

Honey, We Shrunk the Industry: An Automotive War Game

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A business war game. Five automotive teams: Ford, GM, Hyundai, Toyota, Volkswagen. One set of customer judges, one set of investor judges. Three market segments. Fascinating, unexpected results.

The teams were smart and they wanted to win. Yet collectively their decisions subtracted value from the industry: four out of five would have been better off if they'd done nothing at all and repeated last year's moves for two more years. The fifth team had problems of its own – appearing to be successful, but leaving many billions of dollars on the table.

The automakers' decisions were individually sensible but harmful in combination. They worked by the book, but the book didn't work. It appears that company-centric financial approaches (what are our costs, how much capacity should we mothball) instead of competitive analysis (what will our competitors do) led to those problems. The good news: anyone who'd gone through the war game would be less likely to make those mistakes in real life.

BACKGROUND

On June 9, 2009, the front line in the automotive wars could be found at the stately Governor Hotel in Portland. That's where a group of 30 strategists converged to war game the industry. Facilitated by Advanced Competitive Strategies' founder Mark Chussil and sponsored by the Oregon chapter of the Society of Competitive Intelligence Professionals, the

war game used a simplified version of ValueWar™ strategy simulator customized for the automotive industry.

This war game exercise was intended more to demonstrate the capabilities of war-gaming than to solve the problems of the industry. After all, the industry's problems took decades to build, and it would take our talented strategists more than four hours to fix them all. That said, it was fascinating to see many of the industry's woes reenacted – and understood – in those four hours. Moreover, the strategists saw for themselves how war-gaming provides a new look at businesses people know well.

WHY A BUSINESS WAR GAME?

Think for a moment about the automotive industry. How has such a studied and storied industry worked itself into such a predicament? What would a business war game add to our understanding of the industry, which is already the subject of endless scrutiny, rumor, and legend? And more generally, since this essay is more about war-gaming than this industry, how can business war games aid your assessment and development of winning strategies?

Think for a moment about spreadsheets

Generally, spreadsheets apply accounting-based methodology to strategy problems. Unfortunately, those spreadsheets do not take competitors or customers into account – a serious omission when one needs to anticipate

competitors and win customers. Because such spreadsheets don't include real-life industry variables, they effectively (albeit unintentionally) make us overconfident. They assume our strategies will work.

Think for a moment about forecasts

Forecasting tools are usually based on data and trends from the past. That's fine if the future is going to look like the past. If, however, the future is going to look different from the past, forecasting can be materially or wildly off due to its nature as an extrapolator of a past that's irrelevant by definition. Would (or did) forecasts in 2007 say that 2009 would be so dismal? Apparently not, based on today's huge inventories of cars waiting to be driven home.

Think for a moment about other tools commonly used to set performance targets and evaluate strategy options, such as benchmarking, gap analysis, and budgets.

Each, like spreadsheets and forecasts, is useful. And each (necessarily) makes assumptions that we the strategists tend to forget when we are caught up in a delirious frenzy of statistics and decimal places.

Business war games provide, even force, a new look at businesses we know well. They do so by having us role-play competitors and customers in addition to ourselves, by having us compete as well as compute, by having us encounter action and reaction rather than assume bigger and better. They let us explore and stress-test in a safe environment, where mistakes mean oops instead of ouch. They let us fully use what we know about our businesses, and in so doing, they lead to insights that surprise those of us who use other tools...which is to say all of us.

THE DESIGN OF THE AUTOMOTIVE INDUSTRY WAR GAME

Teams, segments, judges, and decisions

We divided the war game participants into five teams: Ford, GM, Hyundai, Toyota, and Volkswagen. For the purpose of this war game, these teams/companies competed in three US market segments:

- Big Tough (roughly SUVs)
- Slick Style (roughly upscale sedans)
- Cool Green (roughly eco-friendly vehicles)

Why five teams? Not to be flip, but three would have been too few for participants to experience the richness of the industry and seven would have been too many to handle in the time we had. Similarly, one segment would have been too few and five too many. Three made for manageable tasks and complexity. Of course, there's nothing about war-gaming that

forces those limits. I've run war games with eight competitors and with ten segments, and I've designed simulation software that can handle dozens of competitors in scores of segments.

Each team had four to six people, which is the common workable size. We had two judge teams, too, each with three people representing consumers and investors.

In addition to excluding some competitors and market segments, we excluded decisions regarding pensions, healthcare, debt service, dealers, government regulations, and suppliers. With time and simplicity in mind, we focused the game on decisions for pricing, marketing, production, and capacity. That may sound like a short list – real business war games may allow strategists to work with dozens of factors – but it was more than enough to generate the dilemmas and debacles that the real automotive companies face in real life.

We used a simplified version of the ValueWar simulator, calibrated for the five companies and the three market segments, to calculate the demand, sales, market shares, and profit consequences of the teams' strategies. There is much to say about simulation design and other aspects of business war-gaming. What's most important here is that it is possible to simulate and war game virtually any industry. My colleagues and I have conducted war games on six continents with management in dozens of industries from airlines to vaccines.

Publicly available information and realistic estimates

The war game used publicly available information and realistic estimates as the basis for strategizing and simulating. Nothing proprietary or mysterious, nothing contentious. As in most business war games, the action and the insights come from management's thinking, behavior, assumptions, and decisions, not from decimal points or obscure factoids. [Author's note: Do not use any information or analysis presented herein to make investment or other weighty decisions about the automotive industry. Not even minor decisions.]

TWO ROUNDS (YEAR 1 AND YEAR 2) AND FOUR HOURS

The teams made decisions about their company's pricing, marketing, production, and capacity mothballing. They made those decisions for year 1 and we fed their decisions into the simulator. We showed the results to the teams before they made their year-2 decisions because in real life they'd track their performance as they adjust their moves. When they made their decisions for year 2, we simulated those results, too. All, including a debriefing, in four hours.

Along with each year's decisions, the teams presented marketing pitches to the consumer judges and business pitches to the investor judges. The judges' assessments joined the teams' decisions in the simulator, which enforced common-sense rules – for instance, you cannot sell more than you produce – and did the arithmetic to estimate demand, sales, profits, and market share.

“Estimate” is an important word. We didn’t pretend that this simulator was “accurate” (no analysis of the future is). However, it was definitely realistic and directionally correct. For instance, all else being equal, if you raised your price, you would drive away demand but make a higher margin on the cars you sold. All else being equal, if you spent more on marketing, more customers would buy from you. And so on. In sum, the simulator contained a large number of simple, non-controversial relationships, and it was quite capable of revealing consequences that other tools cannot.

A level playing field

The five companies we chose for the war game didn’t start from equal positions and they didn’t have equal resources. We took that into account in the scoring process to ensure that every team had an equal opportunity to win.

It helps for the teams participating in a war game to know there will be a winner: it taps the competitive emotions that affect real-life decision-making. During the business war games we’ve run for real business situations, we’ve seen a company’s own people cheer when they, role-playing the competition, beat their own company! That’s good for the same reason that a boxer wants to practice with a tough sparring partner.

The hard part: strategic thinking

Competitive strategy is often likened to chess for its complexity and to poker for its competitive interplay. It’s tougher than chess and poker, though, because in competitive strategy the contestants make their moves simultaneously. You make your strategy decisions before you know your competitors’ strategy decisions. Even if you wait and see, you are making your strategy decisions before your competitors make their *next* strategy decisions.

Take, for instance, this automotive war game. If you know that your competitors will focus on the Slick Style segment and cut production in the Big Tough segment, it’d be reasonable for you to contemplate abandoning the former for the latter. Problem is, simultaneous moves mean you don’t and won’t know that. You have to commit to your moves before you know what your competitors will do. (That’s why it’s so helpful to find clues with competitive intelligence and what-if analysis.) It’s a classic and difficult problem, and it affected the automotive makers in the war game. Here are some of the consequences and the lessons we can draw from them:

LESSONS FROM THE WAR GAME

Lesson 1. You are not fully in control

Four of the five teams decided that Big Tough was on its way out, and they built fewer vehicles for it. The fifth modestly upped its production, but nowhere near as much

as the others. As a result, war-game customers wanted to buy half a million more Big Tough vehicles than were produced, meaning the teams left roughly \$15 billion of revenue on the table. That number (or, rather, the foregone profit on \$15 billion in revenue) represents how much it would be worth to forecast the market and the competition better, and to act on that knowledge.

Compounding the problem, two offered substantial discounts and found themselves unhappily selling out at a price lower than they might have gotten otherwise. Why would you offer a discount when you don’t have enough supply to meet demand? You wouldn’t. But you might offer a discount if you expected more competition in the segment.

Taken individually, their decisions look perfectly rational and reasonable. It was the *combination* of those rational and reasonable decisions that cost them \$15 billion in that one segment. (More money was left behind in other segments.) But if they made rational and reasonable decisions, which of them made a mistake? If anyone did, what was the mistake?

We could argue they were too conservative, but when you’re losing money and the market is shifting, you naturally want to cut costs and position yourself in the segments of the future. These are prudent, hard-to-fault, by-the-book decisions. Perhaps one team could have thought harder about the profit pressures faced by its competitors, inferred that they’d shy away from that segment, and as a result, find opportunity in the vacuum left behind. That would take more than a little courage, especially in tough economic times. Besides, if more than one team came to the same conclusion, they could touch off a bloody war instead of a ghost town.

(For a funny taste of the “if I do this and you do that” conundrum, recall the battle of wits in *The Princess Bride* when Vizzini figures out which goblet contains poison. If you don’t want to watch the movie again, you can read his dialog with the Man in Black at <http://www.imdb.com/character/ch0003791/quotes>.)

Lesson 2. Align marketing and production

Four of the five teams decided that Slick Style was on its way in, and they built more cars for it. However, their marketing pitches weren’t so credible; the consumer judges didn’t want to buy so much from them. They did want to buy more from the one automotive team that had a great reputation, but that team didn’t increase its production at all. Result: those who increased production but didn’t market effectively ended up selling less than they’d expected, thereby losing money, and the team that marketed effectively didn’t make enough vehicles, thereby not making money. Again, one could argue that all five made “bad” decisions, but all of the decisions, taken alone, were sensible and defensible.

It’s common in business war games for increasingly desperate teams to try increasingly desperate means. (Not

unlike real life.) One of the teams gave in to the temptation – despite a warning – to pander to the consumer judges. They promised more, better, faster, and cheaper, and they didn't back it up with marketing. The simulator had several mechanisms to penalize unrealistic behavior, and that team saw their market share slip in year 1 and plummet in year 2. It would have been even worse for them if another team had not produced much less than demand (see Lesson 5).

Lesson 3. Don't tailgate last year's customer

After seeing results from the first year, teams made another set of decisions in the second year of the war game. Seeing unsatisfied demand in Big Tough, two teams dove back into that segment. That led to too much production chasing too little demand, which is not good for the bottom line. One diverted capacity away from Slick Style, leading to insufficient supply there. Another big revenue opportunity lost.

By the way, in both years the teams all had precise forecasts for the size of each segment. In other words, they had better information than they would in real life. Their production problems had nothing to do with inaccurate demand forecasts.

Lesson 4. Simulations let you “what if” better options

One team dominated the Cool Green segment: Toyota. Another (GM) abandoned the segment from the start, and the Volkswagen team had only a token presence. The Ford team made gradual changes in the segment and stayed in the number-two position. The Hyundai team made an aggressive run at Toyota and Ford. From year 1 to 2, Hyundai went from a substantial price premium to a substantial discount, and it greatly increased its marketing spending. Hyundai almost doubled its share of vehicles sold in that segment.

But for all its efforts, Hyundai revenue increased by only a few percentage points, and its profits fell. Perhaps not a good move. Then again, that's a benefit of war-gaming: you try something risky in the safe environment of the game, not in real life.

We tried some what-if simulations. Hyundai would not have done appreciably better even if it had kept prices higher, spent less on marketing, or both. A key problem is that their Cool Green entry had much lower margins than their competitors' because it was a small economy car rather than a high-tech green car. Their issues were deeper and more complex.

It's better to learn these lessons in the safety of a business war game, when you have time to ponder bigger moves, than when you're playing with real money in real life. We've seen that happen in war games for real business situations, which showed executives that they needed to find new options rather than debate the current list.

Lesson 5. Define what winning looks like

The team that scored best on profits and market share was Toyota. (That's a statement about the Toyota war-game team as well as the Toyota brand itself. By no means was Toyota predestined to be big and profitable.) It appears they had a winning strategy. *Appears*. However, they were the team that had by far the biggest capacity shortfall in Slick Style in both years. Over two years, that team could have sold over 2,000,000 more vehicles in Slick Style, and nearly 500,000 more in Cool Green. They could have sold roughly \$70 billion more.

So, did the Toyota team do well (highest profits and share) or did they do poorly (biggest opportunity lost)? Hmm. Hard to know. But we do know that it would be hard to see the situation with a conventional spreadsheet, and it was easy to see in a war game with a strategy simulator.

Conversely, the simulation had the Toyota team's competitors pick up much of what the Toyota team left behind. In effect, the Toyota team's mistake became a gift that inflated the other teams' results and made them look better than their decisions warranted. Reinforcing lesson 1: if the Toyota team had not left so much behind, the other four teams would have suffered more.

Lesson 6. You're not in this industry alone

Taken together, the teams subtracted value from the industry. If they had preserved exactly where they'd begun, they would have made far more money (or, more precisely, they would have lost far less money) than they did with their strategies.

Of course the teams might have come up with better strategies if they'd had more time. Much more importantly, the teams would probably have come up with much better strategies if we had the time to turn back the clock and try a second round of strategizing.

In the real business war games we've conducted, the disappointments from the first round are essential to getting people's attention and stimulating people's creativity. The second set of simulations is where the best strategy ideas come up. Just think: if you'd participated in this business war game, and you knew lessons 1-6 (and more), wouldn't that help you develop a much better strategy?

Lesson 7. Lessons look obvious after the war game

As obvious as lessons 1-6 may appear now, they were not so obvious before the war game. Corollary: what appears obvious before a war game often turns out to be a really bad idea. That lesson and its corollary are the rule, not the exception, in real business war-gaming.

WHAT YOU SHOULD DO (WYSD)

There's much more that could be said about the war game results. There's also much more to say about qualitative, quantitative, and mixed war-gaming. For now, we'll refocus on war-gaming instead of the automotive industry. Let's do some meta thinking; that is, thinking about thinking.

WYSD #1: Think "systems"

The teams' bad decisions weren't bad because they were based on faulty logical thinking or faulty financial thinking. They weren't. The bad decisions were bad because they were based on faulty systems thinking. They didn't take into account the interactive, interconnected system of my business, my competitors, my customers (and theirs), and my investors (and theirs). It's hard to get that kind of systems thinking outside simulations and business war games. It's easy to get it inside simulations and business war games.

WYSD #2: Define "success" carefully

We need to reassess how we determine if a move "worked." That's critical because it affects what behavior and decisions we reinforce and which we dispense with (e.g., by disincentives and dismissals). The four teams who moved partly out of Big Tough made reasonable decisions as individuals; it was *in combination* that they were hurt.

WYSD #3: Look for disconfirming evidence

We humans like to be right and to find reasons why we're right. Strategy development is often an exercise in advocacy, and as such it can fall into traps such as groupthink. Business war-gaming is an exercise in challenging and stress-testing, which looks for reasons why not as well as reasons why. As such, war-gaming inherently resists groupthink.

WYSD #4: Keep asking why

No, we're not advising that you indulge your inner little kid who keeps demanding WHY?! in that piercing, petulant voice. Rather, in our calm grown-up voices we note that strategy simulation resists groupthink and unwarranted optimism by insisting that there be a clear path from action A to profit B. Simulation models can make those paths explicit, and they don't accept "because I said so." That's insightful and even liberating because it gets everyone on the same page and it clarifies what has to happen for your strategy to succeed.

WYSD #5: Notice and challenge assumptions

Do it mercilessly, merrily, meekly, or melodiously; it doesn't matter. One such assumption, which we often see in business war games, is that your strategy must be hidden like a double extra top secret. Notice, though, how much of the distress in this business war game was due to bad assumptions about competitors' strategies, even disinterest in them. What if you were open and clear about your strategy? We're not saying you should do that. All we're saying is that *not* doing that is usually an unchallenged assumption.

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