

It's only a game
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"Managers have much to learn from game theory - provided they use it to clarify their thinking, not as a substitute for business experience"

FOR old-fashioned managers, business was a branch of warfare - a way of 'capturing markets' and 'making a killing'. Today, however, the language is all about working with suppliers, building alliances, and thriving on trust and loyalty. Management theorists like to point out that there is such a thing as 'win-win', and that business feuds can end up hurting both parties.

But this can be taken too far. Microsoft's success has helped Intel, but it has been hell for Apple Computer. Instead, business needs a new way of thinking that makes room for collaboration as well as competition, for mutual benefits as well as trade-offs. Enter game theory.

Stripped to its essentials, game theory is a tool for understanding how decisions affect each other. Until the theory came along, economists assumed that firms could ignore the effects of their behaviour on the actions of rivals, which was fine when competition was perfect or a monopolist held sway, but was otherwise misleading. Game theorists argue that firms can learn from game players: no card player plans his strategy without thinking about how other players are planning theirs.

Economists have long used game theory to illuminate practical problems, such as what to do about global warming or about fetuses with Down's syndrome. Now business people have started to wake up to the theory's possibilities. McKinsey, a consultancy, is setting up a practice in game theory. Firms as diverse as Xerox, an office-equipment maker, Bear Stearns, an investment bank, and PepsiCo, a soft-drinks giant, are all interested. They will no doubt seize on 'Co-opetition' (Doubleday, \$ 24.95), because it is written by two of the leading names in the field, Adam Brandenburger, of Harvard Business School, and Barry Nalebuff, of the Yale School of Management. It also helps by using readable case studies rather than complex

mathematics.

The main practical use of game theory, say the authors, is to help a firm decide when to compete and when to co-operate. Broadly speaking, the time to co-operate is when you are increasing the size of the pie, and the time to compete is when you are dividing it up. The authors also argue that, to get a full picture of their business, managers need to think about a new category of firms, 'complementers', which lead your customers to value your products more highly than if they had only your product. Hot-dog makers and Colman's mustard are complementers: buy one and you are more likely to buy the other. So are Intel and Microsoft.

The most important thing to know about a game is who the players are. A small change in the number of players can have unexpected consequences. The Holland Sweetener Company, a Dutch-Japanese joint venture, discovered this to its cost in the late 1980s when it tried to break NutraSweet's monopoly of the American artificial-sweetener market. NutraSweet managed to keep the predator out, but only after Coca-Cola and Pepsi used the threat of competition to force NutraSweet to lower its prices.

When competition between two players benefits third parties in this way, there is scope for the beneficiary to split its gains. Holland Sweetener in effect gave up its share of the gains that it had helped Coke and Pepsi to win. BellSouth, a telephone company, was wiser: it insisted on being paid to play. The firm said that it would bid against Craig McCaw for control of LIN Broadcasting Corporation only if LIN paid it \$ 54m for entering the fray and a further \$ 15m in expenses if it lost the bid.

One way for a player to do well in a game is to make itself indispensable. Nintendo built its video-games business in the late 1980s by restricting software developers to making five games each, keeping retailers on short rations, and doing much of the development in-house. Nobody else had any bargaining power. By contrast, IBM stored up trouble for itself in personal computers by allowing Microsoft and Intel to establish a lock on the two most valuable bits of the business.

A second technique is to tempt lots of competing players into the game - for instance by increasing the prize. That is what American Express did in 1994 when it organised a coalition with other big companies to purchase health care. The potential contract was so large

that a host of health-care providers got into a bidding war. A third technique is to make intelligent use of a resource which is worth more to your customer than to you. In 1993 TWA lifted itself off the bottom of the airline league by tearing out several rows of seats that were usually empty because the carrier was so unpopular, giving passengers more leg-room - and making the airline popular once more.

When to stop playing

Game theory seems a fine way to analyse decisions retrospectively. But is it much help in the heat of battle? The track record of grand ideas imported from other disciplines, notably chaos theory, is not impressive. However, the game theorists have already notched up some significant practical successes. The Federal Communications Commission used the theory to help design its \$ 7 billion auction of radio spectrum for mobile phones - and hundreds of mobile-phone companies also used the theory to formulate their bids.

But, as Peter Scott-Morgan, a consultant with Arthur D. Little, points out, game theorists are worryingly silent about the links between a company's strategy and its internal capabilities. Today's most successful managers craft their strategies on the basis of knowledge of their own companies, and devote at least as much thought to the question of how blueprints will be translated into practice. At their worst, game theorists represent a throwback to the days of such whiz-kids as Robert McNamara, chairman of Ford in 1960 and later defence secretary, who thought that rigorous analytical skills were the key to success.

Yet nothing can ever substitute for deep first-hand knowledge and experience. So, however sophisticated the games that managers play may be, they will still need to get their hands dirty.

The Malls Get Decked: Retailers Minding Too Many Stores *The Street .com* 22 November 2000



Play a little game this holiday season. See how many different **Gaps** you come across during the course of your shopping. Or count the number of office-supply or consumer-electronics stores you pass on your drive to work. You'll probably conclude that you don't lack for places to shop.

That's great for consumers. But the overstuffing of America, as analysts like to call it, is a real problem for the retailing industry. Massive expansion isn't new, but when the economy slows, as it has recently, the store glut becomes an even more severe problem. Some companies already are scaling back, but a lot more will need to do the same to reverse the trend, meaning a punishing shakeout soon could descend on the retail chains.

Vicious Cycle

Retailers have really become victims of their own success. When business is great, as it was through the late 1990s, companies expand. But fast-growing companies face not only the usual problems stemming from expansion -- the logistical difficulties of planning for and monitoring more stores, for instance. When enough companies are opening stores, growth in supply comes to exceed growth in demand. At that point, "It becomes more and more difficult to get market share without taking it from someone else," says Kurt Barnard, with *Barnard's Retail Trend Report*. Or from yourself -- too many locations can lead to cannibalization. To compete, companies may end up slashing prices, which kills margins even if same-store sales are increasing. Things get worse when the economy cools and consumer demand falls off. Then retailers are competing for even fewer customer dollars.

So why doesn't everyone just stop growing so much at the first sign of saturation? In part, it's a logistical issue; because companies commit

to leases ahead of time, they can't immediately pull back. But there's some game theory at work, too.

"It's a prisoner's dilemma," says Carl Steidtmann, chief retail economist with **PricewaterhouseCoopers**. "It's the same problem that OPEC has. You benefit if you cheat a little bit, but if everyone cheats a little bit, everyone gets hurt."

Driven

Retailers also want to tell Wall Street that they're continuing to open new stores and increase sales. "They're driven to meet the analysts' expectations," says Todd Slater, analyst with **Lazard Freres**. The pressure is acute in today's growth frenzy. No one wants to buy stock in a company whose CEO says, "Hey, we think we're about the right size now and for the foreseeable future," particularly not when tech companies have seen exponential growth in sales.

Specialty retailers are among the worst offenders. Slater figures they're increasing square footage by about 11% this year, more than last year's 6.7%. Oversupply hurt retailers from Gap to **Pacific Sunwear** this summer, as excess merchandise filled store racks and was eventually sold at massive discounts. But so-called big boxes -- consumer-electronics, home-improvement and office-supply stores, and discounters -- also are overstored, says Steidtmann. As a result, retailers are in for another promotional Christmas, as they offer discounts and sales in an attempt to maintain or gain market share.

In the worst case, problems go beyond a temporary profit squeeze. When companies borrow heavily to fund expansion and then find themselves overextended, it can set off a spiral that ends in bankruptcy. Retailers aren't as heavily leveraged as they were in the early 1990s, but still, there's likely to be an increase in "problem situations" next year, including debt downgrades and perhaps a bankruptcy or two, says Barnard.

The Pullback

There are some early signs that retailers are pulling back. Gap, for its part, already has identified overexpansion as one of the problems causing it to repeatedly disappoint investors since the spring. When it reported earnings for the fiscal third quarter, the company also gave its first hint about growth for next year. In the past two years, Gap increased square footage by about 30% per year. That rate of growth "has created stress on the organization and led to some of the execution issues we've experienced recently," said CFO Heidi Kunz on a conference call with investors and analysts. Next year, Gap expects

growth to slow to between 17% and 20%. "The growth rate for the next year represents an approach aimed at taking advantage of market share opportunities at a pace consistent with delivering quality results," Kunz said.

Gap's not the only one. When **Best Buy** recently warned of a weak second half, it said that though it already has signed 50 leases for next year, it would consider cutting store growth to 55 new openings from 65.

OfficeMax is considering closing 50 stores and will scale back its 2001 expansion plans from 54 stores to an unspecified level, while **Office Depot** may close between 50 and 75 stores, according to analysts.

When it recently reported disappointing earnings, **Staples** said it would scale back its aggressive expansion. And discounter **Ames** said recently it will close 32 stores.

Christmas in July

But that may not be enough. Cutting 50 stores, for example, would reduce Office Depot's 825-store domestic roster by only 6%. And as for the Gap, Slater says that 20% growth still means an additional 6 million-plus square feet of Gaps, **Banana Republics** and **Old Navies**. Meanwhile, other chains are showing no sign of letting up: **Abercrombie & Fitch**, which struggled this year, still increased square footage by 36% in the third quarter compared with the year-earlier quarter. It still plans to keep rolling out its namesake store -- and it says its new surf 'n' skate-themed store, **Hollister Co.**, eventually has the potential for between 600 and 800 outlets. Will it never end?

Well, probably yes, but it won't be pretty, particularly if the economy continues to struggle. Sales and profits in these particularly vulnerable sectors could continue to suffer until capacity gets removed by a not-so-pleasant method: massive closures and bankruptcy.

And while it takes a lot of discipline to close stores when rivals are opening them, **Limited** shows you can do it and prosper. The chain has pared almost 20% of its major apparel brand stores since 1996. Now its sales and profits are picking up nicely.

So go ahead, and enjoy the bounty of stores at the mall this year -- and the discounts. But as an investor, remember that what's good for you isn't necessarily great for retailers.