium (1950), zero-sum and nonzero-sum games, and their applications in strategic interactions where leadership judgment, foresight, and coordination are critical. The role of wargaming in military and organizational strategy is analyzed through historical case studies, including the Prussian Kriegsspiel, the Cuban Missile Crisis, and NATO crisis simulations, highlighting its effectiveness in refining not only tactical and operational planning but also leadership under pressure. Building on insights from cognitive and behavioral psychology, the paper incorporates perspectives from Hogarth's (1987) work on perceptual learning and judgmental decision-making. This paper links experiential learning (Kolb, 1984) with behavioral decision theory (Kahneman & Tversky, 1979), emphasizing how simulated and perceptual gaming mechanisms cultivate leaders' situational awareness, pattern recognition, and emotional regulation in volatile contexts. By bridging theoretical frameworks, this concept paper demonstrates how games, simulations, and perceptual learning environments can contribute to more adaptive leadership in high-stakes environments.

Keywords: Strategic decision-making; Leadership; Game theory; Wargaming; Perceptual gaming; Behavioral psychology.

1 Introduction

Games have long been used as tools for strategic thinking, leadership development, training, and decision-making. From ancient board games like *Go* and *Chess* to modern digital simulations and war games, gaming environments provide controlled yet complex spaces where individuals and organizations can experiment with strategies, anticipate opponents' moves, and assess potential outcomes without real-world consequences (Von Neumann & Morgenstern, 1944; Fine, 2002). The application of games in strategic decision-making and leadership training has gained significant attention in fields such as military strategy and policy analysis (Schelling, 1960; Abt, 1970). This paper explores the theoretical foundations of games, emphasizing their cognitive, behavioral, and perceptual impact on decision-making and leadership processes.

Game theory, pioneered by Von Neumann and Morgenstern (1944), laid the groundwork for understanding strategic interactions in both, competitive and cooperative environments. Subsequent developments, such as Nash equilibrium, extended these principles to predict rational decision-making outcomes (Nash, 1950). Beyond formal game theory, scholars in cognitive science and behavioral psychology have examined how games enhance problem-solving skills, risk assessment, adaptability, and emotional regulation under uncertainty (Kahneman & Tversky, 1979; Gigerenzer, 2008). Hogarth's (1987) research on *perceptual learning* and *judgmental decision-making* further explains how individuals acquire and refine intuitive competencies through feedback-rich gaming environments—an

essential mechanism for developing situational awareness and adaptive leadership.

As the complexity of global challenges grows, strategic decision-making and leadership increasingly require tools that enable scenario planning, risk mitigation, and real-time adaptability (Bryant & Jaeger, 2020). Simulations and wargaming exercises have been widely used in military and policy environments to test hypotheses, assess uncertainty, and refine strategic responses (Perla, 1990; Howard, 2017). Similarly, organizations leverage strategy-based games and simulations to train executives in negotiation tactics, crisis management, and systems thinking (Garris et al., 2002). By integrating theories of game design, cognitive psychology, and experiential learning (Kolb, 1984), this paper frames games as multidimensional learning systems that enhance both analytical and emotional dimensions of leadership.

Ultimately, this study seeks to demonstrate how gaming methodologies foster critical thinking, perceptual acuity, and adaptive decision-making in high-stakes environments. Through this lens, games are not merely pedagogical tools but sophisticated frameworks for cultivating adaptive leadership.

1.1 Theoretical Foundations of Games in Strategic Decision-Making

Game theory, first formalized by Von Neumann and Morgenstern (1944), provides a mathematical framework for analyzing strategic interactions in which the outcome for each participant depends on the choices of others. It has been widely applied in economics, political science, military strategy, leadership studies, and business decision-making. One of the key contributions of game theory is its ability to model rational behavior in both competitive and cooperative environments (Von Neumann & Morgenstern, 1944).

Von Neumann and Morgenstern (1944) also introduced the concept of expected utility theory, which assumes that rational decision-makers choose the option that maximizes their expected utility. Their work established the foundation for zero-sum games, where one player's gain is exactly equal to another player's loss—a concept central to competitive scenarios such as military conflicts and market rivalries (Perla, 1990). Beyond its mathematical precision, game theory offers valuable insights into leadership and organizational behavior, as it reveals how decision-makers balance competition, cooperation, and trust in complex systems.

John Nash (1950) extended game theory by introducing the Nash equilibrium, which occurs when no player has an intention to deviate from their chosen strategy, given the strategies of others. In a Nash equilibrium, each participant's decision is optimal in response to others' choices (Nash, 1950). This concept is critical to understanding strategic stability, negotiation, and leadership coordination in both cooperative and competitive environments (Osborne & Rubinstein, 1994).

Based on theses approaches, game theory further differentiates between zero-sum and nonzero-sum games. Zero-sum games describe interactions in which one player's gain is another's loss, while nonzero-sum games allow for mutual benefit through cooperation (Von Neumann & Morgenstern, 1944). In leadership and diplomacy, nonzero-sum frameworks highlight the value of collaboration, coalition-building, and compromise as pathways toward sustainable strategic outcomes. For example, in international relations, arms reduction treaties are modeled as nonzero-sum games, where mutual disarmament benefits all parties involved (Axelrod, 1984).

Game Type	Definition	Example
Zero-Sum Game	A situation where one player's gain is equal to another's loss.	Chess,military strategy
Nonzero-Sum Game	A situation where all players can benefit through cooperation.	Trade negotiations, business partnerships

(Source: Adapted from Von Neumann & Morgenstern, 1944)

Research in behavioral and perceptual psychology has expanded these theoretical foundations by exploring how decision-makers actually learn and adapt in uncertain environments. Hogarth (1987) introduced the concept of perceptual learning and judgmental decision-making, showing how feedback-rich simulations and "perceptual games" train individuals to recognize patterns, assess risk, and refine intuition. Integrating these insights with behavioral decision theory (Kahneman & Tversky, 1979) and experiential learning theory (Kolb, 1984) demonstrates how gaming environments serve as cognitive laboratories for leadership development. Within these spaces, leaders cultivate situational awareness, emotional regulation, and strategic

foresight—skills essential for resilience and adaptability in complex, high-stakes decision-making contexts.

2 Wargaming and Military Strategy

Building on the theoretical foundations of game theory and behavioral decision science, wargaming represents a practical application of these principles in dynamic, feedback-driven environments. While game theory provides the mathematical logic of strategic interaction, wargaming operationalizes these ideas—translating abstract models into experiential learning processes that develop strategic thinking, adaptive leadership, and cognitive flexibility (Perla, 1990; Hogarth, 1987). By simulating conflicts and strategic dilemmas, wargames allow military and political leaders to anticipate enemy movements, assess potential courses of action, and refine decision-making skills within controlled yet realistic contexts.

The origins of wargaming trace back to early strategic exercises in ancient China and Prussia. Kriegsspiel, developed by the Prussian military in the 19th century, stands as one of the earliest wargames. It trained officers in tactical and operational decision-making by allowing them to experiment with strategies before engaging in actual combat (Van Creveld, 2013). The success of Kriegsspiel in improving command coordination and situational judgment contributed to Prussia's military effectiveness, inspiring adoption by other European powers (Sabin, 2012).

Throughout the 20th century, wargaming became integral to strategic military planning. The United States Naval War College, for example, used wargames extensively during both World Wars to test naval strategies and anticipate Japanese tactics in the Pacific. These exercises informed crucial operational insights that contributed to victories such as the Battle of Midway in 1942 (Hughes, 2012). Similarly, the German military used wargames to test and refine Blitzkrieg tactics prior to implementation in Poland and France (Perla, 1990). Such examples demonstrate how simulated conflict environments cultivate leaders' abilities to synthesize information, evaluate uncertainty, and make high-stakes decisions under pressure.

One of the most notable cases of wargaming in crisis leadership occurred during the Cuban Missile Crisis (1962). Although formal tabletop wargames were not fully developed, the Kennedy administration employed simulated exercises to forecast Soviet responses to potential U.S. actions (Betts, 1987). The Executive Committee of the National Security Council (ExComm) used scenario-based discussions—essentially cognitive wargames—to explore alternative strategies such as blockade, bombing, or invasion. These simulations enabled policymakers to anticipate adversary behavior, assess escalation risks, and ultimately adopt a strategy of naval blockade combined with diplomatic negotiation (Allison, 1971; Allison & Zelikow, 1999).

Wargaming continued to evolve with technological and doctrinal innovation. During Operation Desert Storm in 1991, U.S. military planners used computer-assisted wargames to test operational plans, simulate enemy defenses, and rehearse decision points under uncertainty (Scales, 1998; Ketcherside, 2004). Units such as the 7th Marine Expeditionary Brigade employed commercial wargames like Advanced Squad Leader to strengthen tactical coordination, anticipate logistical challenges, and build cognitive agility among officers (Bae & Brown, 2021). These exercises not only improved strategic foresight but also enhanced leadership confidence, teamwork, and psychological preparedness for real-world operations.

In contemporary contexts, wargaming has expanded beyond kinetic warfare to address complex, multidomain challenges. NATO routinely conducts crisis response exercises (CRXs) and strategic simulations to prepare for hybrid threats, cyber warfare, and information operations (Schmitt, 2018). The annual Locked Shields cyber defense wargame, for instance, tests leadership and decision-making under time-sensitive digital attack scenarios (Tikk-Ringas, 2016). These exercises exemplify how modern wargaming fosters cognitive resilience, ethical reasoning, and collective problem-solving in uncertain and high-pressure environments.

As warfare and global security threats evolve, wargaming continues to integrate advances in artificial intelligence (AI), data analytics, and virtual reality (VR), creating adaptive simulations that mirror the complexities of real-world decision-making (Caffrey, 2019; McGrady et al., 2021). From a behavioral and perceptual learning perspective (Hogarth, 1987), these environments act as powerful training ecosystems for leadership—enabling participants to develop judgment, pattern recognition, and emotional regulation through feedback. Thus, wargaming not only refines strategic plans but also shapes the psychological and cognitive competencies that define effective modern leadership.

3 Cognitive and Psychological Perspectives in Strategic Decision-Making

The effectiveness of wargaming and simulation-based training extends beyond tactical rehearsal—it lies in their capacity to model and enhance the cognitive processes that underlie strategic leadership. As discussed in the previous section, wargaming cultivates decision-making under uncertainty by exposing leaders to dynamic, feedback-rich environments that mirror real-world complexity. This section explores the psychological mechanisms behind such learning, drawing on theories from cognitive psychology, behavioral decision science, and perceptual learning (Hogarth, 1987; Kahneman & Tversky, 1979). Understanding these mechanisms is essential for designing effective strategic games and simulations that enhance judgment, adaptability, and resilience.

Strategic decision-making is influenced by a variety of cognitive and psychological factors, particularly when individuals or groups operate under conditions of uncertainty, risk, and time constraints (Kahneman & Tversky, 1979). Uncertainty is a defining characteristic of strategic environments, where incomplete information, unpredictable adversaries, and high stakes complicate rational choice (Gigerenzer, 2008). Cognitive psychology provides valuable insights into how individuals process uncertainty and make judgments in such volatile situations.

One of the most influential theories in decision-making under uncertainty is Prospect Theory, developed by Kahneman and Tversky (1979). Unlike traditional economic models that assume rationality, Prospect Theory suggests that people evaluate potential gains and losses asymmetrically, leading to predictable deviations from rational behavior.

- **Loss Aversion**: Individuals tend to fear losses more than they value equivalent gains, often resulting in risk-averse behavior in gains and risk-seeking behavior in losses (Tversky & Kahneman, 1992).
- **Framing Effects**: The way a decision is presented influences outcomes. For example, a military commander may prefer a more aggressive approach when a scenario is framed as “avoiding defeat” rather than “securing victory” (Kahneman, 2011).

Scenario	Framing of Decision	Common Choice
Military Engagement	"90% chance of success" vs. "10% chance of failure"	People prefer the first framing.
Crisis Response	"200 people will be saved" vs. "400 people will die"	The first framing is preferred, even though both options are mathematically identical.

(Source: Adapted from Kahneman & Tversky, 1979)

Gigerenzer (2008) and Tversky and Kahneman (1974) further identified several heuristics, or mental shortcuts, that affect decision-making under uncertainty:

- **Availability Heuristic**: Decisions are shaped by the most easily recalled information. For instance, a military leader may overestimate the risk of cyberattacks if recent reports emphasize cyber threats (Sunstein, 2002).
- **Anchoring Bias**: Initial information disproportionately influences later judgments. In diplomatic negotiations, the first proposal often frames the perceived range of acceptable outcomes (Ariely, 2008).
- **Representativeness Heuristic**: Decision-makers assume current situations resemble past events, leading to potential misjudgment or false pattern recognition (Gigerenzer, 2008).

From a behavioral and perceptual perspective, Hogarth (1987) emphasizes that learning in uncertain environments relies on feedback quality. When environments provide clear, consistent, and timely feedback—as in well-designed strategic games—participants develop stronger intuition, situational awareness, and adaptive reasoning. This process, known as perceptual learning, helps leaders refine judgment and emotional regulation through repeated exposure to simulated decision challenges.

One of the key advantages of strategic games and simulations is their ability to accelerate learning and adaptation. According to Kolb’s (1984) experiential learning theory, decision-makers improve strategic reasoning through iterative cycles of action, reflection, and adjustment. Simulated environments amplify this process by offering immediate, structured feedback on performance, enabling rapid cognitive and emotional calibration.

Stage	Description	Example in Wargaming
Concrete Experience	Engaging in a simulated scenario	Playing a crisis response simulation
Reflective Observation	Reviewing outcomes and assessing mistakes	Analyzing why an attack strategy failed
Abstract Conceptualization	Developing new strategies based on insights	Adjusting tactics for better defense
Active Experimentation	Testing refined strategies in future simulations	Reapplying a modified strategy in the next round

(Source: Adapted from Kolb, 1984)

3.1 Cognitive Flexibility in Complex Environments

Strategic games enhance cognitive flexibility—the ability to shift between different problem-solving strategies as contexts evolve (Spiro et al., 1992). This flexibility is vital for military and crisis leadership, where unpredictable conditions demand continuous adaptation and rapid recalibration of plans.

Case Example: Red Teaming in Military Strategy
Red Teaming, a form of adversarial simulation, is widely used in modern wargaming to train leaders in anticipating enemy actions and testing unconventional strategies (Zenko, 2015). By forcing commanders to engage with diverse perspectives and alternative tactics, Red Team exercises promote adaptive thinking, situational awareness, and tolerance for ambiguity (Schmitt, 2018).

In this sense, cognitive psychology and behavioral gaming converge to explain how decision-makers learn through experience, pattern recognition, and emotional feedback. As strategic games continue to evolve with advances in artificial intelligence and data analytics, integrating insights from cognitive and perceptual science will further enhance their value in military, business, and crisis leadership contexts.

4. Efectiveness and Limitations of Gaming in Strategic Decision-making

The preceding discussion illustrated how cognitive and behavioral factors—such as perception, heuristics, and experiential learning—shape strategic reasoning in gaming environments. Building on these insights, it is essential to evaluate how effectively games and simulations translate theoretical benefits into practical decision-making outcomes. Understanding both the strengths and constraints of gaming methodologies allows for a more balanced assessment of their role in cultivating adaptive leadership and ethical awareness. While games provide structured environments for testing strategies, analyzing outcomes, and fostering adaptive thinking, their effectiveness is not without limitations. This section explores the benefits and challenges of gaming as a tool for decision-making, addressing its impact on critical thinking, problem-solving, scenario planning, and leadership development, as well as its inherent biases and ethical concerns.

Games and simulations promote critical thinking and problem-solving by immersing participants in structured yet unpredictable environments that demand dynamic decision-making. According to Gredler (1996), games create experiential learning opportunities that compel players to evaluate multiple perspectives, anticipate consequences, and develop strategic foresight.

Military Applications: Wargaming enhances tactical and operational decision-making by exposing officers to complex, evolving battle scenarios (Howard, 2017). Research by Caffrey (2019) suggests that historical wargames conducted at the U.S. Naval War College, directly contributed to successful military strategies, including preparations for the Pacific theater during World War II.

Game Type	Primary Benefit	Example Application
Military Wargames	Tactical decision-making	Simulations for joint operations planning
Business Strategy Games	Competitive foresight	Market entry simulations
Policy Simulations	Crisis preparedness	Pandemic response planning (e.g., Event 201)

(Source: Adapted from Von Neumann & Morgenstern, 1944; Gredler, 1996)

One of the primary advantages of gaming lies in its capacity to foster adaptive learning—the ability to modify strategies in response to evolving scenarios. According to Kolb (1984), experiential learning in simulation-based environments enhances the participant's ability to synthesize past experiences and apply new insights in

real-world decision-making. Strategic games also enable scenario planning, allowing leaders to explore multiple possible futures and stress-test policies under different contingencies (Schoemaker, 1995). For example, NATO wargames now integrate cyber warfare, disinformation, and hybrid threats to prepare policymakers for complex security challenges (Schmitt, 2018). Similarly, adaptive learning in crisis response has been shown to improve decision accuracy and coordination. Studies demonstrate that repeated exposure to simulation exercises enhances performance under pressure (Cohen et al., 2013). Governments that conducted pandemic preparedness simulations prior to COVID-19 were generally more effective in implementing coordinated public health measures (Toner et al., 2018).

However, while games offer significant benefits, over-reliance on simulation-based decision-making presents important limitations. Games are, by necessity, simplified representations of reality, and excessive confidence in their predictive power can lead to flawed strategic choices (Perrow, 1984). During the 1960s, U.S. Pentagon wargames predicted success in Vietnam based on attrition models emphasizing numerical advantage (Rosen, 1991). These simulations neglected cultural, political, and moral variables, ultimately leading to strategic miscalculations (McMaster, 1997). This case highlights the risks of abstraction and the necessity for leaders to balance quantitative models with qualitative judgment.

Another limitation is overfitting to predictable patterns. As Taleb (2007) argues, decision-makers exposed repeatedly to structured gaming environments may develop a false sense of predictability that fails to hold in chaotic, non-linear systems such as financial crises or geopolitical upheavals (Helbing, 2013).

5. POTENTIAL BIASES IN GAME DESIGN AND DECISION FRAMEWORKS

Game design inevitably reflects the cognitive and cultural assumptions of its creators, which can introduce distortions into decision-making frameworks (Mayer, 2009). Several known biases are:

Confirmation Bias: Players often favor familiar strategies that reinforce existing beliefs, limiting creative exploration (Nickerson, 1998).

Designer Bias**:** Games may unconsciously reproduce ideological or institutional biases, leading to skewed interpretations. For example, many Cold War–era wargames incorporated assumptions favoring U.S. military superiority, thereby reinforcing hawkish strategic preferences (Mead, 2013; Bostrom & Yudkowsky, 2014).

Data Limitations**:** AI-driven games rely on historical datasets that may not adequately capture future volatility or disruptions (Brynjolfsson & McAfee, 2014).

5.1 Ethical Concerns in Using Games for Strategic Policy-Making

The growing application of gaming in policy and defense contexts raises ethical questions regarding the translation of simulated outcomes into real-world decisions. Here are some of them:

Dehumanization of Conflict: Critics warn that military simulations risk abstracting human suffering and desensitizing participants to violence (Grossman, 1996; Chamayou, 2015).

Ethical Dilemmas in AI and Automated Decision-Making: As artificial intelligence and game-theoretic models are increasingly embedded in automated systems, accountability for decisions that affect human lives becomes blurred (Bostrom, 2014; Russell & Norvig, 2020).

Policy Manipulation Through Gaming: Political or economic simulations may be selectively designed to justify predetermined policy outcomes (Mead, 2013; Mazzucato, 2018).

Conclusion

The evolution of gaming as a tool for strategic decision-making reflects the convergence of theory, cognition, and leadership practice. From its theoretical foundations in game theory (Von Neumann & Morgenstern, 1944) to its behavioral and psychological extensions (Kahneman & Tversky, 1979; Hogarth, 1987), gaming offers an interdisciplinary framework for understanding and improving how humans make decisions under uncertainty. Across military, political, and civil domains, these frameworks highlight the value of structured, feedback-rich environments for cultivating strategic foresight, adaptability, and ethical awareness.

At the theoretical level, game theory provides the mathematical logic of strategic interaction, while behavioral decision theory exposes the cognitive biases

and heuristics that influence real-world judgment. Together, they create a dual lens through which both rational and psychological aspects of decision-making can be examined. Wargaming and strategic games operationalize these principles, transforming abstract models into practical, experience-based learning systems. Through iterative cycles of action, reflection, and adaptation (Kolb, 1984), participants develop not only tactical proficiency but also cognitive flexibility—the ability to recalibrate thinking as new information emerges.

The integration of perceptual learning (Hogarth, 1987) deepens this connection by emphasizing the importance of feedback and reflection in shaping intuitive expertise. Within simulated environments, leaders refine situational awareness, emotional regulation, and decision speed—traits essential for effective command and policy leadership in high-pressure contexts. These processes demonstrate how games act as microcosms of real-world complexity, where perception, cognition, and emotion interact to shape strategic outcomes.

However, the power of gaming must be balanced by critical awareness of its limitations and ethical dimensions. Overconfidence in models, designer bias, and moral detachment can distort outcomes and undermine the realism that makes simulations valuable. Ethical reflection—particularly when using AI-driven or predictive simulations—is therefore integral to responsible application. The effectiveness of gaming in strategic contexts ultimately depends on its alignment with human judgment, empathy, and moral accountability.

In synthesis, strategic gaming stands as a bridge between theory and practice, analysis and intuition, technology and ethics. It provides a platform where leaders can experiment, fail safely, and learn adaptively—developing not only strategic competence but also the psychological and moral insight necessary for decision-making in an unpredictable world. As warfare, diplomacy, and global governance grow more complex, the future of gaming in strategic decision-making will depend on how effectively it integrates rigorous analysis, behavioral realism, and human-centered leadership development.

References

[1] Abt, C. C. (1970). *Serious games*. Viking Press.

[2] Allison, G. T. (1971). Essence of decision: Explaining the Cuban missile crisis. Little, Brown.

[3] Allison, G. T., & Zelikow, P. (1999). *Essence of decision: Explaining the Cuban Missile Crisis* (2nd ed.). Addison-Wesley.

[4] Ariely, D. (2008). *Predictably irrational: The hidden forces that shape our decisions*. HarperCollins.

[5] Axelrod, R. (1984). *The evolution of cooperation*. Basic Books.

[6] Bae, S. J., & Brown, I. T. (2021). Promise unfulfilled: A brief history of educational wargaming in the Marine Corps. Journal of Advanced Military Studies, 12(2), 27–47. https://doi.org/10.21140/mcuj.20211202002

[7] Betts, R. K. (1987). *Nuclear blackmail and nuclear balance*. Brookings Institution Press.

[8] Bostrom, N. (2014). *Superintelligence: Paths, dangers, strategies*. Oxford University Press.

[9] Bostrom, N., & Yudkowsky, E. (2014). *The ethics of artificial intelligence*. *The Cambridge Handbook of Artificial Intelligence*, 316–334. https://doi.org/10.1017/CBO9781139046855.020

[10] Bryant, B., & Jaeger, C. (2020). *Strategic foresight: Anticipating complexity in decision-making*. Routledge.

[11] Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. W. W. Norton & Company.

[12] Caffrey, M. (2019). *On wargaming: How wargames have shaped history and how they may shape the future*. Naval War College Press.

[13] Chamayou, G. (2015). *A theory of the drone* (J. Lloyd, Trans.). The New Press.

[14] Cohen, M. S., Freeman, J. T., & Thompson, B. (2013). *Training adaptive decision-making: A critical review with practical implications*. *Human Factors, 55*(2), 364–381. https://doi.org/10.1177/0018720812468997

[15] Fine, G. A. (2002). *Shared fantasy: Role-playing games as social worlds*. University of Chicago Press.

[16] Garris, R., Ahlers, R., & Driskell, J. E. (2002). *Games, motivation, and learning: A research and practice model*. *Simulation & Gaming, 33*(4), 441–467. https://doi.org/10.1177/1046878102238607

[17] Gigerenzer, G. (2008). *Rationality for mortals: How people cope with uncertainty*. Oxford University Press.

[18] Gilad, B. (2009). *Business war games: How large, small, and new companies can vastly improve their strategies and outmaneuver the competition*. Career Press.

[19] Gredler, M. E. (1996). *Educational games and simulations: A technology in search of a (research)*

paradigm. *Handbook of Research for Educational Communications and Technology*, 521–540.

[20] Grossman, D. (1996). *On killing: The psychological cost of learning to kill in war and society*. Little, Brown, and Company.

[21] Helbing, D. (2013). *The automatization of society is next: How to survive the digital revolution*. Springer.

[22] Hogarth, R. M. (1987). *Judgment and choice: The psychology of decision*. 2nd ed. New York, NY: John Wiley & Sons.

[23] Howard, M. (2017). *Strategic deception in the Second World War*. W. W. Norton & Company.

[24] Howard, M. (2017). *War games: The secret world of military simulations*. Cambridge University Press.

[25] Hughes, W. P. (2012). *Fleet tactics and coastal combat* (3rd ed.). Naval Institute Press.

[26] Kahneman, D. (2011). *Thinking, fast and slow*. Farrar, Straus and Giroux.

[27] Kahneman, D., & Tversky, A. (1979). *Prospect theory: An analysis of decision under risk*. *Econometrica, 47*(2), 263–291. https://doi.org/10.2307/1914185

[28] Ketcherside, J. C. (2004, September 1). Marine Corps wargaming. Marine Corps Gazette. https://mca-marines.org/blog/gazette/marine-corps-wargaming/

[29] Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice Hall.

[30] Kreps, D. M. (1990). *Game theory and economic modeling*. Clarendon Press.

[31] Mayer, I. S. (2009). *The gaming of policy and the politics of gaming: A review*. *Simulation & Gaming, 40*(6), 825–862. https://doi.org/10.1177/1046878109346456

[32] Mazzucato, M. (2018). *The value of everything: Making and taking in the global economy*. Penguin Books.

[33] McGrady, E. D., Chen, M., & Spero, S. (2021). *Multi-domain battle and wargaming: Advancing concepts for future warfare*. RAND Corporation.

[34] McMaster, H. R. (1997). *Dereliction of duty: Johnson, McNamara, the Joint Chiefs of Staff, and the lies that led to Vietnam*. HarperCollins.

[35] Mead, W. R. (2013). *Special providence: American foreign policy and how it changed the world*. Routledge.

[36] Michael, D., & Chen, S. (2006). *Serious games: Games that educate, train, and inform*. Course Technology PTR.

[37] Nash, J. (1950). *Equilibrium points in n-person games*. *Proceedings of the National Academy of Sciences, 36*(1), 48–49.

[38] Nickerson, R. S. (1998). *Confirmation bias: A ubiquitous phenomenon in many guises*. *Review of General Psychology, 2*(2), 175–220. https://doi.org/10.1037/1089-2680.2.2.175

[39] Osborne, M. J., & Rubinstein, A. (1994). *A course in game theory*. MIT Press.

[40] Perla, P. P. (1990). *The art of wargaming: A guide for professionals and hobbyists*. Naval Institute Press.

[41] Perrow, C. (1984). *Normal accidents: Living with high-risk technologies*. Basic Books.

[42] Rosen, S. P. (1991). *Winning the next war: Innovation and the modern military*. Cornell University Press.

[43] Russell, S. J., & Norvig, P. (2020). *Artificial intelligence: A modern approach* (4th ed.). Pearson.

[44] Sabin, P. (2012). *Simulating war: Studying conflict through simulation games*. Bloomsbury Academic.

[45] Scales, R. H. (1998). *Certain victory: The U.S. Army in the Gulf War*. Brassey's.

[46] Schelling, T. C. (1960). *The strategy of conflict*. Harvard University Press.

[47] Schelling, T. C. (1966). Arms and influence. Yale University Press.

[48] Schmitt, M. N. (2018). *Tallinn Manual 2.0 on the international law applicable to cyber operations*. Cambridge University Press.

[49] Schmitt, O. (2018). *NATO and the transatlantic bargain in the cyber age: The limits of strategic adaptation*. Routledge.

[50] Schoemaker, P. J. H. (1995). *Scenario planning: A tool for strategic thinking*. *Sloan Management Review, 36*(2), 25–40.

[51] Spiro, R. J., Feltovich, P. J., Jacobson, M. J., & Coulson, R. L. (1992). *Cognitive flexibility, constructivism, and hypertext: Random access instruction for advanced knowledge acquisition in ill-structured domains*. *Educational Technology, 31*(5), 24–33.

[52] Sunstein, C. R. (2002). *Probability neglect: Emotions, worst cases, and law*. *The Yale Law Journal, 112*(1), 61–107. https://doi.org/10.2307/1562233

[53] Taleb, N. N. (2007). *The black swan: The impact of the highly improbable*. Random House.

[54] Tikk-Ringas, E. (2016). *NATO's cyber defense policy and its development*. *Journal of Strategic Security, 9*(1), 53–68.

[55] Toner, E., Schoch-Spana, M., & Watson, M. (2018). *Event 201: A global pandemic exercise*. Johns Hopkins Center for Health Security.

[56] Tversky, A., & Kahneman, D. (1974). *Judgment under uncertainty: Heuristics and biases*. *Science, 185*(4157), 1124–1131. https://doi.org/10.1126/science.185.4157.1124

[57] Tversky, A., & Kahneman, D. (1992). *Advances in prospect theory: Cumulative representation of uncertainty*. *Journal of Risk and Uncertainty, 5*(4), 297–323.

[58] Von Neumann, J., & Morgenstern, O. (1944). Theory of games and economic behavior. Princeton, NJ: Princeton University Press.

[59] Van Creveld, M. (2013). *Wargames: From gladiators to gigabytes*. Cambridge University Press.

[60] Zagare, F. C. (2014). A game-theoretic history of the Cuban missile crisis. Economies, 2(1), 20–44. https://doi.org/10.3390/economies2010020

[61] Zenko, M. (2015). *Red teaming: How your business can conquer the competition by challenging everything*. Basic Books.