Calculating, Imagining, and Managing
Using war games to leverage intelligence and improve strategy decisions

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It is fashionable, at least in some circles, to extol creativity and imagination. We agree. But just as data without interpretation and action is useless, we believe that creativity without rigor is limited at best and dangerous at worst. Fortunately, with changes in technology, it is unnecessary.

In this article we will talk about merging calculation and imagination, and the implications for management.

Why do strategies fail?

Why did Wang and then WordPerfect lose the word-processing market? Why did Sony's Beta-Max lose the format war to VHS? What made Lotus and Pan Am and so many other firms and brands do well and then falter or fail while their industries or categories continued to swell? Their strategies failed.

Managers aren't stupid. These strategy failures aren't just because of luck, or else we're saying that luck rules our businesses. It isn't lack of data or analysis, although it might be lack of appropriate intelligence, as we'll describe later.

So, why do strategies fail? Complacency, an egocentric view of the market, and relying on the continuation of past performance can cause managers to misstep. Spreadsheet "models," commonly used and built on financial data and accounting principles, omit key concepts of competitive strategy, thereby producing blind spots in managers' views of the future.

Inadequate strategies don't have to happen, and no one wants them to happen. In fact, managers try hard to make sure that they don't happen. For example:

- "More-precise data mean better decisions." Everyone wants better data, but ask yourself how often having the data with one more decimal place or one day sooner will really matter for strategy decisions. More important: Ask yourself whether you are getting the right data.

- "I'll use a tried and true strategy." This maneuver is common and feels safe (and defensible). It's a good idea, if you believe that the future will look like the past. But what worked before may not be such a good guide to a future that will look different (or that you *want* to look different). Markets change, customers change, competitors' strategies change, competitors come and go. Strategists should contribute value to their companies not because they can repeat old tricks but because they know how to learn. (In other words, there is a difference between experience and habit.) More subtly, how do you *know* your past strategies worked? Maybe it was a competitor's mistake, not your move, that led to your success. Maybe you could have done even better.

- "Let's measure results and hold managers accountable." Managers who are held accountable for their results naturally want to set low targets that they're confident they can achieve, and they naturally want to select strategies that they perceive as being low-risk. And so accountability generally discourages risk-taking and innovation, producing instead an explosion in minor product variations. Meanwhile, new entrants see opportunity in the market against these conservative incumbents. The upstarts innovate and earn — not steal — the market-share gains they achieve.

Fundamentally, we can't *solve* competitive-strategy problems. Thinking that they are soluble is the flaw behind those well-intentioned remedies, and behind strategic "planning" in general.

Competitive strategy involves dynamics, complexity, uncertainty, innovation, and surprises. But that does not mean we're helpless. Far from it. We just need different techniques. That's what war games and strategy simulation are for.

Chess

Why did Bobby Fischer win at chess? Many reasons, of course, including raw brilliance and skill. Part of that skill is that he was reputed to see 11 moves ahead in the game, presumably

further ahead than his opponents could. But that's not forecasting. Fischer understood dynamics, and, like other expert players, would force competitor behavior.

Why did Garry Kasparov lose at chess to IBM's Deep Blue computer? Certainly he is no less brilliant than Fischer, and no one would suggest that he is less brilliant than Deep Blue. But Deep Blue could evaluate — that is, simulate — billions of moves. It might have been less effective than Kasparov at quickly eliminating unpromising paths, but it compensated for that weakness with its tireless (and merciless) computing power.

Imagine a *team* made up of Garry Kasparov and Deep Blue. No computer by itself could beat that team. Nor could any human.

We are not (nor is anyone else we know) suggesting that managers should turn over competitive-strategy decisions to computers. But imagine a team made up of your company's best strategists and strategy simulators. War-game simulations give that team an opportunity to see the consequences of your moves, without risk, before you invest real-life time and money.

War games

War games provide a natural environment for that team of strategists and simulators. People create strategies and scenarios; computers handle the complex calculations. In effect, people contribute creativity and the simulator serves as a strategy calculator.

We have been involved in dozens of competitive strategy war games in North America, South America, and Europe, in corporate and academic settings. We've seen war games improve strategy decisions in several ways:

- When teams of managers role-play competitors, their determination to win adds realism and punishes complacency.

- The opportunity to "roll back the clock" in some styles of war games boosts learning and aids contingency planning because strategists can experiment with different alternatives.

- Rapid response and a risk-free environment set managers free to explore and to test actions that might be prohibitively dangerous or expensive in real life.

- The shared experience of the simulated battlefield helps managers achieve consensus and a sense of commitment and purpose.

The term "war game" actually covers many different options. Strategists can choose from any different styles of war games, as shown in Table 1. No single approach is appropriate in all situations. Before you can choose wisely, you should understand your objectives for your war game, your budget, and your timing.

Table 1: Variations in war games

Rehearsal	⟷	Exploration
Qualitative	⟷	Quantitative
Informal	⟷	Formal
Financial	⟷	Competitive
Generic	⟷	Custom
One-time	⟷	Ongoing
Education	⟷	Decisions
Do it yourself	⟷	Commercial

In our practice, we find four approaches particularly beneficial. First is the traditional war game. Strategists often select the traditional war game when their objective is to validate a specific strategy. In this kind of war game, teams make decisions one quarter at a time and receive feedback — profits, market share, whatever — after each move. Sometimes the feedback comes from qualitative assessment by other managers; sometimes it comes from quantitative strategy simulators. A traditional war game may take from one to three days to simulate, in detail, a single strategy.

We find that a second approach, the competitive-strategy "war college," offers different insights. Rather than focusing on quarter-to-quarter moves, as in the traditional war game, the war college concentrates on higher-level strategy decisions that play out over several quarters or even years. Strategists participating in war colleges experiment a great deal, using simulators

to test "what if" repeatedly. They test possible strategies for themselves and for their competitors, they test alternative industry-growth scenarios, they test shifts in market responsiveness and in costs, to name a just few variants. They often uncover surprises. The first strategy they select is rarely the one they prefer at the end of the war college.

Both the war game and the war college use data and models customized to a specific business situation. Sometimes, however, a company wants a management-development program. In this third approach, a strategy simulation tailored to a different industry (and available off-the-shelf) can give strategists an intense, interactive, cost-effective experience without getting bogged down in the minutiae and politics of their daily decisions.

The fourth approach we use is still relatively uncommon, but it is gaining interest and advocates. This approach is the competitive-strategy "war room," which some less-militaristic companies prefer to call a "strategy center." The war room fuses together strategy simulation and competitive intelligence. By combining up-to-date competitive intelligence (CI) with simulation technology, strategists can rapidly assess how — and whether — to respond to events in the marketplace.

Implications: If you provide intelligence

We believe that managers who provide CI have a unique opportunity to help their companies achieve and sustain competitive advantage.

- Broaden your role. For example, strategists often must make decisions quickly with whatever information is available at the time. CI professionals should proactively work with strategists to develop information systems that can support competitive-strategy decisions in real time.

- Get and track the right data. For example, what drives customer purchase decisions? It's not enough to look at trends in sales; you need to know (and it is possible to know) what customers are looking for, because that information can help you evaluate which moves will work best.

- Remember that you don't need perfect data. Think about, for example, your competitors' intentions. You can't measure those intentions perfectly. Nonetheless, you know that those intentions will influence your actions and your performance. Therefore, it makes sense to gather even imperfect data, and to do sensitivity analysis, or contingency planning, where you are least certain. And remember: There is no such thing as *data* about the future.

Implications: If you use intelligence

We find also that strategists who use CI need to keep several principles in mind. For example:

- Remember that your competitors plan to win too. Your strategy predicts gains in profits and market share; so does theirs. Try to role-play your competitors, whether formally, as part of a war game or war college, or informally, as a qualitative exercise with a small group of colleagues. Ask each team to come up with a market-share target. Add up those targets. Don't be surprised if the targets total over 100%. Think through what will happen as one or more competitors fail to reach their targets.

- Force "closed systems." Numbers have to add up. Sales minus costs must equal profits; market shares must total 100%; you can't score a competitive victory unless someone else suffers a competitive defeat. Yes, you should strive for statistical precision in the data you collect. You should also make sure that the way you use those data makes sense.

- Identify competitors' objectives. Understanding what competitors want and how they measure their success helps you anticipate their moves and helps you know which of your possible actions are more likely to spark reactions.

- Question assumptions. Why will your market continues to grow at its historical rate? Are customers really price sensitive, or has no competitor really tried to differentiate itself? What if we say "no" to some customers and focus on some, not all, market segments?

Implications: If you manage intelligence or strategy

Finally, we believe that there is much that strategists can do to achieve synergy between intelligence and strategy. Fortunately, these actions are well within the capabilities of most companies, and can be achieved through a process of continuous improvement. For example:

- Close the loop. When you develop and adopt a strategy, ask yourself "what has to happen" for that strategy to succeed. The answer to that question tells you the key early-warning indicators that you need to track. For example, if the success of your strategy depends on improving market-perceived quality and customer loyalty, then you had better measure market-perceived quality and customer loyalty. If your "what has to happen" conditions do not come to pass, then you cannot expect to achieve the performance promised by your plan.

- Forget about perfection. Remember that weather forecasts are more valuable for many decisions than are day-after weather reports, even though the forecasts are far less precise.

- Explore! Simulation is now cheap enough and powerful enough that it makes sense to test and explore your ideas rather than trying to "reason" them out or argue about precedents, anecdotes, or metaphors.

In conclusion

Peter Schwartz, author of *The Art of the Long View*, said "the point is not to predict the future but to make better decisions about the future." War games, in their multiple forms, help strategists combine human creativity with the power of computer simulation to make better competitive-strategy decisions. Those who provide intelligence have a new, integral role to play as part of the strategy-simulation, strategy-development, and strategy-tracking processes.

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