HARVARD | BUSINESS | SCHOOL

9-304-075

REV: FEBRUARY 28, 2005

DAVID A. GARVIN

LYNNE C. LEVESQUE

Emerging Business Opportunities at IBM (A)

These emerging business opportunities aren't just product upgrades or new technologies; they're business opportunities—ones we believe we can commercialize and turn into revenue-producing businesses because they meet the needs of our customers. They're emerging because they are somehow changing the dynamics in the marketplace: a shift in business models, a new set of customer requirements, maybe a disruptive technology—something like Linux that can change the playing field. Because they don't represent business as usual, they need a lot of care and feeding.

—J. Bruce Harreld, Senior Vice President, Corporate Strategy

"Palmisano asked some tough questions," Harreld said to Gary Cohen, vice president of Corporate Strategy, after a presentation in late June 2003 of Corporate Strategy's long-term plan for the Emerging Business Opportunities (EBO) program. "We need to spend time thinking them through."

IBM had made significant progress over the past three years in changing the way it managed its new, emerging businesses. With considerable support from Harreld, his Corporate Strategy team, and line managers, 18 new business opportunities had been identified, funded, and shepherded through the program. They were on target to meet the goal of two points of annual incremental revenue growth that Harreld had promised the board of directors. Equally important, IBM now had a structure and discipline for managing these new opportunities, and there was considerable enthusiasm for the program.

Still, IBM was not yet growing as rapidly as senior management hoped. In particular, Corporate Strategy estimated that in the next few years revenues from emerging businesses would fall well short of the two-point incremental growth objective unless the pipeline of new EBOs was dramatically refilled.

Harreld and his team had therefore recommended several steps to scale up the program, including sharply increasing the number of EBOs. To guide them, Corporate Strategy would have to expand its staff and broaden its activities. While there was general acceptance of this approach, Sam Palmisano, IBM's CEO, had ended the discussion by asking Harreld and Cohen several tough questions: "Do you think the existing 18 EBOs would be where they are today without the time that you personally spent with them? Don't they still need your support? So tell me how you're going to keep spending that kind of time with the existing EBOs and with IBM's broader issues of growth, while you're also getting 10 new ones off the ground?"

Professor David A. Garvin and Senior Researcher Lynne C. Levesque prepared this case. HBS cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

The Challenge of Growth

Founded in 1911, IBM was for many years the world's dominant computer company. It was well-known for its mainframe and minicomputers and led the industry with innovations such as the System/360 family of products, the floppy disk, and early versions of the automatic teller machine. Then, in the early 1990s, IBM stumbled, upstaged in part by more nimble competitors and the shift to smaller, open systems. In 1991, for the first time in 45 years, the company actually stopped growing, despite a dynamic, expanding industry. Revenues at IBM continued to decline, leading, in 1992, to a loss of $5.0 billion on revenues of $64.5 billion.

To solve these problems, the company turned to an outside CEO for the first time in its history. Lou Gerstner was hired away from RJR Nabisco in 1993. He found IBM to be an insular, inward-looking organization with a powerful bureaucracy and inflexible hierarchy. Interdivisional rivalries were heated and frequently of greater concern than victory in the marketplace. All too often, managers viewed new business opportunities as distractions or threats to the core business. Gerstner summarized the situation: "Successful institutions almost always develop strong cultures that [become] an enormous impediment to the institution's ability to adapt."[1]

Gerstner initially focused on cutting expenses, reorganizing the company, articulating new principles, and stabilizing and redirecting IBM's core businesses. Once these steps were successfully implemented, he turned to issues of companywide growth. In the mid-1990s, IBM created and started to build its services business, which would prove to be a significant success. However, outside of acquisitions such as Lotus and Tivoli Systems, the company continued to struggle with the challenge of growth.

In part, the problems could be traced to IBM's complex matrix structure. The company was divided into seven groups and 39 business units (see **Exhibit 1**). Business units were based primarily on brands and had their own profit and loss statements but controlled neither sales nor manufacturing; those costs were allocated to them. Sales and distribution were organized geographically and by industry sectors, but in varying configurations and territories. New businesses therefore required the cooperation and support of many different players.

The result was a series of false starts and considerable frustration, especially in the research and development (R&D) community. Senior Vice President for Research Paul Horn recalled: "I constantly picked up a lot of noise about missing opportunities. If we attempted to start a potential business and it didn't fall within a natural business line, it was very hard to develop." A promising optical-laser components business, for example, had emerged from the Zurich research lab. But because it could not get support from the Microelectronics Division to scale up further, the business had to be sold. Nick Donofrio, senior vice president of Technology and Manufacturing, observed: "Only if an idea became a passion of a senior person did it have a shot."

A corporate venture fund, established to finance internal growth opportunities, was equally problematic. It led, Harreld observed, to considerable "bad behavior and unhealthy mischief. We called it 'bowling for dollars' because managers from the groups tried to fund ideas with loose, back-of-the-envelope business plans." Since there was limited infrastructure and few formal processes to support new businesses, most new efforts disappeared quickly. The problem, one manager recalled, was "the way work got done at IBM. People running new businesses had to spend an inordinate amount of time justifying their existence."

[1] Louis V. Gerstner, Jr., *Who Says Elephants Can't Dance*? (New York: HarperBusiness, 2002), p. 182.

By 1999, IBM was on solid financial footing but had not yet solved its growth problem. Revenues had increased by an average of 5.7% over the previous six years, steady improvement but well below the high flyers in the industry (see **Exhibits 2** and **3**). IBM's new businesses were still not getting sufficient traction. The problem came to a head that September. Gerstner had asked one of IBM's units to develop a strategy to address the explosive growth in biotechnology and life sciences. They worked for months, evaluating options and trying to get support across the organization. Gerstner then learned that funding for the project had been eliminated. As a senior manager recalled: "He blew his stack." On September 12, 1999, Gerstner fired off a memo demanding to know why IBM was consistently missing the emergence of new industries and asking three senior executives, including Harreld, to find the sources of the problem and come back with recommendations by the first of December.

EBO Study and Recommendations

The executives quickly formed a study team to interview individuals involved in several dozen missed opportunities and failed and struggling start-ups within IBM. The team developed four detailed case studies, featuring businesses such as Life Sciences and Pervasive Computing, as well as 25 shorter caselets, in order to "make vivid to our senior leaders the pain of a lot of very good people." They also talked with consultants, reviewed the academic literature on innovation and business creation, and benchmarked IBM's new business development efforts against those of Cisco, Intel, Microsoft, and other large companies, as well as venture capitalists and entrepreneurs.

Root Causes

The team concluded that IBM's difficulty in starting up new businesses could be traced to six root causes:

1. **Our management system rewards execution directed at short-term results and does not place enough value on strategic business building.** Over the past five years, the management team had become overly focused on near-term execution. Because they were rewarded for control and execution, managers approached new ventures with the same intensive, operational focus they applied to established lines of business. General managers were often only weakly involved in strategy formulation, and IBM's executive leadership index showed "breakthrough thinking" as the only attribute in decline in recent years.

2. **We are preoccupied with our current served markets and existing offerings.** Like many well-established companies, IBM focused on listening intensely to current customers. As a result, it frequently missed the creation of new business models and was slow to recognize new markets and new classes of decision makers. Businesses were repeatedly attacked from below by firms offering cheaper products with less functionality. Senior managers spent little time discussing emerging growth areas.

3. **Our business model emphasizes sustained profit and earnings per share improvement rather than actions to drive higher P/Es.** Over the past three years, IBM management stressed improving the profitability of a mostly stable portfolio of businesses. The goal for new businesses was substantial, immediate sales and earnings. Expense/revenue ratios drove the planning process, and new businesses were often burdened with unrealistic overhead allocations.

4. **Our approach to gathering and using market insights is inadequate for embryonic markets.** IBM had a long history of relying almost exclusively on factual financial analysis when making investment decisions, even when a market was too immature or small to support it. Managers distrusted intuition and often regarded undefined markets as frightening because of their high levels of uncertainty and risk.

5. **We lack established disciplines for selecting, experimenting, funding, and terminating new growth businesses.** IBM's management system was geared to the continued funding of established businesses. Innovative business ideas often lacked sponsorship and attention; when budgets became tight, they were often the first programs to be cut. IBM was funding its new businesses 180 degrees differently from the way venture capitalists were: starting big, then whittling away resources rather than ratcheting up commitments over time.

6. **Once selected, many IBM ventures fail in execution.** New ventures failed for several reasons: inadequate entrepreneurial leadership, lack of skills for building small businesses, and the absence of sustained funding. Managers were expected to rise above the complications of the company's organization structure and processes. Voicing concerns over the matrix structure and measurement system, even when they were major barriers to new business initiatives, was seen as a sign of weakness. New businesses were simply added to managers' existing responsibilities, resulting in limited dedication and commitment.

Three Horizons of Growth

In essence, the team concluded that IBM had one management system, designed for large, established businesses, and was using it unsuccessfully to manage its new businesses as well. In a book entitled *The Alchemy of Growth*, they discovered a model that made much the same point.[2] That model divided a company's business portfolio into three horizons, based on their stages of development. Horizon 1 (H1) businesses were mature and well established and accounted for the bulk of profits and cash flow. Horizon 2 (H2) businesses were on the rise and were experiencing rapid, accelerating growth. Horizon 3 (H3) businesses were emerging and still developing and were the seeds of the company's future. (For more details on the three horizons, see **Exhibit 4.**)

Because each horizon's businesses had their own distinctive strategic and operational requirements, multiple management systems were required. Businesses needed to be measured and managed differently, depending on their stage of development. Stable, predictable H1 businesses could be managed using traditional budgeting and control systems. Profitability, as well as productivity improvement and cost cutting, were appropriate metrics for evaluating performance. H2 businesses, by contrast, needed disciplined risk taking and significant resource commitments in order to scale up quickly. Leaders should therefore be judged on revenue growth and market-segment share gains. H3 businesses were even less well developed. They needed visionaries and champions, leaders who could think out of the box and create new strategies and business models in the face of ambiguous, evolving environments. They were best measured on project-based milestones that showed their progress in converting grand ideas into workable businesses.

Although the team was enthused with the three-horizon model, members struggled with how to implement it organizationally. The model implied that different management systems had to coexist simultaneously. One alternative was a centralized venture unit for H3s. It had the advantage of providing clear separation of emerging and mature businesses and focused management attention. But it did not cultivate business-building skills where they were most needed—in the divisions. It

[2] Mehrdad Baghai, Stephen Coley, and David White, *The Alchemy of Growth* (Reading, MA: Perseus Press, 1999).

also did not leverage the existing infrastructure in the divisions and did not ensure that new businesses, once they had reached H2 status, would transition successfully back to the divisions. As John M. Thompson, then senior vice president and group executive of Software, put it: "In a centralized model, it's hard to ramp up for growth because of the required integration across the organization. Just when you need cooperation, the white corpuscles from the existing businesses come out to protect their resources and try to kill the new effort. It's almost impossible to be successful."

At the same time, vesting complete authority for new businesses in the line organization was equally problematic. It did little to overcome the traditional biases of IBM's operationally oriented managers. Thompson noted: "In those days, line managers were terrible at developing long-term strategic initiatives. They didn't spend time on them because of crises and operational issues. Besides, lots of projects were in the white spaces that crossed businesses, so it was hard to get all the right players involved." To overcome these difficulties, the team eventually settled on a hybrid model combining corporate guidance and oversight with line authority and accountability.

Recommendations and Launch

In December 1999, the EBO task force made the following recommendations:

At the Corporate Level

- Adopt the three-horizon model as an overall IBM business construct and devote increased senior executive time to overseeing H2 and H3 businesses.
- Define H3 EBOs that cross business domains and provide for special leadership and attention at the corporate level.
- Build an explicit EBO management system, driven from a central unit and led by a senior executive, while still ensuring clear ownership of all EBOs by line management.

At the Group Level

- Decide appropriate investment balance by each horizon.
- Take the lead on selected corporate EBOs.
- Define group and business unit-specific EBOs and build appropriate group EBO management systems.

These recommendations were, for the most part, well received. There was little resistance from senior managers. The Corporate Executive Committee (CEC) spent a great deal of its time in the next few months discussing the need for an EBO management system. According to Harreld: "We were collectively embarrassed by the caselets and the conclusions, by the tin-cupping approach to funding new businesses [in which leaders were forced to go begging for funds from multiple sources], and by the junior people who were being assigned to growth initiatives." Middle managers were a bit more guarded. According to a team member: "Not all of them got it immediately. They weren't sure it would have legs and not be just another management fad. They were also concerned about how it would fit into their focus on making quota."

Corporate Strategy assumed responsibility for the program and began working with the groups' senior managers to classify businesses as H1s, H2s, or H3s. They had little trouble coming up with a

list of roughly 42 H2 businesses that would remain within the existing management system. Identifying corporate and divisional H3s—which would be formally designated as "emerging business opportunities"—took considerably longer. Harreld and his staff eventually selected a set of seven corporate EBOs based on cross-IBM resource needs, the maturity of their strategies and business plans, the potential size of their markets, and the perceived value to be added from corporate oversight.

Gerstner's commitment to the EBO process grew over the next few months. He began using the horizons-of-growth language in his speeches, describing businesses as H1s, H2s, and H3s and telling managers, "IBM's number one issue is revenue growth. General managers have to understand that they won't be successful if they focus only on their core, H1 businesses." Gerstner was also directly involved in identifying and recruiting leaders of the corporate EBOs, who were now experienced senior people rather than the younger, unseasoned managers of the past. At a senior management meeting in early 2000, he introduced them by saying, "These people represent the future of IBM."

Gerstner remained concerned, however, about the possibility of managers "gaming the system" by simply reclassifying their H1 businesses as H2s or H3s. Therefore, there were no set specific targets; instead, each group was expected to determine an appropriate distribution for its own business. Gerstner was also worried that existing reviews would not be frequent enough to catch problems. These concerns led him to declare, during one of the Corporate Executive Committee discussions of the EBO system: "We need an EBO czar. Somebody around this table has to shepherd these efforts forward, someone who knows the culture well enough to kick the system. It can't be just some staff guy. It has to be someone with really big shoes."

The Thompson Era

On July 24, 2000, Gerstner announced that he was promoting John Thompson, leader of the Software Group, to vice chairman and putting him in charge of the effort. Thompson, a 34-year veteran of IBM, had not only managed several product groups, he had also led several sensitive, cross-business initiatives, including Pervasive Computing, the Internet strategy, and the Life Sciences program. He was considered both an excellent strategist and a skilled operating executive, someone who enjoyed going "mano-a-mano with top technical people to understand things."[3] He was also highly respected throughout the organization. According to an EBO task force member: "When Gerstner made Thompson—the most respected group executive at the time—vice chairman, the program got huge credibility. Lou really trusted him. We knew then that he was serious."

Getting Started

Thompson assumed responsibility for IBM's emerging businesses on September 1, 2000. Initially, he saw his role as that of an evangelist: "Of the top 300 people in the company, 80% were believers. But there were people in the organization who didn't like it, who were too turfy. So I had to keep preaching the story and occasionally also make an example by putting someone in the doghouse." He and others from Corporate Strategy began by meeting with managers throughout the U.S. and then expanded to Europe and later to Asia.

At the same time, he moved quickly to consolidate responsibility. Harreld, in Corporate Strategy, and Donofrio, in Technology, became direct reports, bringing their organizations with them. All

[3] Mark Evans, "Not Really a Retiring Kind of Guy," *Financial Post*, January 31, 2002.

EBOs, however, with the exception of Life Sciences, which Thompson was already overseeing, continued to report to, and be funded by, group executives. The only manager dedicated to the EBO system was Thompson. Harreld devoted about one-third of his time to the effort, as did a few other members of his staff.

With limited staff, the team focused most of its early efforts on developing the seven corporate EBOs, rather than working with the groups to develop their own EBOs or their own EBO management systems. Their goal was to get each corporate EBO on a sound footing. In the process, they hoped to develop and refine the EBO management system. According to Michael Giersch, a vice president in Corporate Strategy: "We believed that showing leadership at the corporate level by building the model, rather than telling people in the groups what they should be doing, sent a much stronger signal."

Reviews, Reports, and Resources

Thompson and Harreld began to review each of the seven corporate EBOs monthly. Reviews were thorough and rigorous, lasting for several hours at a time. One participant described them as "root canals." But they were unlike the traditional IBM business reviews, which focused on financial performance versus plan and were viewed by many managers as "health checks." EBO reviews were much more consultative and developmental, designed to test and refine business plans. Thompson described the approach as "very hands-on and intuitive, as opposed to setting up a business process that you delegate. A crisp presentation really didn't matter." There was considerable follow up and one-on-one interaction outside of review meetings.

In the early days, Corporate Strategy began monthly reporting to senior management. While it was difficult to unbundle completely EBO finances and separate them from the business units, they worked with Finance to identify expenses and revenue for each EBO. However, much more focus—and most of an EBO leader's compensation—revolved around project-based milestones as a much better way to assess progress on these early-stage EBOs. At each review meeting, Thompson and Harreld would ask, "Did you do the things you said you were going to do last month?" Although they made some effort to document and standardize the EBO system, they generally treated each EBO individually.

By mid-2002, most of the corporate EBOs had made considerable progress. Revenues were up sharply. Little, however, had been captured from a methodological standpoint. Most processes remained informal, and success depended heavily on Thompson's personal interventions and networks. The required financial and tracking systems, reporting relationships, review meetings, leader-selection criteria, and incentive mechanisms remained loosely defined. Cohen observed: "We knew we could not do 50 EBOs using the same model that Thompson used to do seven. It limited our ability to scale. It also isolated EBOs from the rest of the organization. Each EBO leader was inventing things that didn't need inventing."

The Shift to Corporate Strategy

With Thompson's planned retirement in September 2002, Harreld and the Corporate Strategy group assumed formal responsibility for the EBO process. They took several steps to strengthen and formalize the EBO management system.

Staffing

Even before Thompson's departure, Corporate Strategy underwent some critical changes that were designed to add expertise in project management, marketing, and strategy. In December 2001, Harreld recruited Cohen, an IBM veteran of 23 years and a member of IBM's 300-member Senior Leadership Team before he left for 18 months to serve as COO of Global Crossing, to be vice president of Corporate Strategy, with primary responsibility for the EBO program. In early 2002, Cohen convinced Florence Hudson, an engineer with 21 years at IBM, to take responsibility for a team of Corporate Strategy consultants who would provide dedicated analytical support to EBOs. He also brought Giersch in full time to work with a small team on the EBO management system at the corporate and group levels.

Processes and Systems

Starting in 2002, Corporate Strategy began to formalize the system used to oversee EBOs. They refined the monthly and quarterly reports provided to senior management. They worked with the Corporate Development group to revise IBM's product-development process and adapt it to the more ambiguous, early steps required of EBOs struggling to understand the marketplace. They established formal EBO Leader Forums for sharing best practices. They also published an EBO Leader's Guide, with detailed guidelines drawn from existing EBOs, and further formalized the process for identifying the next set of emerging opportunities by establishing an EBO pipeline-management process.

Corporate and Group EBOs

In 2002, Harreld told the board they would add two points in incremental revenue growth by 2003 through new H3s. Shortly thereafter, Harreld held a round of meetings with group executives, with the hope of increasing the number of group-level initiatives. Instead, they came away with an expanded list of corporate EBOs (see **Exhibit 5**). A year later, the number of corporate EBOs had grown to 18. Most of the original seven, including Linux, Storage, and Pervasive Computing, were still in the system. No emerging business had yet migrated to H1 or H2 status or been fully integrated into the groups.

Elements of the EBO Management System

In its current form, the EBO management system differed from the system governing IBM's established businesses in four key areas: leadership, strategy development, resources, and tracking and monitoring. Together, they provided, in the words of a participant, "the extra support and attention needed by young, unformed ventures." But because the system was still evolving, several elements were still under debate.

Leadership

For many years, IBM had, like most companies, traditionally assigned younger, less experienced employees to head these businesses, expecting them to be less bound by convention. Unfortunately, they also lacked credibility and clout. Under the EBO management system, IBM now took the opposite approach, assigning experienced leaders to its emerging businesses.

Competencies Because many EBOs fell into the "white spaces" between established businesses, success hinged on a leader's ability to navigate IBM's complex matrix organization and secure cooperation and support. And because the typical EBO leader initially had only four or five direct reports, each had to find ways of directing and coordinating the activities of dozens, and occasionally hundreds, of IBM employees, spread among diverse geographies and groups.

The best EBO leaders were therefore skilled at working within the system and knowledgeable about the organizational levers to be pulled to get things done. Most had already managed sizable IBM businesses and were experienced at creating structure, instilling discipline, bringing in talent, and working with a clear operating model. At the same time, they recognized their role as change agents and the need to challenge IBM's accepted processes, reporting lines, and ways of working. According to Carol Kovac, general manager of the Life Sciences EBO: "You need to be a little bit of a battler, a little bit of a cajoler, a little bit of an entrepreneur. You really have to believe in this stuff—even when it's not completely clear—to inspire people in the company."

There were ongoing discussions about how best to identify managers with these skills. Some IBM executives felt the competencies fit within the current set defined for leaders at IBM (which included such items as breakthrough thinking, customer insight, decisiveness, and teamwork) and that it was, according to Donna Riley, vice president of Global Talent, "just the level of superiority or emphasis that changes." Others felt that a new competency set had to be developed.

There were additional debates about whether leadership requirements differed for Horizon 2 and 3 businesses. These issues were becoming more pressing as parts of the original EBOs began to mature and migrate from H3 to H2 status. Some EBO experts, like Thompson, believed that the two environments imposed different demands: "For H3 businesses, you need managers who like to explore and experiment and who challenge assumptions. For H2 businesses, you need people who can build organizations. They don't need to be inventors or tinkerers. They just need to be single-minded about growth." Others, like Rod Adkins, who headed the Pervasive Computing EBO and was responsible for several product segments that had shifted to H2 status, believed that separate H2 leaders were unnecessary. Adkins observed: "From an operational point of view, there's not much difference managing an H3 and H2 business."

Recruitment and selection Initially, many experienced managers had doubts about becoming EBO leaders. The risks were large, while resources were few. According to one EBO leader, "Professionally, you took a risk going to an EBO, especially if it didn't work out. And because you had to report what you were doing to so many people, a lot of people could form opinions—both good and bad—about you."

Moreover, many managers perceived the move to be a step down—as Adkins put it, "being asked to take on a Minor League team after being a player in the Major Leagues." One EBO general manager recalled his reaction to the initial proposal: "I was coming from an organization with 35–40 people and millions of dollar of revenue. I remember saying, 'You want me to leave that and become employee number one for something that I've barely heard of? How am I going to explain that to my mother?'"

For these reasons, and because the required competencies were difficult to find, early EBO leaders were handpicked. Conversations with Gerstner, Thompson, Harreld, Donofrio, and later Palmisano were needed to pry managers loose from their current positions. As the EBO program matured and successes were publicized, skepticism about the assignment began to disappear. Eventually, selection of EBO leaders became part of the normal IBM executive-succession process.

Career path Although EBOs were only several years old, there were already questions about the duration of the assignment and whether the job was part of a normal rotation or a repeatable role. Some, such as Riley, Cohen, and Thompson, saw the assignment as one that all leaders needed to include in their development plans.

Not all EBO leaders agreed. Many had grown attached to the job and were looking forward to rotating into other EBO leadership positions. The job had an excitement and breadth that was difficult to duplicate in other positions at IBM. Kovac, for example, was thinking about "doing this again and again" by becoming a "growth specialist." Another EBO general manager, who was on his fourth new business assignment, explained the position's appeal: "In this job, you live your life to win. You have no time to take a breath. You're thrown curve balls every day. At some point, it gets in your veins and becomes like a drug. It would be hard to go back to a traditional job, where the challenges were straightforward."

Performance evaluation Once selected, EBO leaders were evaluated using the same performance review process applied to other IBM managers. The primary difference was that reviews were based less on financial metrics and more on whether specific EBO milestones had been met. EBO leaders committed to these targets in meetings with their managers, usually the relevant group executives, who then conducted the performance reviews, with additional input from Thompson and later Harreld.

The original EBO task force had spent considerable time debating whether a separate compensation system was needed for EBO leaders. A task force member explained why they had decided against it: "An EBO's success comes from an integrated IBM, so teams have to work well together. The underlying premise is that the pay system should be built into the group structure because a separate system would produce haves and have-nots."

Strategy Development

One of the primary responsibilities of an EBO leader was reaching "strategic clarity," a term used by IBM to describe deep understanding of the marketplace, the set of customers to be pursued, existing and needed capabilities, and next steps. Unlike IBM's more mainstream businesses, where customers were easy to identify and strategies for reaching goals were clear, the nature of an EBO meant that strategy was a moving target, especially at the start. The result, according to Thompson, was that "sometimes it would take a year to a year and a half to get a strategy we were happy with. It would change three or four times. You'd meet a few milestones but fail to meet others. So you just kept iterating and iterating and iterating."

Engaging the marketplace To resolve basic questions about customers and their needs, EBO teams engaged directly with the marketplace. Part of the challenge for EBOs was to shape the evolution of their markets—which, in many cases, had not yet settled on a clear direction or uniform standard—by crafting simple, compelling stories that built commitment and "mindshare" for IBM's likely products, technologies, and positioning.

In the early days, when designs were still under development, this effort often required developing and selling a perspective or point of view. Public relations and media communications were therefore big parts of the strategy-development process. EBO teams often worked directly with analysts, industry thought leaders, and technical columnists to gain positive mentions in the press. They also worked closely with customers, although finding the right people to engage was not easy. Potential customers could be new or established, and interactions could be with senior executives, technologists, R&D managers, or product-development experts.

Eventually, "mindshare" had to translate into market-segment share. Here, the goal was to execute selected elements of the proposed business plan to determine if the strategy was likely to be successful. The first step was usually to convince a few customers to serve as early adopters of the proposed product or service, either by incorporating it into a proposed design (called a "design-in") or by testing it directly as a pilot or prototype. These engagements, which were called "in-market experiments," were especially difficult for IBM because of the company's image and corporate values of trust and reliability and its traditional insistence that new products had to be more reliable than the products they replaced.

Review meetings As the results of these experiments came in, EBOs normally had to revise their strategies and business designs. Much of the work occurred in monthly meetings between EBO leaders and Thompson and Harreld (later, Harreld and Cohen), together with appropriate other individuals. As opposed to the formal, structured meetings with finance staff to review discrepancies in *pro forma* financial statements of the traditional businesses, agendas for the EBO monthly meetings were looser and were usually set, meeting to meeting, by EBO leaders.

These meetings combined tough questions from Corporate Strategy executives with collaborative brainstorming and problem solving by all present. Most meetings lasted two to three hours. Discussions were fine-grained and often contentious, covering both strategy development and execution. The primary focus was on "strategic clarity." Many EBO teams needed help identifying opportunity gaps, sources of value, target customers, and the bases of sustainable competitive advantage. Market size was frequently an issue, and projections were often wildly optimistic. It was not uncommon for teams to respond to questions about how they had sized the market by saying, "Well, so far we've talked to three customers, and they really liked the product."

The challenge, as Florence Hudson, vice president of Corporate Strategy, observed, was that "it's difficult to find marketplace insights for a market that doesn't exist." Thompson therefore pushed repeatedly on managers' underlying assumptions, which he felt were frequently based on bravado, wishful thinking, and conventional wisdom rather than realistic assessments. Harreld continually asked the same three questions, which he regarded as "Strategy 101: What's the 'pain point' for the customer? Who are we going to come up against in the marketplace? How can we deliver more value to our customers than our competitors?"

Often, the hardest step was getting agreement on strategic intent. Many EBO teams found it difficult to set limits when defining what they wished to accomplish. According to Hudson: "Either they have a technology that they think is wonderful and believe that everyone should want it, or they're totally enamored with solving all the needs of an entire market with no specific focus." One purpose of review meetings was to narrow the scope of the business so that EBOs ended up with realistic, manageable goals. The team could also turn to Hudson and her group of strategy consultants and request a "deep dive," 60- to 90-day analytical exercises designed to uncover, assess, and select strategic options and identify their associated execution requirements.

Resources

The EBO management system was designed to ensure that emerging businesses were adequately funded and resourced. In the past, the funding process had been a bit of a mystery. One EBO leader put it in even stronger terms: "There was no process—it was almost everyone for himself." Managers therefore spent enormous time and effort selling their ideas internally. Detailed *pro formas* and financial calculations were required, even though they were based on extremely limited data.

Securing funds The EBO system offered a funding approach that did not require detailed quantitative analysis or elaborate business plans. The plans did contain high-level assessments of market, business, and technology attractiveness and maturity as well as organizational fit. However, the precise level of investment was based on what the EBO needed to get started. Once a business was selected as an EBO, funding was protected from short-term pressures from other areas of the business, although funding could be reduced if an EBO's direction changed.

EBO leaders usually had extensive preliminary discussions about these criteria with Thompson, Harreld, and the relevant group executive. But the funding meeting itself was often brief. An EBO general manager recalled:

> My funding discussion with Thompson [about the Linux EBO] lasted 30 minutes. It was for tens of millions of dollars. We were convinced that the business had the potential to reshape the industry but had very sketchy information. If we had spent time doing a rigorous financial analysis, it wouldn't have been worth the paper it was printed on. We didn't have two dots to connect.

The EBO system required groups to fund all emerging businesses, whether they were classified as corporate or group EBOs. However, both Thompson and Harreld had insisted on controlling a separate, corporate pool of EBO funds—to be used, according to Harreld, "when an EBO needed extra help, or we had to shore things up or plug some holes." Initially, $100 million was set aside for this purpose. They did not widely publicize the availability of these funds and used them only as a last resort, usually requiring matching funds to ensure the divisions felt they had skin in the game.

Finding people Getting an EBO started required more than just investment dollars. Leaders also had to find people to serve on their management teams and steering committees. Most EBO teams initially consisted of three or four people: the leader, a strategy and/or marketing expert, an operations and/or finance expert, and a technologist. Finding the right people was not always easy. Team members had to be at a high enough organizational level to deliver on commitments, knowledgeable about the subtleties of the IBM matrix, and willing to take risks. Convincing the line to let them go was also a challenge. At times, Thompson or Harreld—and, in extreme cases, Gerstner or Palmisano—had to step in.

Maintaining support In the past, many of IBM's emerging businesses had found it difficult to hold on to committed resources. When groups needed to cut costs, they typically went after their low-priority projects—typically, their new, emerging, not yet profitable businesses. According to Thompson: "The EBO systems were designed to keep the line honest, to track their new business's expenses and revenues so they couldn't move the money around." Finance monitored each EBO on a regular basis, using newly devised tracking systems to ensure that commitments were honored. Monthly reviews provided Thompson and Harreld with the forums for calling group executives and cautioning or confronting them about the need to maintain agreed-upon EBO funding levels.

Tracking and Monitoring

Although EBOs faced enormous uncertainty and ambiguity, they still needed discipline and accountability. The challenge was to find metrics that would be accepted by IBM's rigorous, quantitatively oriented culture but would also encourage flexibility and growth. Traditional metrics, such as profitability and productivity, were well matched to mature businesses but were likely to stifle H2s and H3s. The resulting system combined milestone reporting with strategic and financial tracking.

Milestone reporting Project-based milestones were the primary basis for evaluating EBO leaders and their teams. They were also the primary tracking mechanisms discussed in monthly review meetings. Milestones were developed in discussions with group executives, EBO leaders, and Harreld. They were measurable and concrete and were expected to be leading indicators of progress on achieving nonfinancial objectives. Potential categories included marketplace acceptance, external perception, ecosystem development, internal execution, and resource building.

In the early stages of an EBO, milestones focused primarily on business fundamentals, such as the formation of a leadership team, selection of an advisory committee, agreement on a well-defined strategy, and efforts to create "mindshare." As an EBO matured, milestones became more closely linked to expected, near-term sales. Common examples included the number of customer pilots, the number of design-ins, the conversion of design-ins to design wins, and the formation of new partnerships.

Financial metrics EBOs were not, however, free from financial measurement and reporting. Before a new EBO could be launched, the finance group was required to develop a business case. According to the assistant controller, Financial Strategy and Budgets: "The golden rule of EBOs is flexibility. The typical IBM business case is five years, but we might let an EBO go to seven or 10. Sometimes, we'll go ahead even if the business doesn't meet the hurdle rate."

Once an EBO was up and running, Finance measured and reported its revenues and direct expenses. This reporting required considerable innovation and refinement because IBM's systems had historically lacked the ability to track new, one-off activities. The resulting reports provided the basis for monthly financial reviews conducted with each EBO's finance and operations executives, Corporate Strategy, and Finance. Meetings were often brief—in Giersch's words, sometimes just a "30-minute conference call to help keep the discipline." But they served an important purpose, especially when expenses were compared to progress against milestones. If an EBO's expenses were below budget and milestones were not being met, it sometimes meant that groups were cutting back promised investment dollars. A corporate finance executive observed: "That's a foul in our system. And you can only find it by looking at expenses and milestones in the same meeting. You need to have both discussions together to understand the whole story."

Strategy and business maturity Finally, to measure how well EBOs in the aggregate were progressing, Corporate Strategy developed a simple red, yellow, and green scoring system. The system rated each EBO's progress in three areas: developing a clear strategy, defining an executable model, and winning in the marketplace. Red indicated concerns or problems, yellow indicated limited progress and unresolved issues, and green indicated sustained success.

Harreld and his team used these categories to assess the progress of all corporate EBOs. They summarized their impressions—in one's words, "our sense of where each business stands"—in monthly and quarterly reports to senior management. In early 2003, they had rated 12 of the 18 corporate EBOs green on developing a clear strategy. But they had given the same rating to only four EBOs when it came to defining an executable model and to only two EBOs when it came to winning in the marketplace.

The Future of the EBO System

By spring 2003, the EBO management system was firmly established, with several notable successes. Two emerging businesses were each generating over $1 billion annually in revenues; a number of others had passed the $100 million mark. Yet all 18 EBOs were still being treated as H3

businesses, subject to the special rules of the EBO management system. None had been folded back fully into the groups or turned over to the traditional IBM management system. As Giersch put it: "It was either 'protected' or 'business as usual.' There was nothing in between."

Transitioning from H3 to H2

One challenge presented by the two management systems was how to deal with H2 businesses. By definition, these businesses faced fewer uncertainties than H3s: They had a clearly understood market opportunity, an established customer base, and a predictable business model. But because they were still scaling up to large volumes, they were not yet highly profitable. Several EBOs had matured to the point where they had one or more H2 product segments. But because there were no clear guidelines for how these segments should be handled, most remained bundled with the original businesses and subject to the EBO management system.

The problem, Harreld observed, was that "we had spent relatively little time thinking about an H2 system." There were questions about the best location of these businesses, as well as the preferred management approach. Were they best kept within the corporate EBO system? Should they be fully turned over to the groups? Or did they require some "halfway house," with systems and policies tailored to the distinctive needs of H2s? If handoffs were made, when was the right time? Some experts argued for revenue thresholds—for example, move a business out of the EBO system when revenues reached $50 million or when the business achieved five points of market-segment share—while others believed the choice should be made on a more subjective, case-by-case basis.

The longest established EBOs were already facing this decision. Adkins had grown several businesses to H2 status in Pervasive Computing. He had strong ideas about how they should be treated:

> Once businesses get predictable sales, I look for opportunities to integrate them with the rest of the organization. For instance, we recently moved the software for Websphere Portal Server back to the appropriate line groups. It was number one in the marketplace after 18 months, even though it started a year and a half behind. The groups wanted it because it generated immediate revenue. And the move didn't hurt the team's performance, since we're heavily milestone driven. Other products were equally mature and ready to go but were not as well understood. Then, transition depended on finding an owner who recognized the opportunity and was willing to take on accountability for performance.

EBO leaders differed on when to move out from under the EBO umbrella. Some preferred their protected status; they were concerned about suddenly shifting over to IBM's traditional management system and having to fight for investments to maintain their businesses' current growth trajectories. One EBO leader observed: "Once again we would be fruit flies, without a model for how to do the transition." But other EBO leaders had the opposite reaction, arguing that tough financial goals were healthy and necessary. Said one, "I always pushed to be measured as an H1 business. Those measurements meant we would be very disciplined and would have high expectations. If you run an EBO solely on milestones or other qualitative measures, it's hard to transition back to business as usual because of the genetics of IBM. From the other side, the EBO approach can be viewed with skepticism."

Expanding the Number of EBOs

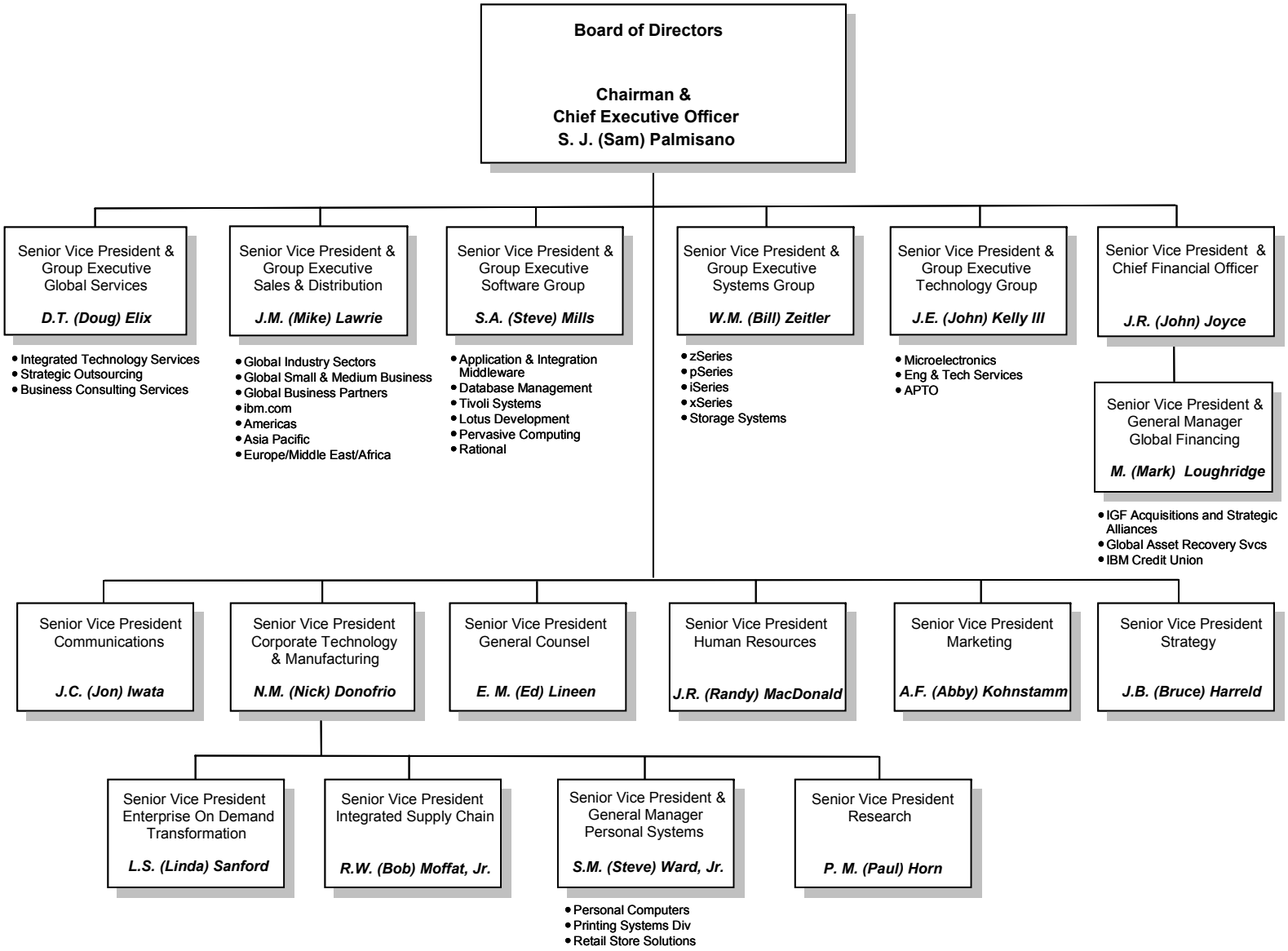
In addition to transition issues, the Corporate Strategy team was wrestling with the question of how to increase the number of EBOs. Without a substantial increase, they would soon be unable to

meet their goal of contributing two percentage points of incremental revenue growth. Expansion required more participation and ownership from the groups. Cohen observed: "We need to get the learnings into a broader set of people so that Corporate Strategy is not a bottleneck." Yet, at the same time, there were concerns about the groups' ability to put the necessary time, attention, and strategic expertise into the process. Most managers were convinced that, without the continued support of Corporate Strategy, the EBO process would lose momentum.

In preparation for a long-term planning meeting with Palmisano, the Corporate Strategy team held several discussions about the future of the EBO program and options for moving forward. They decided to ask for additional Corporate Strategy staff, who would then work aggressively with the largest groups to establish targets and further refine the groups' EBO management systems. As a rough goal, they wanted to hire sufficient staff to double the number of EBOs; some of these EBOs would receive intensive support, while others would get much less time and attention. Corporate Strategy would also develop a transition plan for moving current corporate EBOs from H3 to H2 status, as well as recommendations for expanding the pipeline of potential EBOs.

The planning meeting had ended with general agreement over this recommended direction. However, Palmisano's final questions caused them to step back and rethink their approach. Was the proposed role for Corporate Strategy realistic? Would it achieve the desired results? Harreld observed: "What really worried me was how exhausting it was to support 18 EBOs when I believed we needed 180 of them to really grow this company."

Exhibit 1 IBM Corporate Organization—March 1, 2003



Source: IBM Corporation internal documents.

Exhibit 2 IBM Financial Data (in $ million)[a]

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
TOTAL REVENUE	64,523	62,716	64,052	71,940	75,947	78,508	81,667	87,548	88,396	85,866	81,186	89,131
Cost of prod, svcs, rents	35,069	38,568	38,768	41,573	45,408	47,899	50,795	55,619	55,972	54,084	50,902	56,113
Gross Profit	29,454	24,148	25,284	30,367	30,539	30,609	30,872	31,929	32,424	31,782	30,284	33,018
SG&A	19,526	18,282	15,916	16,766	16,854	16,634	16,662	14,729	15,639	17,197	18,738	17,852
Research & Development	6,522	5,558	4,363	6,010	5,089	4,877	5,046	5,273	5,151	5,290	4,750	5,077
Other (including restructuring charges)	11,645	8,945							100	(1,658)	(728)	(785)
Total Other Expense	37,693	32,785	20,279	22,776	21,943	21,511	21,708	20,002	20,890	20,829	22,760	22,144
OPERATING INCOME	(8,239)	(8,637)	5,005	7,591	8,596	9,098	9,164	11,927	11,534	10,953	7,524	10,874
NET INCOME[b]	$ (4,965)	$ (8,101)	$ 3,021	$ 4,178	$ 5,429	$ 6,093	$ 6,328	$ 7,712	$ 8,093	$ 7,723	$ 3,579	$ 7,583
Year-end stock price[c]	12.59	14.13	18.37	22.84	37.87	52.31	92.19	107.88	85.00	120.96	77.50	92.68
Employees (year-end)	301,542	256,207	219,839	225,347	240,615	269,465	291,067	307,401	316,303	319,876	315,889	319,273

Source: IBM Corporation annual reports.

[a]As reported in annual reports.

[b]Income before preferred stock dividends.

[c]Adjusted for stock splits (April 1997 and April 1999).

Exhibit 3 Revenue Comparison[a]

	Company Name	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
IBM	INTL BUSINESS MACHINES CORPORATION	$64,523	$62,716	$64,052	$71,940	$75,947	$78,508	$81,667	$87,548	$88,396	$85,866	$81,186	$89,131
CSC	COMPUTER SCIENCES CORPORATION	2,480	2,583	3,373	4,242	5,616	6,601	7,660	9,371	10,524	11,426	11,347	14,768
DELL	DELL INC	2,014	2,873	3,475	5,296	7,759	12,327	18,243	25,265	31,888	31,168	35,404	41,444
EDS	ELECTRONIC DATA SYSTEMS CORPORATION	8,155	8,507	9,960	12,422	14,441	15,236	16,891	18,534	19,227	21,543	21,502	21,476
EMC	EMC CORPORATION	349	783	1,377	1,921	2,274	2,938	3,974	6,716	8,873	7,091	5,438	6,237
HPQ	HEWLETT-PACKARD COMPANY	16,410	20,317	24,991	31,519	38,420	42,895	47,061	42,370	48,782	45,226	56,588	73,061
INTC	INTEL CORPORATION	5,844	8,782	11,521	16,202	20,847	25,070	26,273	29,389	33,726	26,539	26,764	30,141
MSFT	MICROSOFT CORPORATION	2,759	3,753	4,649	5,937	8,671	11,358	14,484	19,747	22,956	25,296	28,365	32,187
ORCL	ORACLE CORPORATION	1,503	2,001	2,967	4,223	5,684	7,144	8,827	10,130	10,860	9,673	9,475	10,156
SUNW	SUN MICROSYSTEMS INC	3,589	4,309	4,690	5,902	7,095	8,598	9,791	11,726	15,721	18,250	12,496	11,434

Source: Standard & Poor's, Compustat.

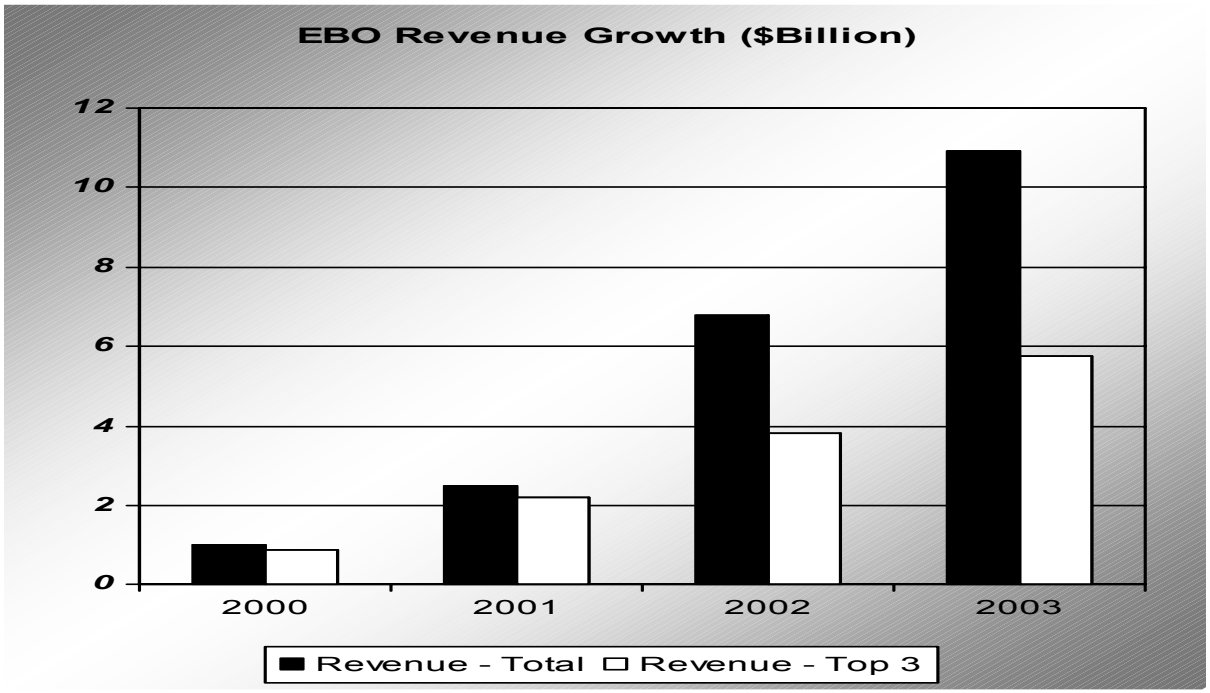
[a] Revenues are on an "as reported" basis, in $ million.

Exhibit 4 Three Horizons of Growth

Horizon / Issue	H1 Mature, well-established businesses	H2 Rapidly growing businesses	H3 Emerging businesses
Time Horizon	• Current	• Medium term	• Long term
Focus	• Extend and defend core business • Increase productivity and profit contribution • Low uncertainty/risk	• Build emerging businesses • Scale proven business models, increase market share, and grow to opportunity • Medium uncertainty/risk	• Create viable options • Test business models, prove viability, capabilities, and value • Deliberate initiatives to seed growth opportunities • High uncertainty/risk
Profit Impact	• Current; will eventually flatten out and decline	• Substantial profits may be 4–5 years in the future • Within next few years, should complement or replace current core businesses	• Most will not succeed • A few can secure longer-term future
Key Challenge	• Find new revenue and profit growth for the immediate future through incremental sales, line extensions, and incremental efficiencies • Make revenue plans	• Build the business • Scale up quickly • Manage triple-digit growth	• Explore options on future opportunities, such as research projects, prototypes, test markets, alliances, and investments to identify and begin to develop opportunities • Targets cannot be set with precision
Outputs	• Annual operating plan: tactical plans, resource decisions, budgets	• Business-building strategies: investment budget, detailed business plans for new ventures; viable products	• Decisions to explore: initial project plan, project milestones
Type of People	*Operators:* • Deep functional and/or industry expertise • Strong drive to consistently meet plans • Discipline	*Business Builders:* • Entrepreneurial desire to create • Comfort with ambiguity and change • Top-line focused, sharp decision maker	*Visionaries:* • Champions • Unconventional thinkers
Talent Approach	• Create personal consequences for near-term performance including clear penalties for under-performance • Impose “no excuses” management style	• Provide autonomy/freedom to act and mandate to create and build • Opportunity to create personal wealth through cash bonuses and equity participation • Opportunity to build and leave a legacy	• Provide psychological rewards: recognition of ideas, freedom to experiment and explore • Provide career advantage: opportunity to satisfy intellectual curiosity, option to become Horizon 2 business builders
Measures	• Traditional budgets and controls • Profit • Return on invested capital • Costs • Productivity or efficiency	• High revenue growth • Market share gains • New customer acquisitions • Capital investment efficiency • Expected net present value	• Project-based milestones • Option valuation • Rate of conversion from idea to business launch • Number of initiatives
Corporate Behaviors	• Review, check • Set aggressive targets to improve	• Support taking risks • Address problems to scaling • Understand viability	• Engage and work with and for • Find viable business model

Source: Adapted from Mehrdad Baghai, Stephen Coley, and David White, *The Alchemy of Growth* (Reading, MA: Perseus Press, 1999).

Exhibit 5 EBO Progression



	2000	2001	2002	2003
# of Initiatives	7	7	18	18

Top 3 High-Performance Initiatives

- ***Life Sciences***—Sophisticated tools and IT systems for medical research and pharmaceutical industries for applications such as drug discovery, drug development, and delivery of information-based medicine
- ***Linux***—IBM hardware, software, and services offerings incorporating the Linux operating system to provide a very secure and scalable open source platform
- ***Pervasive Computing***—Software, technology, and services to support enterprises, service providers, and device manufacturers seeking to embed computing and connectivity into previously unconnected devices and machines

Source: IBM Corporation internal documents.