

Strategic thinking: the ten big ideas

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In anticipation of readers' interest in discussing the topic of the ten big ideas of strategic thinking and in having an opportunity to suggest their own alternative list, Robert Allio has set up a blog contact: <http://strategy-forum.blogspot.com/>

The roots of strategic thinking (the systematic analysis of the current situation of the organization and the formulation of its longer-term direction) began to take hold in the corporation in the early twentieth century. Strategic thinking flourished between 1960 and 1990, when most of the fundamental tools were developed. Curiously, although business consulting and the business education have expanded dramatically, only a small number of central ideas continue to anchor the field[1].

What have been the cornerstones of strategic thinking? Judged by their impact, utility, and longevity, there are ten big ideas (see Exhibit 1).

1. Long-range planning

Many firms started long-range planning in the 1920s, limiting their focus initially to the manufacturing and financial functions. Over the ensuing decades, long-range perspectives were employed in the product development, marketing, and human resource areas, and by the early 1970s most US firms had institutionalized some form of overall long-range planning. Peter Drucker, an often-quoted voice of sanity in the marketplace of management thinking, was an early advocate of planning, starting when he was a consultant to GE chairman Ralph Cordiner.

Unfortunately, long-range planners often generated expensive and voluminous reports that lost relevance as they gathered dust. Done right, however, long-range planning compels managers to contemplate the allocation of resources beyond the current quarter or year; it considers the external factors that may affect the evolution of the firm and integrates the various functional strategies.

2. Strategic analysis

Strategic thinking and practice took a leap forward with the development of new, sharper analytic tools that helped managers make better sense of their markets, competitors, and industries. Several techniques make the honor roll:

- **Market segmentation.** GM's segmentation of the automobile market (spurred by the recognition that not all customers wanted a black car) in the early 1920s is the textbook case on how to allocate firm resources to different groups of customers. At one point, half the autos in the world were Ford Model Ts, and GM's market share languished at a paltry 20 percent. GM's bold move to create different brands aimed at different customers toppled Ford from its leadership position by 1930.



**Strategic Thinking
The Ten Big Ideas**

- Long-range planning
- Strategic analysis
- Quality
- Portfolio theory
- Scenario planning
- Resource allocation models
- Corporate culture
- Leadership craft
- Metrics that matter
- Strategic alliances

- *The lifecycle.* Theodore Levitt published his important article on the product life cycle in 1965, and at about the same time, the consulting firm of Arthur D. Little (ADL) introduced the notion of a life cycle for an industry[2, 3]. The premise of ADL's approach is that industries progress organically through a series of life-cycle stages: embryonic, growth, mature, and aging. In each stage, the basis of competition changes, requiring a new set of strategy initiatives. In the embryonic stage, for example, technology is the name of the game. By contrast, when an industry matures, price and cost become key success factors, and management must focus on generating efficiencies. As an industry evolves, a company's managerial systems must also change. Thus, in embryonic industries (genetic engineering, nanotechnology, space travel), businesses need entrepreneurial managers who can excel at technological innovation. In mature industries (computers, autos, beer), managers must focus on cost control and cash flow.
- *SWOT analysis.* Almost every organization engaged in a formal strategic planning exercise has employed some variation of this systematic framework, first introduced in the 1960s[4]. The technique requires an inventory of the firm's strengths and weaknesses, followed by an assessment of potential threats and opportunities. The importance for managers of a rigorous and consistent situation analysis is indisputable, and a SWOT analysis can provide a useful lens. The pitfall in many SWOT analyses, however, is the tendency to begin with a subjective and insular appraisal of strengths and weaknesses – and then proceed to assess the external environment. In reality, an organization has strengths and weaknesses only in the context of market needs, industry trends, and competitor strategy and commitment. Furthermore, SWOT analyses are often covertly political, allowing managers to ignore crucial issues.
- *Industry structure.* Research by industrial economists found that the structural characteristics of industries could give rise to important differences in industry profitability. The five-force analysis (buyers, suppliers, entry/exit barriers, substitutes for the customer, and competitor rivalry) has rightly been canonized in the syllabus of almost all strategy programs[5]. Properly applied, good industry structure analysis helps managers understand the underlying dynamics of the arena in which they compete. Still, understanding how the industry works today does not assure clarity about how to play the game in the future. Structural analysis tends to be static; it needs to be coupled with the analysis of industry maturity and the implications for future competition.

3. Quality

The importance of quality as a strategic variable began with the proselytizing of W. Edwards Deming[6]. Although US firms dismissed his ideas, Deming found a receptive audience in Japan for the application of statistical quality control techniques to manufacturing processes. The Japanese production lines benefited as well from just-in-time (JIT), also known as *kanban*, logistics. Later apostles of the creed of quality included Joseph Juran,

A. Kearney, and Philip Crosby. Total quality management (TQM) and business process reengineering (BPR) were both logical extensions of Deming's work that challenged managers to redesign all of the organization's major business processes[7].

As an organizing principle, using targeted data to understand and control how a core process works and how to fix it to minimize error makes eminent sense. TQM failed in many organizations, however, because of the enormous bureaucratic burden it placed on the staff, diverting attention from the day-to-day task of running the business.

In many firms, BPR became little more than downsizing. The trouble with that is that management often failed to take the next all-important step and develop effective plans to redirect resources to stimulate growth and enhance competitiveness.

The next solid advance in quality methodology arrived more than 15 years after Deming's work, when Bill Smith at Motorola convinced chairman Robert Galvin that defects of less than 3.4 per million (the six-sigma level) were achievable, not only on the manufacturing line, but throughout all of Motorola's processes[8]. The Six Sigma model has morphed into design for six sigma (DFSS) and its complement, "lean manufacturing." Both Motorola and GE have become ardent evangelists for the six sigma philosophy, promoting its application to organizations in any industry.

Six sigma is not a panacea, however, while simplicity is a virtue, some processes do not merit the scrutiny and dramatic reengineering that being "lean" demands. And cost reduction is not an endless source of profit. Nonetheless, six sigma can produce real competitive advantage if it enhances customer satisfaction and loyalty, keys to market share in many industries.

4. Portfolio theory

Portfolio theory is based on the proposition that a business can disaggregate its products, services, and markets into categories that can inform resource allocation decisions. The Boston Consulting Group (BCG) introduced its two-by-two matrix, the first of the portfolio models, in the mid-1960s[9]. BCG identified market share and market growth as the key variables in the matrix, and then unveiled their notorious resource allocation prescriptions (invest in the stars, divest the dogs, milk the cows, and solve the question marks)[10]. Similar portfolio approaches were advanced by both Arthur D. Little (the four-by-five matrix, using industry maturity and competitive position as the variables) and GE/McKinsey (the three-by-three matrix, using business strength and market attractiveness as the variables).

When applied naively, portfolio models can lead managers astray. For example, products or businesses having small market share may be categorized as "dogs." However, in some cases they are extraordinarily profitable if they dominate a market niche, and they may well represent a key to future competitive success.

The graphic display of portfolios also can encourage superficial analysis, and they are by definition only snapshots of a particular situation at a particular time, utilizing a small set of criteria to determine investment merit. Nevertheless, portfolio analysis continues to be a potent strategy development tool that can both help managers cut through the clutter and also guide decisions on how to allocate scarce resources to different parts of the enterprise.

5. Scenario planning

The scenario planning technique constitutes a useful and practical way to think about the enterprise as a whole and its interaction with the environment[11]. Scenario planning refers to the formulation of alternative possible futures for the firm and its environment as a means of exploring the utility of different strategies. The scenario represented a landmark shift in management perspective, from a deterministic view ("we can control our destiny") to the view that the future is intrinsically unpredictable ("we need to envision a range of different possible futures and prepare for them"). Its pioneering implementation is usually attributed to Herman Kahn's cold war studies at the RAND Corporation and the Hudson Institute and to Pierre Wack, who was head planner of the Royal Dutch Shell business environment division in the early 1970s[12].

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Some form of scenario planning is now a staple of every contemporary strategy formulation process. Contemplating organizational competitiveness in a variety of alternative futures allows managers to better prepare to respond and adapt to them. But scenario planning cannot achieve its potential as a device for teaching corporate leaders about the future unless they invest in far-ranging research, understand the key drivers of their business and its industry, and inject creativity and imagination into the process.

6. Resource allocation models

Strategists have continued to seek better principles to guide their resource allocation decisions. Protagonists of the industrial organization (IO) approach and the resource-based view (RBV) differ sharply on the right mindset; both offer useful insights.

Most industrial economists adopt the IO perspective, arguing that firms should apply their resources to those opportunities created by the behavior of either competitors or the needs of customers. The most influential proponent for this point of view was Michael Porter. Building on his earlier work on industry structure, Porter eventually reduced the range of strategic choices to a small set of generic strategies (low cost, differentiation, market focus) to be considered by any business, in any industry. His insights into how to assess and manage the value chain and how to develop sustainable competitive advantage remain a mainstay of contemporary strategic thinking.

RBV proponents, by contrast, contend that effective strategy will derive primarily from a firm's ability to leverage its own unique internal resources and capabilities. Birger Wernerfelt first articulated the RBV model in 1984, but it was the 1990 C.K. Prahalad and Gary Hamel article on core competence that popularized the concept[13, 14]. The appeal of this idea prompts many firms to hunt for their defining core competence. In reality, few firms have unique capabilities, and most firms risk wasting substantial time and energy trying to package their basic activities to fit the definition.

Ultimately, neither the IO nor the RBV perspective can provide managers with a universal framework for making good decisions about strategy. Enlightened managers will assemble (and develop) their capabilities, and allocate internal resources to capitalize on those external opportunities where they can seize competitive advantage.

7. Corporate culture

Cultural or social anthropology has been an important field of study in the US since the end of the nineteenth century. Franz Boas, Edward Sapir, Ruth Benedict, Margaret Mead, and other anthropologists showed that societal values and beliefs had a profound effect on behavior. The concept of a corporate culture was a natural derivative of this work. Social psychologists demonstrated that corporate behavior, and in particular the resistance of the organization to change, was inevitably a function of its culture. Edgar Schein and his colleagues were influential early contributors to this field[15].

An important milestone in the evolution of this area was the credo, a document that enunciated the firm's values and principles. The famous example of the Johnson & Johnson credo, developed in 1943, states that:

Our first responsibility is to the doctors, nurses and patients, to mothers and fathers and all others who use our products and services . . .[16].

When the firm had to navigate through the confusion and hysteria of the Tylenol crises of 1982 and 1986, Johnson & Johnson management attributed their ultimate success to the guidance provided by their credo.

Strategists continue to struggle with the implications of culture – and the constraints it places on strategy and implementation. Strategy is ultimately a decision about allocating resources, and people are critical resources in any firm. In theory, if strategy is incompatible with culture, strategy can be changed. John Kotter, among others, attempts to delineate strategies for managing the change process[17, 18]. But initiatives to align culture with new strategy often fail. As a result, many contemporary strategists appear to favor the approach popularized by Jim Collins in *Good to Great*: change the organization by “getting the right people on the bus.”

8. Leadership craft

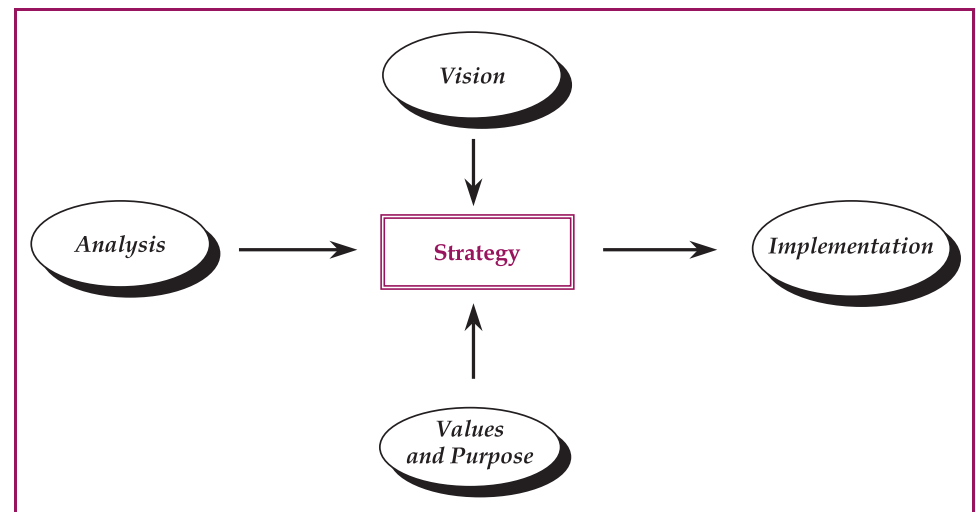
Effective leadership is recognized today as an essential variable in the firm’s strategy selection process. Leaders are responsible for assuring that strategy links the values of the firm with its vision and that the firm can successfully implement the strategy[19] (see Exhibit 2).

A long view of human resource management history would begin with Frederic W. Taylor, who in 1911 explained how to improve worker productivity by optimizing workflow and developing specialized task assignments[20]. Douglas McGregor’s 1960 distinction between Theory X (authoritarian management) and Theory Y (participative management) constituted a formal, humanistic rebuttal to Taylor’s scientific management philosophy[21]. His recommendations on how to motivate workers had enduring influence on management styles and foreshadowed the current emphasis on worker empowerment[22].

Although employees become more empowered as they become better educated and more knowledgeable, empowerment does not obviate the need for leadership. Any clever armchair strategist can concoct an elegant strategy. But it falls to the leader to forge a community of employees dedicated to implementing the strategy.

Reams of well-promoted leadership books proffer seductive and pithy leadership prescriptions: Tom Peters and Robert Waterman tell us how to achieve excellence[23], James MacGregor Burns recommends that we adopt transforming leadership[24], Jim Collins instructs on how to get from good to great[25], and Ari deGeus gives us the keys to

Exhibit 2 Strategy links values and vision



“The nascent field of game theory offers promise in understanding the role that managerial propensity or aversion to innovation and risk plays in strategy formulation. And new developments in artificial intelligence, cognitive modeling, and networking theory may yet lead to the optimization of strategy decisions.”

corporate longevity[26]. The leadership advice books are usually based on their deductions of what makes successful corporations thrive. But too often the authors offer little in the way of proof. They typically fail to test their prescriptions to see if they would work in startups, or make existing companies more competitive. And many of their exemplars of outstanding leadership subsequently faltered in the marketplace.

Effective leadership is vital, although studying lists of leadership traits does not make us leaders. Leadership develops only in the crucible of experience. So while many leadership books and the “theories” they espouse may make for good reading (especially for case histories of management decision-making), real leaders continually seek to master the craft of effective leadership and then use “teachable lessons” to spread the art of leading throughout their organization.

9. Metrics that matter

Businesses have always kept track of revenue and profit, but more useful metrics began to emerge in the 1920s when some firms adopted the DuPont formula, which presented a formal concept of return on investment[27]. Subsequent refinements to the DuPont equation considered the time value of money. Discounting for time and risk led to better measures of performance such as internal rate of return (IRR) and net present value (NPV)[28]. More sophisticated metrics, such as change in shareholder value or economic value added (EVA) came later. And formal benchmarking against competitors, as well as against “peers” (similar firms in different industries), added depth to these internal metrics.

The early 1990s witnessed a surge of interest in broader measures of performance, such as the triple bottom line (3BL). Activists argued that corporations needed to give attention to not only economic performance (profit), but also to social performance and environmental performance. But accountants have yet to develop plausible ways to measure these other parameters. Furthermore, responsible managers recognize their responsibility to not only shareholders, but to other stakeholders as well, including customers, employees, suppliers, and the community at large.

One current fashion is to embrace the methodology of the “balanced score card,” a system that attempts to balance financial performance with consideration of the customer’s perspective, the learning and growth perspective, and the internal business process perspective[29]. Difficult measurement challenges confront anyone attempting to apply this system, and the paperwork generated frequently seems onerous to operating managers.

Here’s my bottom line. For strategy to work, managers must monitor implementation. Good metrics are essential to this task. Some will be financial, both short-term and long-term. Others may simply reflect achievements in quality, efficiency, customer satisfaction, and the other variables that reflect the overall progress of the firm towards its long-term objectives. Sustainability entails sensitivity to changes in a small set of important parameters that must include social and environmental variables. What’s most important is achieving high performance while balancing the needs of all the stakeholders.

10. Strategic organization design

What's the optimum approach to organization design, when the goal is to maximize efficiency, effectiveness, and overall performance? Adopting the classic adage that structure must follow strategy, Alfred Sloan installed a multidivisional structure after taking over as president of GM in 1927, a move that was critical to GM's market segmentation strategy[30].

Harold Geneen's concept of the conglomerate extended the concept of Sloan's multidivisional system[31]. Geneen maintained that a corporation could improve overall performance by assembling an appropriately diverse portfolio of businesses. By judicious design of the portfolio, executives could modulate economic cycles, market fluctuations, and changes in sector growth. Holding managers to ambitious financial targets was the key to success of the model[32]. In its pure form, however, the conglomerate failed to realize its potential, and today even quasi-conglomerates like GE and 3M recognize the need for a unifying strategy or dominant theme.

The strategic business unit (SBU) represented the next innovation in organization design. Acting on advice from McKinsey, Fred Borch restructured GE's divisions into strategically independent units, broadly defined as sets of related products and services marketed to similar customers against common competitors. Most US firms quickly adopted the SBU meme as a central organizing principle. The principle is still valid, although interdependency among SBUs often complicates its application.

We began to witness the latest advance in strategic organization design in the mid-1980s with the advent of the strategic alliance[33]. Although firms had often formed partnerships or joint ventures with others, strategic alliances proliferated as corporations began to recognize the increasing interdependence of suppliers and customers, as well as other firms that often competed in the same space.

Boundaries between a firm and its customers, suppliers, and competitors continue to erode, and the recent enthusiasm for outsourcing suggests that managers would do well to prepare for the advent of the virtual corporation[34].

11. Looking back and ahead

From my vantage point, after some pivotal early insights, innovation in strategic thinking lay dormant until a brief blossoming in the 1970s and early 1980s. Since that period, new concepts have been sparse, although many old models have been refined or cleverly repackaged. Adrian Slywotzky's recent model of value migration, as one example, describes a phenomenon that dates back to King Gillette's recognition that selling blades had more revenue potential than selling razors[35].

Promising attempts to apply the scientific method to strategy formulation, notably the profit impact of market strategy (PIMS) research, have been virtually abandoned. For years, corporate planners based their strategy choices on some combination of three beliefs: the validity of their own intuition, the wisdom of their peers, and the robustness of last's year's strategy. The PIMS program of the 1960s and 1970s was the first significant attempt to study the correlation between strategic position and financial performance. The research began at GE, continued at Harvard's Marketing Science Institute, and eventually found a home at the Strategic Planning Institute.

The explanatory power of the PIMS model rests largely on cross-sectional analysis of confidential data pooled from businesses in many different industries. The critical hypothesis was that the specific characteristics of an industry are less important than shared strategic attributes, such as market share, quality, and investment intensity. The results of the research enabled the identification of 18 major determinants of sustainable competitive position and profitability[36].

Critics have challenged several findings from the PIMS studies, including the claim that early pioneers in a market are the long-term winners[37]. But most of the insights from the research seem incontrovertible.



“C.K. Prahalad’s vision of a company that speedily co-creates unique value by expertly managing networks of customers is intriguing.”

Natural laws exist in all the sciences. Until we are able to formulate similar laws for strategy, planners will continue to operate by trial and error, squandering scarce resources by repeating the blunders of the past. The PIMS mindset needs to be resurrected.

Is innovation in strategic thinking on the wane? Perhaps it is to be expected, given the maturity of the field, although entrepreneurs in other fields continue to surprise us with their ability to develop new products and services (and even new business models); eBay, Google, and Apple’s iPod are recent examples.

Given that almost all businesses now operate in a relentlessly competitive global marketplace, I argue that strategic tools are more than ever necessary to help executives parse and capitalize on what they can now see within their industry or markets. As evidence of this competitive pressure, Pankaj Ghemawat’s research indicates that 90 percent of the profitability difference between above-average and below-average businesses disappears over a ten year period[38]. Clayton Christensen’s study of disruptive innovation suggests that many firms are unable to reinvent themselves when challenged by competitors outside their industry[39]. And some firms, of course, cannot even withstand challenges from within their industry, as GM’s egregious collapse is demonstrating.

The old tools serve their purpose, but new tools and insights are also needed to help us reach the grail of sustained profitability. The nascent field of game theory offers promise in understanding the role that managerial propensity or aversion to innovation and risk plays in strategy formulation. And new developments in artificial intelligence, cognitive modeling, and networking theory may yet lead to the optimization of strategy decisions[40]. For example, C.K. Prahalad’s vision of a company that speedily co-creates unique value by expertly managing networks of customers is intriguing[41].

The top ten ideas are trusty tools, but with the rapid pace of change and global competition that envelops us, creative strategic thinking may become the new core competence for managers, and the ultimate source of competitive differentiation. After all, as Francis Bacon observed in the sixteenth century:

He that will not apply new remedies must expect new evils; for time is the great innovator.

Notes

1. Arthur D. Little established the first consulting firm in 1886. The 2006 Harvard Business School directory now lists over 21,000 consulting firms. The estimated 140,000 consultants employed by these firms generated over \$120 billion in consulting revenue in 2000. Business education has grown dramatically in popularity since NYU established the first business school in 1900. According to the Association to Advance Collegiate Schools of Business (AACSB), 7,622 educational institutions now offer business degrees; US schools alone awarded almost 140,000 MBA degrees in 2003-2004.
2. Theodore Levitt, “Exploring the product life cycle,” *Harvard Business Review*, November-December, 1965.
3. ADL internal documents.
4. See, for example, Kenneth R. Andrews, *The Concept of Corporate Strategy*, Irwin Press, Homewood, IL, 1971.
5. Michael Porter, *Competitive Strategy*, Free Press, New York, NY, 1980.

6. W. Edwards Deming, "Management's responsibility for the use of statistical techniques in industry," *Advanced Management*, vol. XVIII, 1953.
7. Michael Hammer and James Champy, *Reengineering the Corporation; A Manifest for Business Revolution*, HarperBusiness, New York, NY, 1993.
8. Motorola internal documents, 1986.
9. Bruce Henderson, *Perspectives on Experience*, Boston Consulting Group, Boston, MA, 1972.
10. Research on the experience curve, an extension of earlier work on the learning curve, demonstrated that total costs in most industries would decline 20-30 percent every time total production quantity (experience) doubled. These cost improvements represented the combined effect of economies of scale, organizational learning, and technological innovation. The obvious corollary was that a business having high market share would accumulate experience more rapidly than its competitors.
11. Work by Jay Forrester on system dynamics and Russell Ackoff on systemic thinking were parallel developments.
12. Pierre Wack, "Scenarios: unplotted waters ahead," *Harvard Business Review*, Vol. 63 No. 5, 1965.
13. Birger Wernerfelt, "A resource-based view of the firm," *Strategic Management Journal*, Vol. 5, 1984.
14. C.K. Prahalad and Gary Hamel, "The core competence of the corporation," *Harvard Business Review*, May-June, 1990.
15. Edgar H. Schein, *Organizational Culture and Leadership*, Jossey-Bass, San Francisco, CA, 1965.
16. "Our credo history," Johnson & Johnson web site, 2006.
17. John P. Kotter, *Leading Change*, HBS Press, Boston, MA, 1996.
18. The study of organizational change dates back at least to the work of social psychologist Kurt Lewin. See, for example, his *Principles of Topological Psychology*, McGraw-Hill, New York, NY, 1936.
19. See, for example Robert J. Allio, *The Seven Faces of Leadership*, Tata McGraw-Hill, New York, NY, 2003.
20. Frederic Winslow Taylor, *The Principles of Scientific Management*, Harper & Brothers, New York, NY, 1919.
21. Douglas McGregor, *The Human Side of Enterprise*, McGraw-Hill, New York, NY, 1960.
22. McGregor's work drew heavily on Abraham Maslow's theory of a hierarchy of needs: see *Toward a Psychology of Being*, Van Nostrand Reinhold, New York, NY, 1988.
23. Thomas J. Peters and Robert H. Waterman, *The Search for Excellence*, Warner Books, New York, NY, 1982.
24. James MacGregor Burns, *Leadership*, Harper & Row, New York, NY, 1978.
25. Jim Collins, *Good to Great*, HarperCollins, New York, NY, 2001.
26. Ari de Geus, *The Living Company*, Harvard Business School Press, Boston, MA, 1997.
27. Donaldson Brown, DuPont internal documents, 1924.
28. Zero-based budgeting was adopted for a number of years by a few firms.
29. Robert Kaplan, "How the balanced scorecard complements the McKinsey 7S model," *Strategy & Leadership*, Vol. 33 No. 3, 2005.
30. Alfred Sloan, *My Years with General Motors*, Doubleday, New York, NY, 1963.
31. Harold Geneen (with Alvin Moscow), *Managing*, Doubleday, New York, NY, 1984.
32. Management by objectives (MBO) was a fad that led to aberrant behavior in many firms when superiors dictated objectives from the top. Arbitrary enunciation of goals inevitably leads to malicious compliance on the part of subordinates. Goals must strike a balance between aspirations and reality.
33. Peter Pekar, Jr and Robert J. Allio, *Long Range Planning*, Vol. 24 No. 4, 1994.
34. Robert J. Allio, "The InnoCentive model of open innovation," *Strategy & Leadership*, Vol. 33 No. 1, 2004.

35. Adrian J. Slywotzky, *Value Migration: How to Think Several Moves Ahead of the Competition*, Harvard Business School Press, Boston, MA, 1995.
36. Sidney E. Schoeffler, Robert D. Buzzell and Donald F. Heaney, "Planning on profit performance," *Harvard Business Review*, March-April, 1974.
37. Gerard J. Tellis, Peter N. Golder and Clayton Christensen, *Will and Vision*, McGraw-Hill, New York, NY, 2002.
38. Pankaj Ghemawat, "Sustainable advantage," *Harvard Business Review*, September-October, 1986.
39. Daniel J. Knight, "Three trips around the innovation track: an interview with Clayton Christensen," *Strategy & Leadership*, Vol. 33 No. 5, 2005.
40. Academia needs to contribute more productively to the field of strategic thinking, although the continuing shortage of doctoral students (20 percent decline over the past several years) has clearly constrained research productivity.
41. C.K. Prahalad and Venkat Ramaswamy, *The Future of Competition: Co-creating Unique Value with Customers*, Harvard Business School Press, Boston, MA, 2004.

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