

MAKING PLANNING RELEVANT: THE REAL ROLE OF CORPORATE FINANCE REENGINEERING

Patrick T. Finegan

The purpose of business process reengineering is to reduce the complexity and duration of manufacturing processes, thereby improving productivity. Yet companies struggle when applying the mandate to finance because of the seeming diversity and "one-off" character of finance processes (such as treasury, IR, financial planning, MIS, budgeting, and hedging), and because of the difficulty in assessing contributions to share value. Too often, the exercise becomes a euphemism for cost-cutting.

The finance function's products are poorly defined. Most people believe that the product of capital budgeting is a budget, the product of strategic planning is a plan, and

PATRICK T. FINEGAN is managing director of Finegan & Co. LLC, a New York-based corporate finance consulting firm. Before founding Finegan & Co. in 1993, he was a partner of Stern Stewart & Co., New York, where he contributed to developing the principles and techniques of EVA (economic value added). EVA is a registered trademark of Stern Stewart & Co.

EXECUTIVE SUMMARY

! Much has been written about "reengineering" the finance function, yet the most common application has been cost-cutting. This ignores the original calling of reengineering-reformulating business processes to achieve competitive advantage. The reason cost-cutting practices prevail is that many finance functions, including strategic planning are so reactive as to contribute little to shareholder value. The real objective of corporate finance reengineering should be to restore relevance to the planning function by improving management's ability to measure and manage uncertainty, plus its ability to plan for contingencies.

! Now simulation-based planning models are being used at several companies to test growth opportunities against uncertain competitor behavior, improving the odds of costly wagers. In addition, the models have helped finance professionals assume previously unheard-of frontline responsibilities-anticipating, rather than reacting to, changing business conditions. Finally they have been used to make objective, performance-based incentives attainable.

the product of accounting is a financial statement. The budget, plan and financial statement are not themselves measures of value creation, so they are perceived as necessary evils in corporate reporting. The impression is that less is more, that reengineering's directive should be leaner production of similar reports.

The problem is that the product and process are defined incorrectly. The process at issue is corporate governance, not financial reporting. The products are superior project selection, superior long-term planning, and superior communication between managers, employees and investors-not budgets, forward plans and financial statements.

The real question for reengineers is not whether the same reports can be produced with fewer staff, but whether the same (or different) staff can make the planning and reporting processes facilitate better business decisions. It is here that the financial community has lost direction.

Conflicts arise between divisions of the finance organization

because of inconsistent vocabulary and standards. Investor relations, for example, may verse success in terms of earnings per share. Capital budgeting might evaluate projects on the basis of discounted cash flow. And internal accounting reports focus invariably on operating income, inventory turns and return on assets. To ensure consistency, the corporate office must devote precious time to making sure functional sub-goals reconcile. In other words, all information has to pass through a corporate translator before it can be disseminated safely to another function.

This creates an informational bottleneck, one which economic value-added (EVA) seeks to redress by being both forward- and backward-looking, and by relating theoretically and empirically to share value. It can thus be used by members of strategic planning, budgeting, accounting, IR, HR and treasury without risking inconsistency, and without sacrificing nuance or detail. Virtually every department of a company can thus exchange meaningful information as it is developed without waiting for the official corporate translation.

THE BIGGEST BOTTLENECK IS UNCERTAINTY

Despite improvements in how we measure and reward performance, the biggest decision-making bottleneck remains-inability to comprehend and exploit business uncertainties. Most finance functions simply react to deviations in market conditions from plan. And most managers view this as normal. This reactive mode of management makes "value-based planning" oxymoronic since most of

[S]trategic planning is value-adding only if it anticipates, rather than reacts to, future events.

management's plan is or will soon be inaccurate.

The irony of this informational bottleneck is that its impact is harshest on strategic planning-presumably the most forward-looking of finance functions. The oil industry during the 1980s serves as an example. At the beginning of the decade, experts predicted crude might reach \$100 a barrel, and most oil companies tailored their capital outlays and growth strategies accordingly. With hindsight, it turned out that OPEC's policing powers were overestimated, and oil prices collapsed.

By 1983 or 1984, the basis for most oil company growth strategies was glaringly outdated, yet full-bore drilling efforts continued. Optimistic pricing assumptions were so ingrained in planning models that it took a series of hostile offers, recapitalizations, and greenmail to jog the planning process. All this, in an industry that was legendary for the talent and expertise of its finance and planning departments.

STRATEGIC PLANS HOPELESSLY REACTIVE

By its nature, strategic planning is value-adding only if it anticipates, rather than reacts to, future events. Yet most strategic plans are out-of-date the day they are authored. The fact is, most companies are in industries beset by structural change, intense exposure to factors beyond management's con-

trol, and fierce gamesmanship with competitors.

Indeed, the most common observation about strategic planning is that it lacks real-world relevance. It does not matter that system enhancements let managers verify deviations from plan. It does not matter that managers versed the plan in a discounted cash flow or EVA framework. All the education, reporting systems and financial theory in the world seem irrelevant if managers must, by themselves, fend off shocks that the strategic plan failed to anticipate.

I am not suggesting, as a consequence, that managers miss targets like return on equity (ROE) or net income. On the contrary, they usually come remarkably close. However, the steps line managers take to reach aggregate targets bear dim resemblance to the steps prescribed by the plan. Five months into the year, the plan's only relevance is its bottom line-a frustrating thought for the managers who diverted weeks of valuable time to sweating out the details.

One company in the plumbing, home furnishing and motors business that I visited recently was still hammering out a matrix of individual functional responsibilities and targets for a thousand-or-so managers-with each responsibility and target designed to cohere to the company's current-year strategy. But the strategy itself, a product of months of pencil-pushing and negotiation, was built on assumptions that were starkly unrealistic. The planning process had thus transformed the company into a highly disciplined, highly polished brigade, marching into an empty battlefield while the war raged elsewhere.

One major airline, where load factors ran 2 to 3 cents per passen-

ger mile higher than its "no frills" competitors, not only scrapped its long-term planning process, it scrapped its annual budget, because, in the words of the chairman, the uncertainties besetting the company were "bigger than [the company] and bigger than the airline industry."

BLURRING THE DISTINCTION BETWEEN STRATEGIC AND FINANCIAL PLANNING

Readers may object to having the phrases "strategic planning," "financial planning," "value-based planning" and "capital budgeting" used interchangeably. That is intentional.

To maintain command and control over large organizations, most companies departmentalize what should be complementary tasks. The typical chart-of-accounts method of planning, valuation and budgeting procedures makes them seem amenable to delegation and separation. The results are often perverse.

Separating strategic planning from capital budgeting, financial planning or value-based planning breeds conflicting goals, assumptions, data sets and forecasts. It also gives rise to competing fiefdoms where information is hoarded and released selectively, forcing a bureaucracy to regulate its flow. Rather than partnering with line managers to create value, the planning and budgeting departments jockey for recognition by the corporate office, and forge an uneasy "command-and-control" alliance against line managers. Proactive planning is stifled. What's remarkable is that so many smaller companies emulate these larger companies-as if the bureaucracy contributed to their success.

The reengineered financial management system consolidates

By unbinding the planning functions from static, inflexible point estimates, business planning can be . . . elevated to a process.

the seemingly diverse tasks of financial management into a coordinated program of business planning and risk management. By unbinding the planning functions from static, inflexible point estimates, business planning can actually be elevated to a process.

Too often reengineering principles have been invoked to de-staff planning, rather than develop new tools which make planning swift, contingency-aware and responsive. In addition, there has been little effort to pierce the communication barrier that conventional planning tools erect between the corporate office and the field. Therein lies the true challenge of corporate finance reengineering: making planning processes relevant to line managers who have come to accept just-in-time practices and chaos as the norm.

THE PATH TO EMPOWERMENT

A reengineering initiative is only as effective as the understanding of the economy, markets, and competitors that generated it. Reengineering experts imply that concentrated brainstorming to define and reinvent business processes will lead inevitably to better strategy. It won't.

The world must be static enough, and competitors' behavior predictable enough, for brainstorming to yield surefire results. If management's window on the world is not real-time, or if com-

petitors react differently than planned, the reinvented business process may fail miserably.

For business process reengineering to succeed, companies must reengineer the planning process as well, by making it as contingency-aware and real-time as the business processes it is designed to assist. Execution of a reengineering plan may be top-down, but the understanding of the business and its environment must be bottom-up. A reengineered financial management system is the only assurance that proposed business strategies will enjoy vitality and responsiveness in an ever-changing world. Far from being an auditing and policing tool, the financial management system must empower managers to develop and execute corporate strategy-by assuring its flexibility, readiness and relevance to line managers. The transition requires new technology.

CLASSICAL FINANCE UNDERUTILIZES TECHNOLOGY

Most classical financial planning tools were developed in the 1960s and 1970s, when the power of mathematics outstripped the power of computing. "One-size-fits-all" formulas were derived to explain investor behavior, stock prices and security risk. The formulas were, in turn, wedged into corporate formulations of performance measurement, valuation and financial planning-often at the expense of economic accuracy.

The best these mathematical formulations could achieve were reasonable point estimates of expected value and returns, with few insights into dispersion or bias. Yet it is these latter insights which-in an uncertain world-spell the difference

between relevant and irrelevant planning processes.

To address uncertainty, many companies hypothesize bounds to earnings, cash flow or EVA using statistical concepts like standard deviation. The statistics depend on the aggregate performance measures being stationary and normally distributed. Unfortunately, they are neither.

Worse, truly discerning mathematical formulations like the binomial model for pricing options are incomprehensible to all but the most seasoned finance professionals. They thus breed misuse and skepticism among the corporate masses.

COMPUTING POWER BRINGS BETTER SOLUTIONS

The power of contemporary desktops now outstrips the power of mathematics. It's not difficult to see why using a computer is more comprehensible than textbook statistics and the often baffling and counter-intuitive formulas derived from such statistics. Managers can see how the simulation addresses the particular challenges of the question at hand. The opposite can be said of textbook statistics and classical economics. Textbook statistics and classical economics provide easily calculated answers, but they do not lend themselves to understanding.

This contrast has been driven home by efforts to value employee stock options using classic "black box" formulas like Black-Scholes and computer simulations. The beauty of the simulation technique is that it is graphically and intuitively clear to line managers how their options are valued. Rather than trusting outside advisors and "quants" to reformulate the already abstruse Black-Scholes

Simulation-based modeling is the centerpiece of Merck's research and capital budgeting process...

formula, management can fine-tune the option-pricing experiment to control for almost every variable that makes Black-Scholes ponderous and inaccurate. And they can do so in a way line managers understand and respect. In the end, there will doubtless be debate over discount rates, attrition assumptions and the like, but the debate will be informed and will not depend on blind faith in incomprehensible and externally defined sets of formulas.

The distinction is between a black box where the formulas themselves are opaque, and a series of simulations where the simulations are crystal clear, but the programming to facilitate the simulations is not. The former requires a financial expert to comprehend the conclusions; the latter requires a modeling expert to make the conclusions comprehensible to all.

MERCK HAS MADE PROJECT SELECTION A SCIENCE

A number of companies have re-examined the traditional tools of financial analysis—capital budgets, discounted cash flow and net present value—in light of microcomputing advances. The most respected proponent is Merck, which twelve years ago replaced conventional "what if" analysis of capital requests with a more rigorous (and value-adding) series of simulations, or "Monte Carlo" experiments. Judy Lewent, chief

financial officer of Merck, championed the mainframe-based initiative, and has witnessed vast improvements in the way new drug initiatives are evaluated, refined and selected. The company's approach to project selection was showcased in *Harvard Business Review's* January/February 1994 issue.

Merck's legacy is superior project selection. Simulation-based modeling is the centerpiece of Merck's research and capital budgeting process, encouraging managers to think beyond the level of profit associated with a successful drug introduction, to the company's exposure in attempting to attain success.

Merck understands better than most companies that devoting attention to uncertainty can create more value at the margin than devoting financial resources to projecting, prescribing and policing expected returns. The latter set of activities is relevant only if it can adapt swiftly and proactively to changing economic, regulatory or scientific circumstances. Better identification and modeling of uncertainty makes such responsiveness possible.

The logical extension of Merck's approach is strategic planning—but where strategic planning is redefined as:

- An ongoing, just-in-time process of anticipating and responding to contingencies;
- A risk-weighted process of identifying, prioritizing and executing business opportunities; and
- A process that meaningfully shares and utilizes the superior experience and intuition of line managers. The three conditions are a far cry from planning exercises at most compa-

nies-yet that is precisely the point. The planning process itself must be redefined if it is to attain lasting relevance to line managers.

THE SIX STEPS OF CORPORATE FINANCE REENGINEERING

There are essentially six steps in corporate finance reengineering. Together, these steps furnish the means to make planning exercises relevant and responsive in a complex, changing business environment.

Step 1: Identify Important Building Blocks of the Business

The first step is to assign meaningful and, if possible, verifiable patterns to the value drivers of a business. This means identifying and ranking key value drivers, including sources of exposure.

The best source of information for this task is line management. The problem at most companies is not inexperience, but a wealth of experience inadequately shared. The first step in corporate finance reengineering thus is to make managers articulate for the benefit of other managers the reasoning processes they've gleaned from years of work in a focused area.

Companies routinely rely on line managers to make judgment calls based on intuition and experience. The reengineered financial management system just asks managers to put the reasoning behind those judgment calls on paper in advance of the actual contingency arising. Wherever possible, the reengineered financial management system asks managers to recall and articulate experiences they relied on in thinking through certain issues. The process provides opportunity for interaction, for

[D]evoting attention to uncertainty can create more value at the margin than devoting financial resources to projecting, prescribing and policing expected returns.

sharing thought processes, and, in many instances, testing manager's impressions.

Step 2: Build a Better Model

Effective modeling means abandoning the "chart-of-accounts" approach to financial planning. It means hypothesizing relationships between key value drivers, devising empirical or anecdotal tests of these relationships, and preparing the decision tree management foresees as it anticipates competitors' behavior and the economy.

To be sure, developing a comprehensive, contingency-laden model of a business is hard. It is the hardest step in finance reengineering. But it is also the only way to make planning exercises keep pace with change, and thus remain capable of long-term relevance.

Step 3: Play Lots of Hands

The third step in corporate finance reengineering is simple: run lots of simulations. This may not be easy to program. But once programmed, it is a matter of sitting around and watching. It is also easy for the line managers to comprehend.

Step 4: Examine the Aggregates

Running lots of bottom-up simulations furnishes what no top-down analysis can—realistic estimates of how aggregate performance measures like sales growth, return on

capital, EVA, and even share value creation are distributed.

The reengineered financial management system both simplifies and broadens management's understanding of how aggregate performance measures perform in the presence of uncertainty. Focus is directed toward how the simulations cluster. Management can, for the first time, differentiate strategies which promise identical levels of EVA on average, but which have strikingly different levels of dispersion (and thus risk).

Step 5: Reevaluate Business Strategies

A probabilistic view of projected cash flows enables superior project selection. It also enables better strategy. There is surely no better tool for selecting between strategies than a financial planning model that accurately illustrates relevant tradeoffs and uncertainties.

Step 6: Plan Contingencies

The reengineered financial management system differentiates itself by providing continuous guidance in the face of change. It does so because almost all changes were, to some extent, contemplated by the model. The reengineered planning process thus adapts the "most likely" case to the context of actual business experience, and does so rapidly enough to provide line and staff managers with a basis for meaningful discussion of business options.

THE REAL DOPE ON INCENTIVE COMPENSATION

The reengineered planning process has implications for all aspects of financial management. The most piquant to many managers may be executive incentive compensation, for the topic is rich in controversy and—because of

imperfect classical financial tools—general misunderstanding.

Recent cover stories in *Fortune* and *Business Week* create the impression that promoting shareholder wealth boils down to selecting the right performance measure. Subscribe to balance sheet-sensitive measures like residual income, cash flow ROI, or, more recently, EVA, and you will—by changing measures alone—maximize prospects for your stockholders. Only if you are lucky. **The** problem is that value-planning experts have so muddled the public forums with their peculiar formulations of performance measurement that they have diverted attention from the more pressing practical considerations of implementation.

Stripped to its essentials, the debate over performance measures is a dead one. All recognized authorities agree that capital has an opportunity cost, and that this cost must be subtracted from income in assessing profitability. For the vast majority of companies, it is adequate to net the opportunity cost of equity from net income. Unfortunately, “the right measure” will not get you far. It might not even prove relevant.

Calibration. Ask any corporate insider what the most arbitrary (and unsettling) aspect of their pay-for-performance plan is and he or she will tell you, “How much pay for how much performance?”

Not, “What kind of performance?” Not even, “What kind of pay?” To date, there has been scant attention devoted to calibration—yet calibration is the check that prevents pay-for-performance plans from becoming either horri-

Virtually all aspects of the finance function can be improved by three-dimensional modeling and decision making.

bly unfair between divisions or a picnic for managers.

Differentiation. Delve beyond calibration and managers will express another concern: the incentive plan compensates the economy’s performance, not management’s. If stockholders knew that managers were rewarded or penalized only for their distinctive (and discretionary) contribution to share value, they would invest long in companies sponsoring such performance measures and would short those without them. In so doing, they would hedge themselves against all economic forces except management uncertainty. Now that would be a true alignment of stockholders’ and managers’ interests.

Integration. Last, the compensation industry has yet to associate highly aggregated measures like residual income and EVA with specific tasks of managers. Consequently, there is no way to distinguish performance between management teams or functions beyond a highly aggregated group level, and no specific hands-on advice on how to improve individual bonuses. Distilling balance sheet measures into one specific formulation of performance will never, by itself, ensure coordinated management initiative to improve share value.

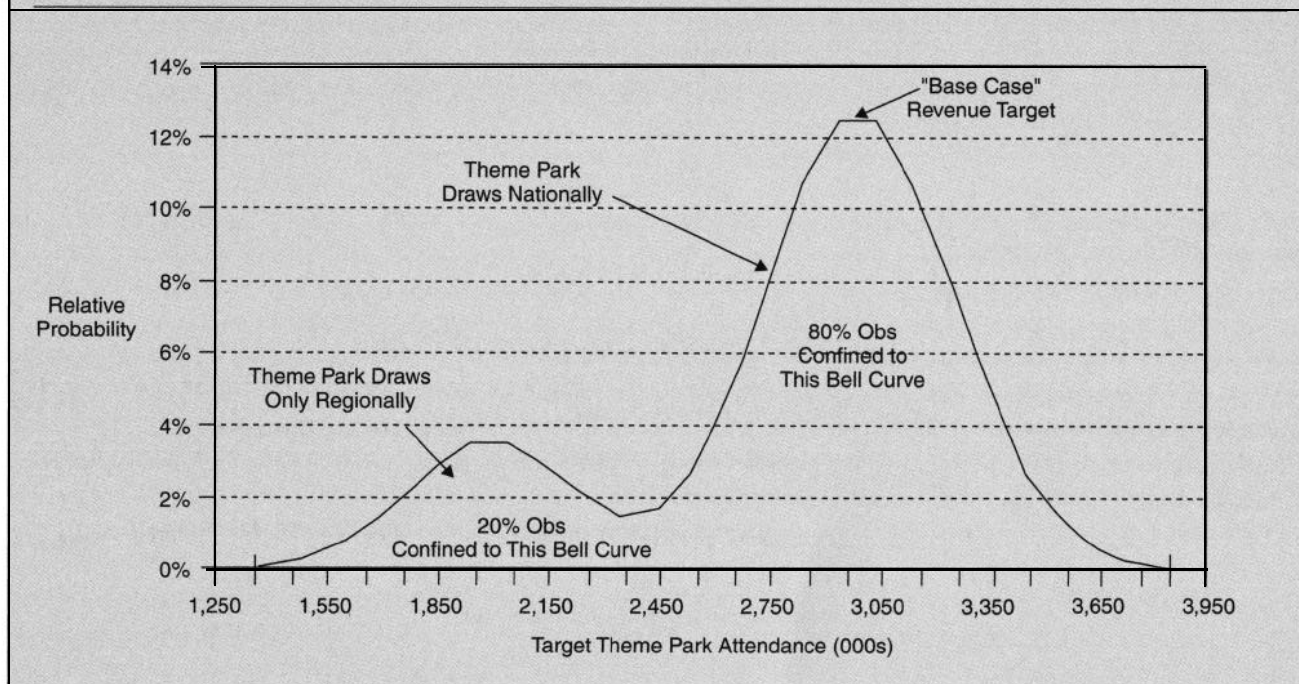
WHEN COMPENSATION PLANS WORK

Compensation plan design succeeds when it incorporates real-world uncertainty explicitly into the target-setting and calibration process. This is made possible when corporate managers develop probabilistic models, not individual forecasts, to describe their businesses. Such models modify performance targets to reflect changes in macroeconomic conditions beyond management’s control—and do so in a manner which is widely understood and accepted in advance.

Such models also provide guidance as to the distribution of aggregate performance measures, since they can be run on a PC hundreds of times—allowing competitors’ behavior and the economy to vary randomly, but in accordance with well-defined patterns. These distributions can be used to determine, for example, how steep management’s hills are to climb, and thus how to calibrate an incentive plan.

In addition, the hundreds of simulations generated by a single probabilistic model will remind managers that there are many paths to the same EVA. A quick discounted cash flow comparison will reveal, however, that only one such path is value-maximizing. The database of simulations thus becomes a powerful practical guide for identifying which specific tasks and decisions of management are most consistent with increasing stock value—not just EVA.

Finally, the database of simulations shows how clustered enhancing patterns are, and thus each pattern’s probability of attainment. It is quite possible, for example, for a value-maximizing strategy to be outweighed by a less

EXHIBIT 1
Simplified Attendance Model: Double "Bell" Curve


ambitious, but far more probable, value-enhancing strategy. By quantifying uncertainty graphically, the reengineered financial management system empowers managers to at last tighten the association between value-adding strategy and compensation.

FINANCING THE EMERALD CITY

Using simulation to quantify uncertainty works for more than compensation. Virtually all aspects of the finance function can be improved by three-dimensional modeling and decision-making.

Several years ago, for example, we reevaluated the financing requirements and valuation of a proposed Wizard of OZ theme park in Kansas in light of uncertain attendance levels, construction delays and weather patterns. I say "reevaluated" because the investor group had already engaged an investment bank to

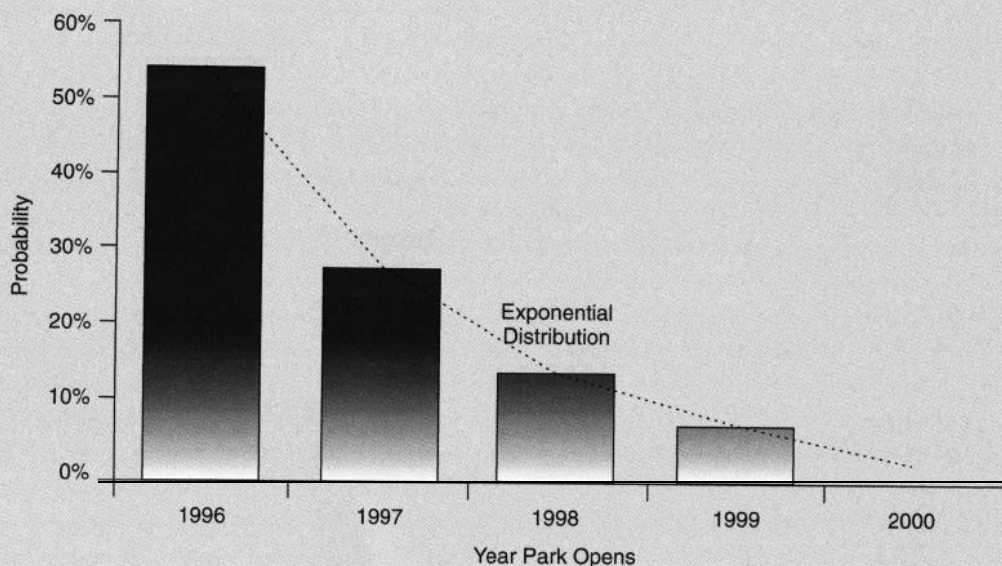
prepare detailed cash flow forecasts. The investment bank also supplied "best case" and "worst case" scenarios, but provided no concrete way to test the "base" forecast's sensitivity to real-world uncertainty.

Instead, what the investment bank's "base case" did was define modal and perhaps average expectations. What it could not do was quantify confidence intervals around that mode or mean for purposes of quantifying and pricing needed financing. Moreover, the bank's "what if" scenarios created the illusion of stability in margins, cost structure, weather patterns, and other key variables when, in practice, each item varied significantly as other variables changed.

At a structural level, factors with multiple modes tended to be ignored (for example, the park could either succeed as a national resort or become strictly a "drive

to" attraction, with two different clusters of attendance). Without a probabilistic model, the investment group was not likely to detect skewness in computing either its financing needs or its prospective investor returns. This might have resulted in a serious misconception of the project's fair market value, and disappointment at the time the group sought refinancing.

To correct these deficiencies, we remodeled The Emerald City from the bottom up, so that it mimicked the investment bank's forecast when all key input variables were the same, but incorporated real-world randomness into those variables, and real-world randomness into structural relationships. Of these two types of revisions (randomness in input variables and randomness in structural relationships), the structural revisions proved more important.

EXHIBIT 2
Simplified Construction Lag Model


Briefly, the investment bank posited set attendance levels in increments of 100,000 from 2.5 million in the inaugural year to 3.1 million in 2005. By contrast, the probabilistic model varied starting and long-term attendance levels around the investment bank's forecast, using familiar bell-shaped patterns. (See Exhibit 1.) In addition, the model assigned attendance levels a second, somewhat smaller bell-curve to reflect the small, but definite possibility that the park remained mainly regional. The model also varied attendance by random year-to-year fluctuations in weather and the economy.

These variables were, in turn, constrained by weather patterns and the economy overseas (thus affecting international franchise expansion), as well as by-in the case of the economy-the results of general economic growth during the prior year. While these latter variables (weather and the economy) did not bias the original investment

bank's forecast upward or downward, they defined the level of dispersion in attendance Oz would need to plan for as part of normal year-to-year uncertainty in structuring and negotiating financing.

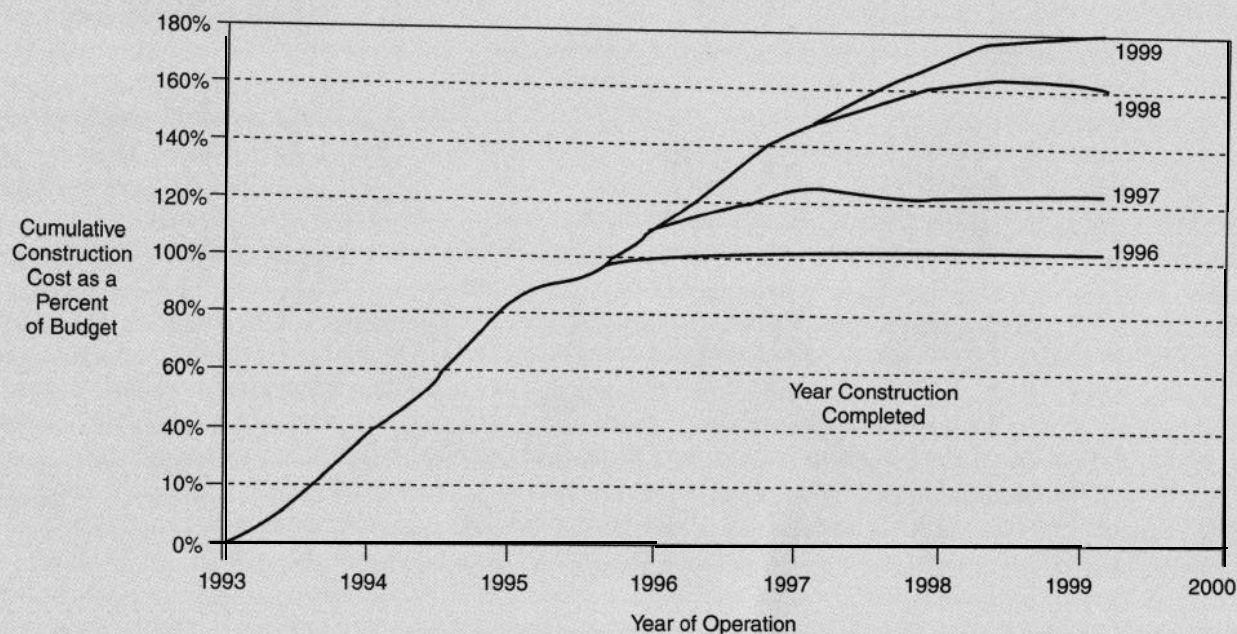
Possible construction and attendance lags were also addressed. Construction lags mean the possibility that the park opened late. This adjustment had implications not only for cost containment (overruns would be inevitable) and income postponement, but for the date, terms and pricing of an eventual prospective IPO. (See Exhibits 2 and 3.) "Attendance lag" means the number of years before attaining target long-run attendance levels. Although the investment bank assumed seven years, the probabilistic model allowed the number to vary both upward and downward, with consequent implications for investor returns.

The probabilistic model also deviated from the investment bank's model on pricing assumptions. Although there would

doubtless be some price stickiness around target levels of attendance, abnormally high or low attendance levels would have necessitated significant price adjustments and/or inducements. The probabilistic model assumed a rather conservative 25 percent swing in average admissions price per one million person swing in annual attendance, but only a 3 percent departure from pricing objectives for a 500,000 person swing. The relationship was thus nonlinear. (See Exhibit 4.)

As with attendance levels, the model assigned each category of revenue per attendee a non-zero confidence interval to reflect normal pricing uncertainty-even if the park hit its attendance milestones exactly. On the cost side, the model segregated the investment bank's cost of good sold (CGS) and operating expense forecast into realistic fixed and variable components. The reason was that the investment bank had projected CGS for each revenue

EXHIBIT 3
Impact of Construction Lags on Cost Overruns



item as a fixed percentage. That practice made sense as long as revenue fell within a reasonable range of target levels. Outside that range, however, portions of CGS began to look more fixed than variable—especially the cost of direct labor.

Consequently, the probabilistic model stripped out of each CGS estimate what we believed was its fixed component, and varied only the residual portion when there were significant variations in revenue. The impact was to leverage returns on the upside, and accelerate losses on the downside. While this structural modification was unbiased (i.e., it did not alter the base case), it did make financing requirements and estimates of value far more sensitive than the investment bank's model to "what if" adjustments in attendance levels and revenue per attendee.

On the capital side, the model refinanced the venture's initial sub-debt with common stock only after the second complete

year of operation, at a price consistent with the price-earnings ratio, price-to-cash-flow, and price-to-book multiple used by the investment bank in its pro forma financing proposal. Depending on the scenario, the anticipated \$70 million in refi-

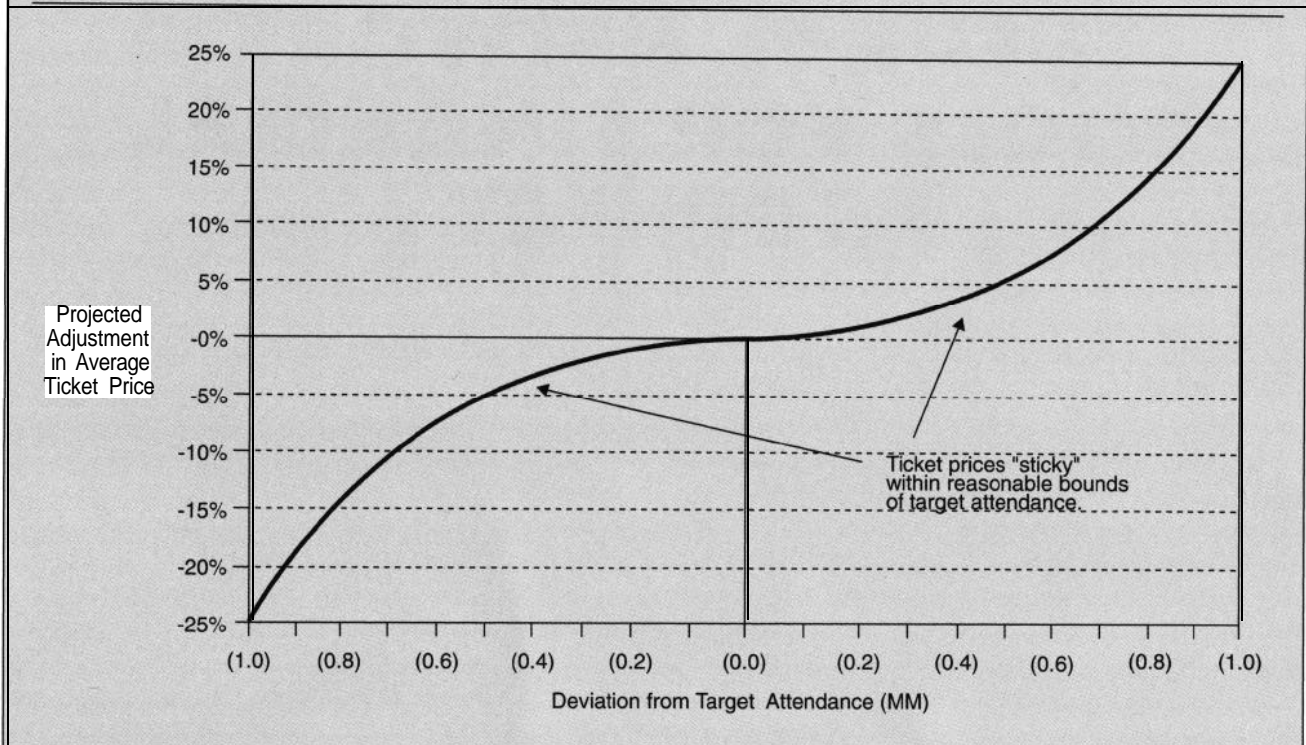
could cost the company anywhere between 20 and 50 percent of its equity. That is something all investors should have been aware of, and should have understood in terms of confidence intervals. The last thing the investment group needed was to liquidate or sell out four years into its venture for want of, say, \$25 million despite present ability to have anticipated and raised that amount through a more thorough, probabilistic assessment of its business plan.

For the Oz investors, a better model meant better planning. Just as no civic engineer would have planned a tollbooth based on average traffic no bottleneck-sensitive

business should rely on average attendance, golf rounds, hotel occupancy, food and merchandise sales, or club membership to estimate working capital and financing needs.

By persuading management that critical performance objectives like the opening date and target attendance were asymmetrically distributed, we were able to reformulate financing requests to accommodate most contingencies. The implied financing request far exceeded the capital prescribed by management's investment bank, but it preempted a likely cause of expensive refinancing later. The exercise also opened management's eyes to the project's real value, after accounting for the one-sidedness in the distribution of possible outcomes. Planning the theme park became more deliberate, more focused, as management realized that reliable returns played a pivotal role in determining value and exit horizon.

EXHIBIT 4
Simplified Price Sensitivity Model



CONCLUSION

Simulation-based planning models have now been used at several companies to test growth opportunities against uncertain competitor behavior, improving the odds of costly wagers. In addition,

the simulation-based models have helped finance professionals assume previously unheard-of frontline responsibilities-anticipating, rather than reacting to, changing business conditions. Finally, they have been used to make objective, performance-

based incentives attainable, by allowing fair comparison of how difficult milestones are to achieve, and distinguishing management's discretionary contributions to share value from the often overshadowing role of the economy. ■