

# STRATEGY, GAMES, AND THE MIND

By Martin Reeves, Frida Polli, and Gerardo Gutiérrez-López

*“Any man could, if he were so inclined, be the sculptor of his own brain.”*

—Santiago Ramón y Cajal, the father of neuroscience

**T**HE WORLD IS MORE complex and dynamic than ever. The increased diversity of business environments, driven by the rate of technological innovation, is at odds with the way that many companies develop and deploy strategy. To endure and remain vital, companies are recognizing that a single approach to strategy and execution will not suffice, so they are cultivating the capabilities required to deal with each specific environment they face.

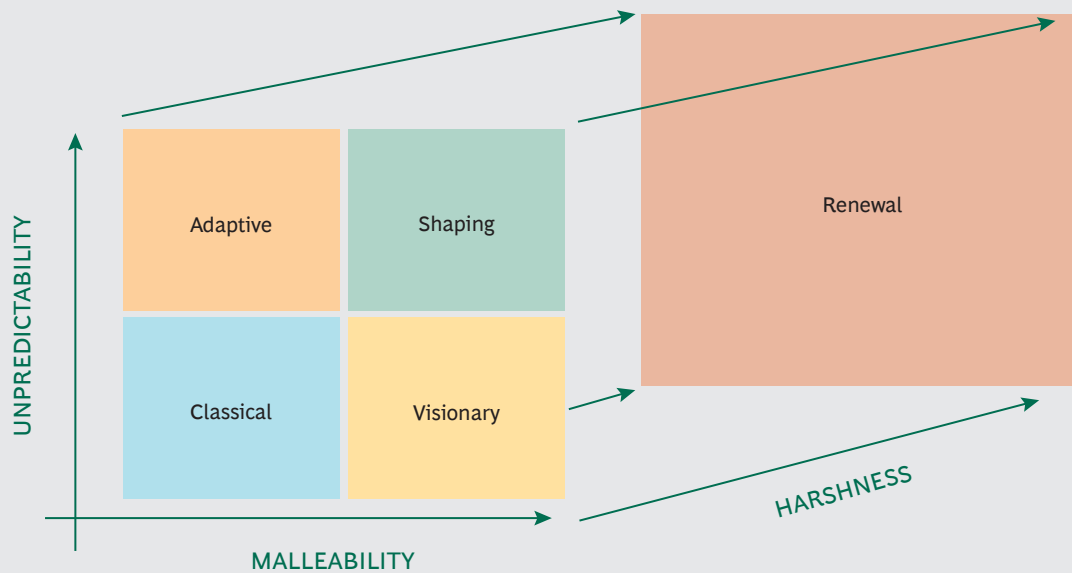
This entails mastering five approaches to strategy. (See Exhibit 1.) In combination, these allow companies to simultaneously overperform in their core business and develop sources of future growth.

- **Classical:** The traditional approach of analysis, planning, and execution, suitable for predictable, nonmalleable environments.

- **Adaptive:** Iterative experimentation as the basis of success under unpredictable, nonmalleable conditions.
- **Visionary:** Envisioning and materializing new value-creating ideas when both predicting and shaping are possible.
- **Shaping:** An ecosystem- and platform-based approach for unpredictable, malleable circumstances.
- **Renewal:** Swift and pragmatic transformation to ensure survival under severe resource constraints.

To develop such a contingent approach to strategy, nurturing a diverse base of talent is essential. Understanding the different brain mechanisms that underpin strategic skills can help companies better assess, source, match, and deploy the right talent against specific strategic challenges. Neuroscience and gaming can provide the tools to achieve this.

## EXHIBIT 1 | A Contingent Approach to Strategy



Sources: Henderson (1970); Lockridge (1981); Nadler & Tushman (1994, 1995); Abell (1999); Wiltbank et al. (2006); Reeves et al. (2011, 2012, 2015).

### In the Brain, All Strategies Are Not Made Equal

There is a yawning gap between strategy and implementation. To connect theory with practice, understanding must be matched by experience and capability—practice makes perfect. However, practice implies a risk of failure, which often bears a prohibitively high cost in the real world. Games offer a solution to the dilemma.

To help bridge the strategy-implementation gap, the BCG Henderson Institute developed a mobile game simulating the five strategy approaches, unleashing the power of gaming to diagnose and develop strategic skills. The game features short rounds in which players need to execute the right approach to strategy to win against an algorithmic opponent in each environment. Strategy skills are measured and benchmarked, providing feedback to reinforce the use of the right thoughts and actions in the right situations.

To deepen our understanding of strategy skills, the BCG Henderson Institute partnered with pymetrics. Pymetrics has adapted a set of games from classical neuroscience tasks that assess distinct traits and an accompanying artificial intelligence al-

gorithm to analyze patterns of 90 brain skills, including memory capacity and speed, learning skills, speed of reaction, risk aversion, planning aptitudes, and impulsivity. We hypothesized that traditional cognitive abilities—like focus and reasoning—would be related to success under predictable conditions. Conversely, speed and learning should be more relevant to dealing with dynamism and unpredictability. Our analyses of large amounts of game play data from both tools support these hypotheses, and a clear pattern emerged: success in each approach to strategy depends on a distinct and measurable set of brain traits. (See Exhibit 2.)

1. Top **Classical** strategists exhibit a superior ability to focus their attention on the task at hand, which pays off in the relatively stable environment they face. They are superior abstract thinkers, which allows them to better translate observations into plans. As they execute them, a frugal mindset prevents suboptimal investments and favors the efficient use of resources. This profile, which enables analysis, planning, and execution, increases the chances of success in a predictable setting.

## EXHIBIT 2 | Each Strategic Approach Calls for a Different Set of Brain Skills

Skill	ENVIRONMENT				
	Classical	Adaptive	Visionary	Shaping	Renewal
Abstract thinking	●				
Frugality	●				
Focus and attention	●				●
Capacity to learn from trial and error		●			
Ability to quickly create/implement a new solution		●		●	●
Ability to quickly evaluate amount in financial transactions		●		●	●
Capacity to learn from risk and ambiguity				●	●
Predisposition to controlled behavior					●
Longer memory span					●
Ability to quickly recover from mistakes			●		
Tendency to act quickly			●		
Persistence in the face of small changes in the chances of success			●		

Source: BCG Henderson Institute analysis.

Note: Circles indicate threshold for significance achieved; N=174.

2. Top **Adaptive** strategists can't rely on planning, as they deal with unpredictable circumstances. As conditions evolve constantly, their increased speed in creating new solutions and assessing financial transactions points to their ability to adapt to ever-changing circumstances. They also show an increased capacity to learn from trial and error, which implies that they are both open to exploring new approaches and to systematically selecting the ones with the best outcomes.
3. Top **Visionary** strategists (such as entrepreneurs) are quick to action, which allows them to be first in pursuing new opportunities. As they do so, they recover quickly from mistakes and hence continually improve their approach. Additionally, their persistence in the face of changes in their chances of success allows them to build their business by applying the shaping capabilities a malleable environment requires.
4. Top **Shaping** strategists also deal with unpredictability and, unsurprisingly, share some traits with top adaptive strategists—particularly, the speed with which they create new solutions and assess financial transactions. Additionally, as they exert their influence in the

environment, top shaping strategists profit from an increased capacity to learn from risk and ambiguity, which enables them to evolve in concert with their developing surroundings.

5. Top **Renewal** strategists deal with an environment characterized by restricted resources, making controlled behavior and superior memory crucial assets for endurance. In addition, top renewal strategists share some characteristics with other top strategists, such as focus and attention (Classical), speed in assessing financial transactions and crafting new solutions (Adaptive and Shaping), and an increased capacity to learn from risk (Shaping). In the renewal environment, these traits enable strategists to carefully define and follow a course of action with urgency, avoiding making a fatal move in their vulnerable situation.

### Game Up Your Strategy

As companies revamp their approach to strategy and execution to match a complex business environment, games provide multiple checkpoints throughout the journey and help align strategy, talent, and capability building. Leaders can harness games in six important ways:

1. **Bridge the gap from theory to reality.** Games provide a crystallizing mechanism for translating the concepts of strategy into workplace behaviors—and company results. The vividness of the experience has helped career-long, classically oriented managers internalize a de-averaged approach to strategy and execution. As one participant put it, playing brought high-level strategy concepts down to earth and provided her with new moves to test and embed in day-to-day work.
2. **Lower the cost of learning.** In the game world, resources—even time, money, and life—need not be limited. This relaxation of constraints allows players to try—and fail with—multiple approaches at a very low cost: a few minutes instead of a project’s budget. This makes games a relatively inexpensive channel to roll out broad training programs, augmented by the scalability of digital technologies. Another participant highlighted that her main learning came from failing to replicate positive results with one strategic approach in other environments, which translates into more effective pilot programs and less chances of strategic mismatch in the real world.
3. **Offer enhanced and effective feedback mechanisms.** We often hear from players that seeing the immediate results of their actions increases their willingness to break old habits when their default approach doesn’t work. Instant feedback fosters the inclination to try new approaches, a requirement to sustain vitality. After recognizing that its approach to strategy was “too ritualized,” a client’s leadership team invited us to challenge its thinking. A game-based workshop during an annual off-site meeting sparked a lively discussion about refreshing their corporate strategy.
4. **Provide alignment mechanisms through a common language.** Shifting strategy requires aligning people and ideas. A client with whom we used our game to kick off a strategy renovation project recognized that common language was critical to the effort and appreciated the game’s ability to create a shared basis for discussing strategy. We may all feel that we understand what “adaptive” or “visionary” means, but shared experience creates a firmer common understanding.
5. **Measure skills consistently.** Games can provide accurate assessments of individuals’ current and potential capabilities, allowing companies to diagnose their strategic skills. As leaders contemplate talent succession and deployment in changing circumstances, games increase the chances of finding the right fit. Games may replace more familiar approaches, like MBTI personality tests, whose validity has been strongly questioned.
6. **Know, develop, and deploy your workforce.** Strategy and neuroscience games can help leaders get the most out of their human capital, allowing them to diagnose, source, develop, and match it to the right strategic challenge. On a higher level, games can also support the formation of truly ambidextrous teams to face more complex business environments.

**B**Y APPLYING GAMES and neuroscience, companies can go a long way toward enhancing their pool of strategic skills in all steps of the talent cycle with increased levels of accuracy. Play may prove to be an important component of the future of work.

*You can download the Your Strategy Needs a Strategy game [here](#) and play pymetrics’ games [here](#).*

## About the Authors

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