# HARVARD BUSINESS SCHOOL



# Don't Just Survive — Thrive: Leading Innovation in Good Times and Bad

Lynda M. Applegate Bruce Harreld

Working Paper

09-127

# Don't Just Survive—Thrive: Leading Innovation in Good Times and Bad

By: Lynda M. Applegate and Bruce Harreld, Harvard Business School

At the beginning of the decade we saw two challenges ahead of us, one external and one internal. Externally, we faced a world economy that would be characterized by slower growth, with stronger global competitors going after a smaller piece of the pie. Internally, our challenge was even bigger. We had to find a way to combine the power, resources, and reach of a large company with the hunger, agility, spirit, and fire of a small one.

Jack Welch, CEO and Chairman, General Electric, 1988<sup>1</sup>

Executives in established firms spent decades attempting to build organizations that could execute strategy with discipline while also responding quickly to opportunities and threats. Over 30 years ago, Jack Welch called on GE employees to build a "big-small" company and he was joined by CEOs of leading companies of the time, like Percy Barnevik at ABB and Michael Jordan at Pepsi International.<sup>2</sup> Yet, here we are, decades later, and the struggle continues as executives around the world admit that the ability to innovate, while central to survival and success, is one of their most vexing leadership challenges. Indeed, a November 2006 Economist Intelligence Unit survey of 485 senior executives located in firms across the world reported that 87% of senior executives believed that innovation was critical to their company's future.<sup>3</sup> This same study found that innovation had a positive impact on both national economic growth and corporate performance. A 2007 McKinsey study of over 1,400 executives leading global firms found that 70% reported that innovation was one of their companies' top 3 drivers of growth.<sup>4</sup> But 65% of these same executives admitted that they were not confident of their company's ability to execute successfully. In fact, most radical transformative change initiatives failed to deliver the forecasted value and were classified as failures. And, this included attempts to innovate through acquisition.

Has the global economic crisis decreased our appetite for innovation? Savvy executives say "no." In fact, the financial crisis we are experiencing provides a sobering reminder of what happens when innovation fails to drive productive economic growth. For over a decade, money from around the world poured into the United States seeking innovation. Despite these massive investments, when adjusted for inflation, U.S. GDP grew slowly with much of the growth from government and professional and business services—including real estate, financial services, and outsourcing. What's more, inflation-adjusted wages stalled for many, even as consumer spending increased. Where did the money for all this spending come from? Companies borrowed, governments borrowed, and families borrowed while

<sup>&</sup>lt;sup>1</sup>Welch, J., "Managing in the 90s," GE Report to Shareholders, 1988.

<sup>&</sup>lt;sup>2</sup>Applegate, L.M., "Time for the Big-Small Company," *Mastering Information Management*, Financial Times, 1999; Applegate, L.M., "In Search of a New Organizational Model: Lessons from the Field," *Shaping Organization Form: Communication, Connection and Community* (ed. DeSanctis and Fulk), Sage Publications Organization Science Series, 1999.

<sup>&</sup>lt;sup>3</sup>"Innovation: Transforming the Way Business Creates," *Economist Intelligence Unit White Paper*, 2007. Note: 48% of the executives surveyed worked in firms with revenues of \$500 million or less; 56% of respondents were from Europe and the Middle East, 25% were from the Americas, and 20% were from Asia-Pacific (percentages add to 101% due to rounding error).

<sup>&</sup>lt;sup>4</sup>Barsh, J. et.al., "Leadership and Innovation," *McKinsey Quarterly*, Volume 1, 2008; "How Companies Approach Innovation, *McKinsey Quarterly*, October 2007.

savings rates approached zero. Commercial lenders sold their loans to investment banks where they were converted into securities and sold again and again.

We can't fix our current economic problems by simply spending more money to buy bad debt. While economic stimulus may be needed in the short-term, what we need for the long-term is real innovation that creates jobs and drives productive economic growth. Companies that survive the financial crisis by identifying and exploiting innovation will serve as economic growth engines in the future—and will be the industry leaders of tomorrow. In fact, while crises are certainly painful, they also tend to spur innovation. In a recent article, Bhaskar Chakravorti reported that 18 of the 30 companies in the Dow Jones Industrials were founded during an economic downturn, including household names such as HP, J&J and Walt Disney.<sup>5</sup> Others, for example, DuPont, IBM, and Toyota, emerged from crisis with strategies that redefined industry structure and power. Even today, there are numerous companies who are not just surviving, but are thriving, by exploiting opportunities created by the economic crisis.<sup>6</sup> Indeed, some businesses will emerge from our current crisis stronger than before—those who can innovate with discipline in good times and bad.

# Becoming a Disciplined Innovator: One Company's Journey

The Chinese use two brush strokes to write the word "crisis." One brush stroke stands for danger; the other for opportunity.

Today's crisis provides fertile ground for innovation and opportunities are at an all-time high. But the question is: How should companies pursue opportunities given the tremendous uncertainty and significant threats to established businesses? Cutting back and hunkering down may get you through the short-term crisis, but will not position you to lead in the future. In fact, if cost cutting is your *only* response you may find yourself cutting out fat, then cutting out muscle, and finally cutting to the bone. By the time the crisis is over, you may have lost your customers, your best employees, and the motivation and power needed to lead the industry. That's why you need a mindset that says: "I'm not just going to survive—I'm going to thrive."

Even leaders whose companies face significant crisis and need to make very deep cuts should look to the marketplace to identify trends and opportunities that show how their companies can emerge from crisis positioned to lead in the future. One such leader who stepped up to the challenge was Lou Gerstner at IBM.<sup>7</sup> When he took the helm, the company was hemorrhaging cash—over \$16 billion was lost between 1991 and 1993. For the company to survive Gerstner had to take \$7 billion out of the company's yearly cost structure and to stay ahead of creditors, he had to make the cuts in less than eighteen months. But rather than just start cutting, he first went out and talked to customers who told him that their key area

<sup>&</sup>lt;sup>5</sup>Chakravorti, B., "Creative Entrepreneurship in a Downturn," *HBS Working Knowledge*, February 23, 2009 (http://hbswk.hbs.edu/item/6118.html).

<sup>&</sup>lt;sup>6</sup> Applegate, L.M., "Building Businesses in Turbulent Times," *HBS Working Knowledge*, April 27, 2009 (http://hbswk.hbs.edu/item/6159.html).

<sup>&</sup>lt;sup>7</sup> Applegate, L.M. et.al., *IBM's Decade of Transformation: Turnaround to Growth*, (Boston: HBS Publishing #805-130).

of pain was the difficulty of integrating the "islands of automation and information" throughout their global companies. This feedback helped guide where to cut. Gerstner, himself a former IBM customer, immediately recognized the opportunity. He reversed the previous decision to break up IBM and announced a new direction, which he called "One IBM." Having planted that stake in the ground and incented key employees to stay, the company carefully chose areas to cut, businesses to sell, and those to close based on the "One IBM" plan. Processes were streamlined and redesigned to enable the company to go to market as One IBM. Duplication and redundancy were eliminated and core operating processes were standardized.

Once the company was *stabilized* and the foundation for One IBM was beginning to take shape, it was time to *strategize*—to take the One IBM theme and translate it into focused strategic initiatives that would make the "vision" actionable in the marketplace. Coincidently, the company began its intense period of strategizing during the early days of the commercialization of the Internet—a powerfully disruptive technology that had caught the world by storm. Most established businesses either ignored the Internet or viewed it simply as a consumer "toy." But IBM, as a result of its customer feedback and transformational journey from the brink of crisis, viewed the Internet through another lens. To them the Internet was a powerful integrating platform for doing business inside a company and across business networks. Similarly, the Internet, they recognized, was a key missing ingredient in the search for an organizational model that enabled large companies to execute with discipline even as they responded quickly and effectively to opportunities. E-Business became the new rallying cry that galvanized IBM's employees around an exciting new technology frontier that promised to address market pains—and continue the company's transformation. In his autobiography, Gerstner commented:

The concept of e-business galvanized our workforce and created a coherent context for our hundreds of products and services. The vast new challenges of networked computing reenergized IBM research and triggered a new golden age of technical achievement for the company. Most important, the investment did what we wanted to do at the outset—reestablish IBM's leadership in the industry. <sup>8</sup>

The e-business strategy triggered a cascade of strategic investment decisions through the remainder of Gerstner's watch with regard to which products and businesses to enter and exit. Gerstner made enormous investments in Internet products and services at a time when few executives of major companies had even put the words "Internet" and "strategy" together.

# From Surviving to Thriving

Less than five years after the company was on the brink of bankruptcy, IBM had survived its "near death" experience and, by year-end 1998, had achieved steady revenue and profit growth. The ebusiness strategy was beginning to take hold and over 25% of the company's \$82 billion in revenues was being driven by new service offerings and acquisitions related to the company's e-business strategy. But with revenue growth at less than 6%, the company's forward momentum was well below the red-hot technology industry average at the time. IBM had survived—but was it thriving?

<sup>&</sup>lt;sup>8</sup>Lou Gerstner, "Who Says Elephants Can't Dance? Inside IBM's Historic Turnaround" (New York: Harper Business, 2002).

Lou Gerstner felt that the answer to this question was "no." The key to IBM's future success, he believed, would lie in its ability to develop leaders throughout the company who could identify trends and disruptors in the industry, build new businesses to exploit these trends, and then turn the businesses into multi-billion dollar engines of growth for the company. Gerstner and his team at IBM wanted to be positioned to lead the emergence of the networked IT industry of the 21<sup>st</sup> century just as IBM had led the emergence of the computer industry during the 20<sup>th</sup> century.

By early 1999, Gerstner's team had identified several new growth areas and had charged business unit leaders with aggressively pursuing them. However, early on a Sunday morning in September 1999, while sipping coffee at his kitchen table, Gerstner noted a troubling statement in a monthly report from an operating business executive. One line, embedded deep in the report, caught his eye: Funding for one of his key new-business initiatives in Life Sciences had been cancelled by business unit management in order to meet short-term profit goals. Gerstner, well-known as a "temperamental type" immediately shot off an e-mail to Bruce Harreld, SVP of Strategy and three other direct reports and told them to find out whether other promising new growth businesses were being abandoned. The executives found a similar pattern across the board and documented the problem through detailed case studies. The report made clear that, while IBM had plenty of great ideas and inventions—in fact, IBM Research was granted more patents each year than any other company in the world—IBM's business executives and line managers had a difficult time launching, growing, and sustaining new businesses.

The team's research showed that the majority of IBM employees focused on selling *current* products, serving *current* customers, and executing *current* operations. In fact, the focus on flawless execution and short-term results had intensified under the ruthless cost cutting necessary to survive during the 1990s. Other findings of included:

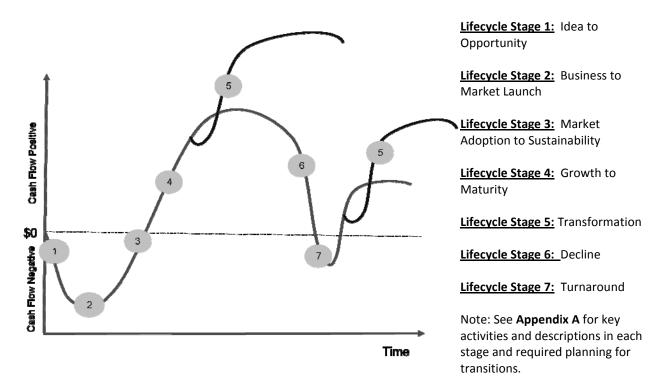
- IBM's management and incentive systems rewarded execution directed at short-term results and did not place enough value on strategic business building.
- The IBM business model emphasized sustained profit and earnings per share improvement rather than actions to move into higher-growth/higher-price-to-earnings-ratio businesses.
- IBM's approach to gathering and using market insights was inadequate for emerging markets, technologies, and businesses.
- The company lacked established disciplines and processes for selecting, experimenting, funding, and terminating new business growth.
- Once identified and funded, many IBM ventures failed due to poor execution.
- While common operating processes were enabling improvements in achieving the goal of "One IBM" in its
  current businesses, the innovation process continued to be focused within silos between IBM Research
  Labs and its businesses.
- No mechanisms existed to identify and nurture new businesses that crossed business unit boundaries.

After documenting the problem, the executive team recommended that IBM adopt a "lifecycle" approach to innovation that would enable the company to develop the leadership and organizational capabilities needed at different business stages: understanding customers needs over the longer term and identifying opportunities to address them; nurturing new ventures expected to grow into multi-

billion dollar businesses in 3 to 5 years; resourcing for rapid expansion to achieve full potential of existing high growth businesses; and incrementally improving mature businesses to generate cash and provide the resources, capabilities, and muscle for future business transformation.

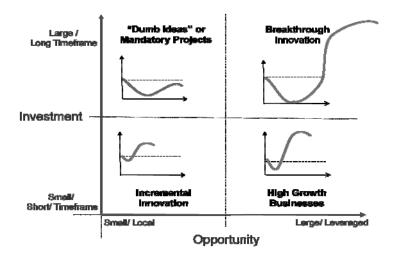
**Figure 1** illustrates a model developed by the authors of the business lifecycle stages. It displays each stage on a representative cash flow investment curve. It also shows how failure to innovate can lead to business decline, requiring a turnaround to stabilize the company prior to defining a path to future transformation. **Appendix A** highlights key activities and decisions in each stage and during transitions between stages.





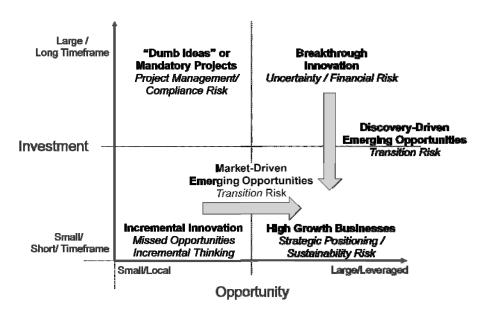
Different stages in the business lifecycle required different leadership and governance, a different way of organizing, different types of people, culture, and incentives, and a different approach to financing. In fact, the lifecycle model itself changed with different types of innovation (see **Figure 2**). For example, breakthrough innovations under development in IBM labs often had long deep periods of investment but, if successful, the opportunity for sustained positive cash flow was much greater. Incremental innovations that could leverage IBM's existing strategic position and capabilities required less investment over a shorter time period. Given these differences, Harreld and the senior executive team at IBM concluded that the challenges IBM and other large, established firms faced when attempting to manage innovation came from attempting to apply a single approach to organizing and leading, which isolated its breakthrough innovations from the marketplace while also attempting to manage its emerging and high growth businesses as if they were incremental improvements to a mature business.





IBM's approach recognized that different categories of innovation had different risk profiles and, as a result, different approaches were needed to manage risk during implementation. The type of risk and the approach to implementation were based on: (1) the size of the opportunity; and (2) the timing and level of resources required to exploit the opportunity. These parameters defined different categories of innovation with different risk profiles. Each category of innovation also required a different leadership and organization model. (See **Figure 3** and **Table 1**.)

Figure 3: Categories of Innovation and Risk Profiles



<sup>&</sup>lt;sup>9</sup> This framework is an updated version of a framework developed by Lynda Applegate. See "Jumpstarting Entrepreneurial Innovation," *HBS Faculty Seminar Series*, (Boston: HBS Publishing #1841C).

Table 1: Risk Profiles, Leadership, and Organization by Innovation Category

	Breakthrough Innovation	Emerging Business Opportunities (EBO's)	High Growth Businesses	Incremental Innovation
Goals	Identify shifts in customer needs and breakthrough discoveries to address them	<ul> <li>Nurture future business opportunities</li> <li>Reduce market adoption risk</li> <li>Define offerings and launch</li> </ul>	Scale businesses & increase market share     Expand into new products and markets	Defend core business     Increase productivity and profit contribution
Risk Profile	<ul><li> Uncertainty risk</li><li> Financial risk</li></ul>	Transition risk Market adoption risk	<ul><li>Strategic positioning risk</li><li>Sustainability risk</li></ul>	<ul><li>Missed opportunities</li><li>Incremental thinking</li></ul>
Risk Management Approach	Break complex inventions into a series of customer-focused experiments     Put scientists in touch with the market     Invest in broad research streams with a portfolio of projects	Stage commitment of resources based on business development milestones     Involve customer in business/ product development process     Ensure new venture teams have leaders experienced in launching new businesses	Cross strategy teams meet monthly to review productmarket growth plans and identify performance and opportunity gaps  "Deep Dives" enable business teams to challenge strategic plans	Scan regularly for industry trends, disruptors, and technologies     Processes and incentives to ensure exposure to, and participation in, launching new businesses and commercializing breakthrough innovations
Investment Approach	Invest in a portfolio of projects within customer domains Syndicate risk by partnering Longer-term rounds of funding/grants with careful monitoring of costs and progress	<ul> <li>Invest in emerging businesses with potential to generate multibillion dollars in revenues within 3-5 years</li> <li>Business unit budgets charged yearly; New venture budgeted quarterly with monthly to weekly review of project-based milestones</li> </ul>	Invest to accelerate profit and market share growth and to build capabilities and growth "platforms"     Business unit financing based on annual or biannual budgeting with monthly review of strategic and tactical performance	<ul> <li>Invest to reduce costs and generate short-term cash flow while carefully monitoring for signs of industry decline</li> <li>Business unit financing with annual budgeting cycle and quarterly review of tactical performance</li> </ul>
Leadership and Accountability	Accountability shared by research teams and business leaders     Successful leaders have deep expertise in technical field, extensive networks within scientific community and ongoing contact with customer markets	Accountability rests with business leaders with corporate oversight     Successful leaders have experience in building and launching new ventures, extensive networks with industry and financing community, and ongoing contact with customer markets	Accountability rests with business leaders     Successful leaders have experience identifying and exploiting strategic opportunities, building capabilities required for rapid growth, and are able to play a full role as a business executive within the firm and industry	Accountability rests with business leaders     Successful leaders have experience managing mature businesses to generate cash and to exploit strategic position and capabilities as a platform for future growth opportunities
Skills	Scientists  Technical and market research expertise  Motivated to develop scientific breakthroughs  Research focused on market needs	Entrepreneurs     Expertise in turning opportunities into sustainable businesses     Motivated to create new businesses     Business plan focused	Business Builders General management expertise Motivated to grow and scale businesses Top line focused while ensuring profitable growth	Operators  Deep industry expertise  Motivated to meet yearly and quarterly targets  Bottom-line focused
Organization	Team-based structure Critical Tasks: Conduct market/scientific / engineering research Strong research methodological controls Incentives reward creation of intellectual property and personal/research team achievements	New venture team-based structure     Critical Tasks: Build and launch new business venture     Strong risk/uncertainty management systems     Incentives reward performance against milestones, provide career development and visibility, and the opportunity to lead high growth business	Product-Market- Geography-based business units structure     Critical Tasks: Expand into new products and markets; Build organizational capabilities for growth     Strong strategic planning and execution systems     Incentives reward profitable growth and increased market share	<ul> <li>Divisional structure</li> <li>Critical Tasks: Streamline and integrate operating processes</li> <li>Strong operational execution and customer loyalty systems</li> <li>Incentive s reward achievement of profit and operating performance targets</li> </ul>
Culture	Customer and scientific curiosity	Entrepreneurship and learning	Strategic planning and growth	Operational execution and control

Breakthrough Innovations include new scientific and engineering discoveries and technology inventions that have significant promise to serve as platforms for launching new high growth businesses in the future. In many large, established firms, investment in, and accountability for, breakthrough innovations was traditionally managed within research labs using a traditional "science-based business" leadership and organizational model. The key risks in this quadrant are related to the high levels of resource commitments, the long time frames inherent in the discovery process, and the resultant high levels of uncertainty that research investments would eventually create significant business value. IBM reduced these risks by first thoroughly monitoring customers' use of technology. By understanding how clients were using (or struggling with) technology, IBM could better predict what future breakthroughs were needed and, hence, determine where best to place its research bets. To ensure customer involvement, IBM also introduced its "First of a Kind" program. This program required that IBM researchers identify a customer willing to partner on research projects and provide some financing for the project. IBM also managed the uncertainty risk inherent in breakthrough research by borrowing an approach used by oil companies when prospecting for oil. When a site was found that was thought to contain oil, "test wells" were drilled to help narrow down where to invest in major drilling to find oil. Similarly, IBM used a "Test Well" approach to invest in a portfolio of research projects that helped provide useful information that could help the company reduce the risk involved in exploring new technologies. Using this approach, IBM researchers staged financial and other resource commitments based on specific timelines and goals within a "Test Well" project and, at each stage of the process, everyone knew there was a very realistic chance that the decision could be made to kill funding based on what was being learned. IBM further addressed market adoption uncertainty by changing the roles, performance measurement, and incentive systems for its research scientists to reward successful transfer of IBM's research findings and inventions to IBM business units, EBO's, and the industry. The company also changed the roles, performance measurement, and incentive systems for IBM business leaders in product development, product management, and consulting services to ensure that research scientists were included on customer-focused product and consulting teams. Finally, in 2004, IBM launched the IBM Venture Capital (VC) Group to prospect for, and enable IBM to monitor, breakthrough innovations being funded through private equity finance. The IBM VC Group also served as a technology transfer unit facilitating the commercialization of discoveries and technologies developed in IBM's research labs and business units.

High Growth Businesses are either entering or in the middle of a period of rapid growth. Accountability for high growth businesses often rests with a company's business unit leaders with oversight provided by corporate strategy, business development, and the executive team and board of directors. Once a business enters into its high growth stage, investments are often targeted toward penetrating existing markets, scaling operations, expanding into adjacent markets, and expanding product lines. The key risks in managing these businesses are often related to strategic positioning and sustainability. IBM managed these risks by identifying product and market trajectories and by investing in developing organizational and partner capabilities (e.g. sales, marketing, distribution) and platforms (e.g., product platforms, technology) that enabled the company to seize a leading position and rapidly innovate to maintain that lead. IBM's strategy process provided a common approach that executives could use to analyze opportunity and performance gaps. Based on the type of gap, executives developed approaches to improving performance and exploiting opportunities. For example, the company routinely held

"Strategic Leadership Forums" and "Deep Dives" (refer back to **Appendix B**) to enable business teams to challenge current strategy, perform a root cause analysis of specific underlying causes of performance or opportunity gaps, and develop action plans.

Incremental innovations enable a firm to enhance existing products, penetrate existing markets, and improve existing operations. The motivation for these innovations frequently arises from performance gaps noted during traditional planning and budgeting processes. Investments in, and accountability for, incremental innovations are often managed within existing business units and product groups. The key risks in this quadrant are related to missed opportunities to invest in business breakthroughs and emerging high growth businesses—especially those that cross business boundaries. As a result, a culture of "creeping incrementalism" can result. IBM managed this risk by developing mechanisms and incentives for business unit executives and employees to keep abreast of trends and disruptors and to participate actively in identifying emerging business opportunities and breakthrough innovations. IBM researchers also interacted frequently with IBM's employees and customers.

Even as IBM actively addressed the key risks associated with different categories of innovation, its' *Emerging Business Opportunity (EBO)* initiative became a driving force in enabling the company to nurture new opportunities as they transitioned to high growth. These opportunities could represent market-driven emerging opportunities, which often arose in the business units, or they could represent discovery-driven emerging opportunities, which were spawned in IBM's Research Labs or externally by the scientific/venture capital community.

One of the hardest issues IBM wrestled with was where to place EBO's organizationally. They knew that, if innovation was to be the foundation for success in IBM's future, it could not be delegated to a "corporate incubator" that received separate funding and was left on its own to build businesses that would later be thrown "over the wall" to IBM's business unit leaders who were relentlessly focused on "meeting numbers" promised to Wall Street analysts. Nor did the IBM team believe that accountability could be delegated to IBM's Research Labs. While the labs' contributions were a significant component of the company's innovation culture and brand—and had not been cut during the significant cost cutting efforts between 1993 and 1995—executives wanted to ensure that EBOs were integrated into IBM operating businesses that interacted with the marketplace on a daily basis.

After much debate, IBM determined that both the business units and Corporate Strategy should share accountability for EBO's. Placement of the EBO teams within the business units facilitated the effective transition to high growth. Simultaneous oversight by Corporate Strategy, however, insured that the EBO's would secure significant senior management attention. Corporate Strategy also facilitated initial startup funding and, with business unit leaders, approved additional funding on an on-going basis. As Gerstner noted, "The new ventures had to be protected from the normal budgetary cycle because, if things get tight, more often than not, profit-center managers would be tempted to starve our future oriented projects."

Initially, six key business opportunities were designated as EBO's. The criteria for selecting these opportunities included: the need for cross-business cooperation and resources; the maturity of the business plan and strategy (e.g., key market and technology risks appeared manageable and expertise was available to build the first offering and take it to market); the forecasted size of the market; and the potential for generating over \$1 billion in three to five years. By 2003, the number of EBO's had grown to 18 and they addressed both new technology products (e.g., grid computing, blade servers, Linux, pervasive computing) and new markets (e.g., life sciences, digital media). See **Table 1**.

Table 1: IBM's Emerging Business Opportunities (EBO's) Launched Between 1999-2005<sup>10</sup>

Original EBO's (Launched between 1999 and 2001) (By 2003, all except those marked with an * had transitioned to High Growth and were fully integrated into IBM lines of business)					
ЕВО	IBM Business Unit	Comments			
Business Transformation Consulting	IBM Global Services	Revenue growth > \$1billion by 2005			
Digital Media	Sales, Marketing, and Distribution	Revenue growth > \$1billion by 2005			
Life Sciences	Sales, Marketing, and Distribution	Revenue growth > \$1billion by 2005			
Linux	Systems and Technology Group	Revenue growth > \$2billion by 2005			
Pervasive Computing	Software Group	Revenue growth > \$2billion by 2005			
Autonomic Computing	Software Group	Revenue growth < \$1B in 2005			
Blade Servers	Systems and Technology Group	Revenue growth < \$1B in 2005			
Business Process Integration	Software Group	Revenue growth < \$1B in 2005			
Dynamic Workplace	Software Group	Revenue growth < \$1B in 2005			
Engineering and Technical Services	Systems and Technology Group	Revenue growth < \$1B in 2005			
Flexible Hosting Services	IBM Global Services	Revenue growth < \$1B in 2005			
Grid Computing	Systems and Technology Group	Revenue growth < \$1B in 2005			
Learning Solutions	IBM Global Services	Revenue growth < \$1B in 2005			
STI Cell	Systems and Technology Group	Revenue growth < \$1B in 2005			
Storage Software	Systems and Technology Group	Revenue growth < \$1B in 2005			
*e-Markets	IBM Global Services	Dropped			
*Network Processes	Systems and Technology Group	Dropped			
*Product Lifecycle Management	Sales, Marketing, and Distribution	Dropped			
New EBO's (Launched between 2001-2005)					
Brazil, Russia (+ Eastern/Central Europe), India, China	Emerging Geographies	Revenues grew 50% between 2002 and 2003 and contributed over \$3 billion in revenues in 2003			
Retail On Demand	Sales and Distribution				
Information-Based Medicine	Sales and Distribution	Incubated by Life Sciences			
Sensors and Actuators	Software Group	Incubated by Pervasive Computing			

 $<sup>^{10}\</sup> Applegate,\ L.M.\ et.al,\ \textit{IBM's Decade of Transformation: Turnaround to Growth},\ (Boston:\ HBS\ Publishing\ \#805-130).$ 

# **Leading Disciplined Innovation**

The fundamental purpose of organizations is to [enable the] attainment of shared goals that require coordinated efforts. Interdependence and uncertainty make goal attainment more difficult and create the need for organizational solutions. <sup>11</sup>

During the early 20<sup>th</sup> century the principles behind the design of hierarchical firms were defined by entrepreneurs whose innovations such as Henry Ford's assembly line operating model and Alfred Sloan's organizational and management systems enabled them to control their rapidly growing firms. The hierarchical organizational model that emerged was designed to minimize complexity and coordination costs through structure and systems—but did so at the expense of speed and agility.<sup>12</sup>

In a hierarchical organization, the traditional business cycle time was defined around yearly business planning and budgeting, and quarterly reporting cycles. While line managers might recognize environmental threats or opportunities in between the yearly planning cycle, they were hampered in their ability to fully understand the organizational and industry implications of what they were seeing, had limited incentives and channels for sharing their insights on local conditions with the business executives, and were unable to make decisions or acquire the resources to act. As a result, innovation was often limited to incremental enhancements to existing strategies and operations. Break through innovations had to be approved and budgeted in advance and failure to deliver was looked upon as a leadership failure. As a result, it was tough to de-commit to a project based on new information or insights that emerged as the project unfolded. High risk, uncertain business opportunities were either avoided or "dressed up" to look as if outcomes were more certain than they were.

Given these deeply embedded leadership and organizational principles, breakthrough innovations that enabled businesses to explore more risky and uncertain new frontiers were often left to scientists in universities or corporate labs and the commercialization of emerging opportunities was left to entrepreneurs outside large enterprises. These entrepreneurs designed new, fledgling companies using very different principles. Since founders and their employees remained close to the markets they served, they had instant access to information on opportunities and threats and since they were in direct, daily contact with each other and with customers and business partners they were able to make decisions and take actions on the spot. The most successful entrepreneurs and the investors who financed their new ventures developed a different approach to leading and organizing that dealt directly with uncertainty and risk. They employed a disciplined process that enabled them to: take ideas and turn them into opportunities; to prioritize those opportunities and determine which could be the

<sup>11</sup> McEvily, B., Perrone, V., and Zaheer, A (1998), "Trust as an Organizing Principle", Organization Science, 14 (1): 91-103.

<sup>&</sup>lt;sup>12</sup>Applegate, L.M., "In search of a new organizational form: Lessons from the field," Shaping Organization Form: Communication, Connection and Community (ed. Desanctis and Fulk), Sage Publications Organization Science Book Series, 1999; Burns, T. and Stalker, G.M., *The Management of Innovation* (London: Tavistock, 1961); Woodward, J., *Industrial Organization, Theory and Practice* (London: Oxford University Press, 1965); Thompson, J.D., *Organizations in Action* (New York.: McGraw Hill, 1967; Lawrence, P. and Lorsch, J., *Organization and Environment* (Boston: Harvard Business School Press, 1967, 1986); Greiner, L., "Evolution and revolution as organizations grow," *Harvard Business Review*, 50(4): 37-46, 1972; Galbraith, J., *Designing Complex Organization* (Reading, Mass.: Addison Wesley, 1973).

foundation for launching a new business; to identify and build an entry product that solved a compelling problem for a target market; to penetrate the initial market and achieve sustainable, positive cash flows.

But the transition from an entrepreneurial to a high growth business was often fraught with difficulty. Many entrepreneurial firms sought to be acquired by established firms to gain the product development and marketing muscle and the financial resources needed exploit growth opportunities. And, many large firms were happy to acquire the breakthrough innovations and emerging growth businesses they needed. But even then, the mature company leadership and organizational model often stifled growth causing most acquisitions to not deliver the value expected. Indeed, a study by Bain reported that U.S. companies announced 74,000 acquisitions and 57,000 alliances between 1996 and 2001.<sup>13</sup> That's one every hour during the 6 year period. The total value of the acquisitions was \$12 trillion. But most of these acquisitions did not create the value expected—in fact, many destroyed value. On average, the share price of acquiring companies fell by 0.34 to 1% within the 10 days after the announcement, market value declined by 10% over the 5 year period after the financial merger transaction was completed, and 48% of alliances had failed within 24 months.

IBM recognized and directly addressed the leadership and organizational challenges of managing innovation throughout the business lifecycle. In doing so, they also addressed the issue of organizational complexity and coordination costs head on. They adopted a leadership and organization model that recognized the old tradeoff decisions dictating past organizational designs need no longer apply. They found that complexity and coordination costs could be addressed directly. Businesses could be built to consistently search for ideas and test out the most promising. These emerging opportunities could be managed through the transition to high growth. Finally, mature businesses could provide the resources and platform needed to spawn new businesses—even those that crossed business boundaries.

# Surviving and Thriving in Turbulent Times

Entrepreneurship is the relentless pursuit of opportunity without regard to resources currently controlled.<sup>14</sup>

Over the past decades companies have spent significant resources reorganizing to meet the challenges of operating in a more dynamic, hypercompetitive world. But as the world suffers through a profound economic crisis, many are forced to face the grim reality that the future will demand even more radical change. For most it has become clear that, despite efforts to date, we are being asked to respond even more quickly, to deliver even higher-quality products and services, and to cut costs even more deeply. Technology and changes in the workforce demand new leadership and organizational models. Layers of management have been cut and spans of authority have been pushed to the breaking point where many worry that "control" has been lost. The design principles that formed the foundation of our

<sup>&</sup>lt;sup>13</sup>Harding et.al., Mastering the Merger (Boston: Harvard Business School Press) 2007; "How to Ruin a Merger," Harvard Management Update, 2001.

<sup>&</sup>lt;sup>14</sup> Stevenson, H., "A Perspective on Entrepreneurship," in *New Business Ventures of the Entrepreneur*, eds. H.H. Stevenson, Michael J. Roberts, H. Irving Grousbeck, (Homewood IL: Richard D. Irwin, Inc., 1985), pp. 2-15

traditional organizational models, such as the hierarchy and the entrepreneurial organization, have been adjusted so many times that the major tenets upon which these models were based have been disrupted.

Thomas Kuhn's in-depth analysis of scientific revolutions suggests that crisis is a necessary precondition to the emergence of a new theory or model. But when presented with crisis, most people do not immediately reject existing models. Instead, they attempt incremental adjustments that, over time, begin to blur the fundamental structure and assumptions upon which the old models were based. Practitioners are often the first to lose sight of old models as the familiar rules for solving problems fail to guide decision-making and action. At some point, total reconstruction is required.

This appears to be the point at which we find ourselves. Today's crisis has called into question, not just how companies will survive today, but also the leadership capabilities and organizational model needed to thrive in the future. The current crisis is not simply a problem with global financial systems. Instead it reflects both undisciplined innovation on the part of some and stagnation on the part of others. Many executives we meet are paralyzed by uncertainty. Some see this uncertainty as threat. Others see it as opportunity. Many are waiting on the sidelines wondering how and when to react—looking for a sign that things will return to normal.

While there are many things we don't know about the current economic crisis, one thing we know is that change is not an option today and leaders need to take control. This is no time to go searching for a change management consultant. In fact, the major dislocations happening in industries around the world give companies a *mandate* for change—an opportunity to lay the foundation for the future. Because everyone acknowledges the current crisis, they often readily accept restructuring and changes that were not possible in the past—even if change has been needed for some time.

What we need today are leaders like Lou Gerstner and the executives at IBM who can *stabilize*, *strategize*, *and transform*. Leaders are needed with a strong plan for how their company is going to survive today and succeed in the future. Leaders are needed who can communicate the first few steps on the path forward and rally employees, customers, and partners to work together in making the tough decisions and taking the steps needed. Success will depend on leaders who are able to stabilize the company as they identify and exploit opportunities, find new market niches, create innovative new offerings, and restructure and reposition the company.

Given that we don't know how long these economic problems will last, it's important to carefully manage risk when pursuing opportunities. Staging commitments to reduce uncertainty and risk, while paving the way for new business growth in the future, is critical. Indeed, innovation has always been about managing uncertainty and risk. The only difference today is that uncertainty and risk are not just

<sup>&</sup>lt;sup>15</sup> Kuhn, T., *The Structure of Scientific Revolution* (Chicago: University of Chicago Press, 1970).

tied to a specific business opportunity—risk is also tied to the global economic markets that provide the engine for growth.

The powerful lesson from the IBM story is that innovation is not a side business to running a real business. Indeed, innovation is *THE BUSINESS*. Entrepreneurs can be found and a culture of entrepreneurship can be developed in companies of any size and age. Entrepreneurial leaders must relentlessly—but not recklessly—pursue opportunity. They must look beyond the resources currently controlled to harness the power, resources and reach of their organizations and networks. Breakthrough innovations that change people's lives and the very structure and power dynamics of industries can't be managed as "silos," tucked away in corporate, university, or government research labs, in incubators, or within venture capital funded entrepreneurial start-ups. Access to the marketplace is needed to help speed commercialization and adoption. Emerging opportunities must be nurtured and the transition to high growth must be managed. Once breakthrough innovations catch hold, growth must be funded and managed to exploit the full value of the opportunity. And finally, incremental innovations must ensure that businesses that have passed through the high growth stage can continue to deliver the resources, capabilities, and platforms needed to fuel the emerging opportunities of the future. We wish you success on your journey.

## Stage 1: Idea to Opportunity

## **Key Activities**

Expand your horizons

Look for sources of market pain and industry trends and disruptors

Conduct an industry analysis and identify "white space" opportunities

Determine the size of the "playing field" and scope of the opportunities

Narrow your focus

Identify "go to market" strategy and resource requirements

Engage with the market, experts, and key industry players to gain first-hand knowledge and secure early commitments for advisors

Translate opportunity into an economic model, value proposition, and business plan

Identify critical assumptions and key areas of uncertainty within the plan

Test sensitivity of the economic model to "best case / worst case" scenarios

Identify risks and develop a plan for managing them. Stop if fatal flaws are present.

#### **Key Decisions**

Is this an opportunity we want to pursue? Do we have (or can we assemble) the first-hand experience, capabilities, connections, and capital to pursue this venture? Can we gain the interest of key customers, suppliers, partners, advisors, investors, and sponsors? Are we passionate about pursuing this opportunity? Is the opportunity large enough to support founder/investor expectations? What are the risks and uncertainties and how should they be managed? Is there sufficient evidence that this can grow and evolve into a sustainable business? What are the assumptions that the founding team and investors have about the long-term opportunity and the return on investment required?

#### **Transition Planning**

Determine organizational form and legal structure

If this is a new venture in an established company, determine the level and timing of integration needed between the new venture and established business. Develop integration mechanisms needed during early stages of design and launch

Assemble resources needed (e.g., leadership team, people, financing) to launch the business and design/develop initial offering Secure firm commitments from leadership team, key employees, and early investors

## Stage 2: Business to Market Launch

# **Key Activities**

Complete regulatory and legal requirements and contracts needed to launch the business

Engage the market (Manage market risk)

Talk with potential customers and develop deep understanding of their business

Identify and partner with early adopters to identify solutions to their pressing problems ("pain")

Develop the product (Manage technology / product risk)

Design and develop market entry offering while layering in the platform for future evolution product-market evolution lterate with early adopter ("beta") customers to gain input early and often

Keep in close touch with the market and alternative offerings to ensure differentiation and clear, compelling value proposition Assemble and deploy resources (Manage resource risk)

Continue attracting people, partners, and financing needed for market entry

Build capabilities needed to meet short-term milestones and product-market positioning goals

Develop project plan with milestones and metrics (Manage implementation risk)

Stage commitments and adjust plans based on insights gained while preparing for market launch

## **Key Decisions**

Can we attract, motivate, and retain employees, suppliers, and partners needed to develop, produce, and deliver the initial product at the required level of cost and quality and within desired timeframe? Did early adopter ("beta") customers respond well to the initial offering? How can we stage the rollout to reduce risk and uncertainty and "learn while doing"? Have we clearly defined metrics for success and do we have the information and management processes needed to control/govern the business and protect stakeholder interests as we prepare for launch? Can we continue to build the capabilities and assemble the resources to penetrate the market and create a sustainable business? Is this a business that can stand on its own or should we be building it to sell? If the latter, who are potential buyers and what would they value? (Note: If building a business in an established company, this is the point to begin planning for integration of the innovation if required.)

## **Transition Planning**

Develop market rollout plan and assemble resources needed to market, sell, and deliver initial offerings

Develop functional organizational structure and ensure the right people are in key positions

Hire key administrative positions needed to position the company for growth (e.g., HR, controller)

# **Stage 3: Market Adoption to Sustainability**

#### **Key Activities**

Grow the business to achieve profitability and scale

Enhance products based on what you learn from the market

Streamline and expand channels to market

Penetrate existing market

Evolve the organization to manage increasing size and complexity

Create repeatable, consistent, integrated operations and processes

Automate routine processes using standardized, modular approaches, whenever feasible

Develop customer-focused teams within sales and marketing

Build supply chain-production-delivery capabilities

Hire and develop front line employees and partners.

Create performance management and incentives to reward market penetration, customer loyalty, and profitability.

Provide relevant, timely information needed to coordinate and control existing business

Begin culture shift to growth and accountability

#### **Key Decisions**

Can we attract the funding and other resources needed to penetrate the market and achieve profitability in our entry product lines while also developing the organizational and product platforms required for continued growth and sustainability? Are we evolving the company's strategy and capabilities to optimize short-term value and long-term flexibility, leverage, and learning? Can we organize to manage increased complexity? As a founding team, how much of the company are we willing to sell to investors to achieve our short-term and long-term goals and the company's potential? Is this a company that can continue to operate as a stand-alone player in the industry? If so, should we keep the company private or take it public? If not, should we sell, merge, acquire, or partner to achieve our long-term goals?

## **Transition Planning**

Develop strategic plan to transition to high growth. These plans may include selling all or part of the business. Identify capabilities needed inside the company and partnerships needed with outside firms. Gain commitments. Identify and gain commitment for financing needed to grow the business and exploit full scale and scope of opportunities. Hire leaders in key positions needed to shift to high growth.

# Stage 4: Growth to Maturity

## **Key Activities**

Identify product – market growth trajectories and implement strategic initiatives required to exploit opportunities Expand into adjacent products and markets

Explore new products, new markets, and adjacent businesses

Re-examine your role and power within your industry and extended business network

Take steps needed to ensure you are positioned to lead the industry

Continually evolve your organization and leadership to manage increased complexity and scale

Reorganize into strategic business units or divisions based on product, market, or geography

Hire senior executive team experienced with leading and controlling a multidivisional business

Develop shared services organizations and hire experienced senior executives (e.g., CFO, CIO, Chief Talent Officer)

Create governance organizations required to protect the interests of all stakeholders (e.g., board of directors, compliance systems

## **Key Decisions**

Is growth slowing or declining? Are there new growth opportunities within our traditional "playing field" that we have not yet leveraged? Is it becoming tougher and tougher to compete on quality and differentiation? Are we forced to continually cut costs and lower prices to prevent margin or market share erosion? Is it becoming harder to hire top quality talent or are we forced to compete for talent based on increasingly higher salaries?

## **Transition Planning**

Recognize when a business is becoming mature and identify opportunities to leverage the company's strategic position and platforms to exploit future growth opportunities.

## Appendix A (continued): Key Activities, Decisions, and Transition Plans by Business Lifecycle Stage

## **Stage 5: Transformation**

#### **Key Activities**

Actively scan for key trends and disruptors that signal future growth opportunities

Create a Technology Team that establishes relationships with internal research labs/product groups and external industry participants (e.g., venture capitalists, analysts, university researchers). This team scans for emerging technologies, and provides business leaders with opportunities to learn about and prototype potential breakthroughs. These breakthrough technologies could include: product, process, information, communication, "green" energy, or biotechnologies.

Develop a Strategy Team that keeps in touch with internal and external industry and market experts. This team scans for emerging business opportunities that could serve as future engines of growth for the company and looks for ways to leverage current product-market position and organizational capabilities to exploit these opportunities.

Develop a multi-faceted leadership model and the organizational capabilities needed to embed "disciplined innovation" and a business lifecycle approach to innovation into the fabric of the business.

# **Key Decisions**

Can we effectively manage opportunities and innovation throughout the business lifecycle? Do we have the leadership and organizational capabilities needed to manage businesses in different stages of the business lifecycle and also to ensure effective transition from one lifecycle stage to the next? Can we identify and effectively manage the risk and uncertainty associated with different stages in the business lifecycle?

## **Transition Planning**

Identify and prioritize new opportunities.

Create "founding teams" that can explore new business opportunities and develop business plans for the most promising. Actively search for opportunities to exploit current position and capabilities as a platform for new ventures.

## Stages 6 and 7: Turnaround

## **Key Activities**

As the rate of cash flow growth slows and turns negative, mature businesses begin to decline and, at some point, may begin losing money.

Determine the root causes of the problem and whether the company is worth turning around.

If not worth turning around, determine whether the long-term strategic positioning and value would be greater by immediately selling the company to another party or by simply shutting it down and selling the assets.

If the company is worth turning around, determine whether the resources (e.g., people, partnerships, financing) are available to execute a turnaround and stabilize the company.

Ensure that the right people are in key positions and that accountability is unambiguously clear.

Solve most pressing problems and, if possible, layer in capabilities needed to transition from stabilizing to strategizing and then to transformation.

Once the business is stable, determine whether it is possible to transform as an independent company or, alternatively, whether the company should be sold. If independent, strategize and innovate to achieve high growth.

## **Key Decisions**

Is this business worth saving? Do we have the resources and will to turnaround the company? Once stabilized, can the business transition to high growth as an independent company or should we sell the company or partner?

#### Transition Planning

Once business is stabilized, strategize to identify strategic positioning and capabilities needed to execute strategy.

Determine your entry strategy for either re-entering existing product-markets or exploring new ones.

Assemble the resources needed to begin the transformation.

# **Appendix B:** IBM Strategy Process—Uniting Insight and Execution

As a result of its "near death" experience, IBM developed a strategy process and leadership model that enables executives to both sense and seize opportunities. This process is fully described in an article by Bruce Harreld, Charles O'Reilly and Mike Tushman.<sup>16</sup>

# Sensing New Opportunities—Strategic Insight

IBM has developed formal processes to ensure continuous scrutiny of the competitive and technological environment and involvement of line managers in this scanning. The technology team offers a way to link technological advances with business needs. The strategy team ensures dynamic adjustments to strategy and execution are made in a timely manner. The goal in sensing opportunities is to make high quality unbiased investment decisions under conditions of high uncertainty. The four mechanisms, described below, provide a multifaceted way to continually monitor and assess changes, a clear decision process for making timely decisions, and the ability to allocate resources in support of these decisions.

- The *Technology Team* meets monthly to assess the market readiness and potential of emerging technologies. This team draws on the deep expertise of IBM Research, IBM Fellows and IBM Distinguished Engineers. Decisions can result in either investing in a new project, accelerating funding for an existing project or in halting a project.
- The Strategy Team meets monthly to examine the competitive and market performance of existing
  unit strategies as well as to explore new growth areas. Decisions can result in new market entry,
  adjustments to existing business plans, or complete exit from a business. This team is composed of
  a cross section of general managers, strategy executives, and other key functional leaders.
- The Integration & Values Team (I&VT) is a group of 300 key leaders, selected annually by the CEO and senior executives who are considered responsible for executing company-wide strategic initiatives throughout IBM. These initiatives, known as Winning Plays, are corporate-wide strategic efforts (e.g., issues that require cross organization interdependence). Each initiative has assigned leaders and, often, uses the "deep dive" process. Results are reported quarterly to the entire I&VT and, in abridged form, to the entire company.
- A *Deep Dive* is a structured process, typically requested by a general manager confronting a performance or opportunity gap and staffed jointly by the operating unit and the strategy group. This is an intensive, focused process where a topic (e.g., a new technology or change in competition) is scrutinized in great detail. This process is highly analytical and fact-based. It typically results in a strategic decision to either pursue a market or technology, to change strategy, or to exit a market. Intentionally these efforts are not run to a preset time line; the work continues until all questions are answered, the decisions are clear, and the necessary adjustments to the organizational model are clearly delineated.

19

<sup>&</sup>lt;sup>16</sup>Harreld, B., O'Reilly, C., and Tushman, M., "Dynamic Capabilities at IBM: Driving Strategy into Action," *California Management Review*, 49 (4): 21-43, 2007.

# Seizing New Opportunities—Strategic Execution

In addition to formal approaches to identify opportunities, the IBM strategy process also defines mechanisms needed to execute strategy by reallocating resources and, when needed, reconfiguring the organization. The goal here is the ability to quickly recombine and reconfigure assets and structures as markets and technologies change.

- Emerging Business Opportunities (EBO's) are an integrated set of processes, incentives and structures designed explicitly to enable IBM to address new business opportunities. The EBO process begins with the recognition that mature, well-established businesses need to operate differently from new, exploratory ones. To succeed, emerging businesses have different key success factors and require a different style of leadership and different alignments of people, formal organization and culture. IBM recognized that the current management systems rewarded short-term execution aimed at current markets. Trying to operate new business within a mature one can be exceedingly difficult, with the result that the new business is often killed. Further, the company lacked the disciplines for selecting, experimenting, funding, and terminating new businesses. This led to the development of a process to identify new growth opportunities and to build new businesses within existing lines of business while ensuring strong executive management oversight to ensure that new businesses got the resources needed to explore new opportunities.
- The Strategic Leadership Forums (SLF's) are 3 ½ day team-based workshops built around specific performance or opportunity gaps that bring extended teams together for intensive work on problems or opportunities. These workshops begin with work on challenging the strategy, conducting a deep root cause analysis of the specific underlying causes of the performance or opportunity gap, and the development of an action plan. Teams are selected to include all those responsible for the issue to be addressed. During the SLF, teams are supported by members of the strategy group and facilitation is provided by members of IBM's Global Executive and Organizational Capability group. This process helps line managers have structured, candid conversations with a common language—and to explicitly link strategic insight to execution in a disciplined way.
- The Corporate Investment Fund was developed as a way of providing funding for new initiatives.
   This \$500M fund is taken from existing unit budgets on a yearly basis and is specifically designed to provide the resources to start new initiatives. Funding decisions are made on an on-going basis.