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Leaders Who Make a Difference: Sam Palmisano's Smarter IBM: Day 1

Note: This case is designed to be used in conjunction with HBS video 311-701.¹

Sam Palmisano was elected CEO of IBM in March 2002. He had been identified as the future choice for the CEO role by his predecessor Lou Gerstner in 2000 when Gerstner made him president and chief operating officer. Palmisano was an IBM lifer who had a strong record that in some ways was outside the core of IBM. He had lived in Japan and China, had been a leader in the services organization, and had championed Linux and open systems, each a step apart from the hardware systems business with which postwar IBM had achieved greatness. In 2000 and 2001, while establishing his credentials as an effective chief operating officer of an \$80 billion enterprise, he took part in a series of extensive discussions with Gerstner and other top leaders focused on the strategic challenges facing IBM. Whatever the substance of those discussions, the changes in this giant company following Palmisano's accession to leadership have been as dramatic as any we have seen in a long-established, successful company.

Under Palmisano's leadership, a multinational company with five main lines of business in the heart of the traditional IT markets and per share earnings of \$2.10 was transformed into a globally integrated enterprise at the leading edge of IT applications with earnings of \$10.01. Sales and earnings had grown to record levels in 2008 of \$104 billion and \$17 billion, respectively. In 2009, despite the global recession, IBM had record earnings of over \$18 billion. The portfolio of businesses had changed so that hardware, which used to make up 25% of earnings, was now 7%, and software, which had been 25% of earnings, was now 42%; the geographic mix increasingly favored the markets of the emerging nations, but most remarkably—despite the remarkable profitability of the company—it was now a values-driven enterprise. (See financial performance in **Exhibits 1 and 2**.)

This case examines nine moments in that transformation by considering questions facing Palmisano at those times. Supplementary video linked to the case provides his comments on what happened and why.

¹ Joseph L. Bower and Sonja Ellingson Hout, "Leaders Who Make a Difference: Sam Palmisano's Smarter IBM: Day 1," HBS Video No. 311-701 (Boston: Harvard Business School Publishing, December 2010).

Professor Joseph L. Bower and independent researcher Sonja Ellingson Hout 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.

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Taking Over

The company Palmisano was asked to lead had passed through two tumultuous decades. From a peak of competitive strength when its scientists transformed the world of computers and their applications with the 360 and 370 series of machines and operating systems and its competitive strength was so great that governments in the U.S. and abroad sought to restrain it with antitrust suits, the company slowly declined to the point where its employment was halved and its balance sheet in tatters. Industry and financial analysts were in agreement that breakup was the appropriate way to deal with what was left. Things were so bad that an outsider was asked to run IBM for the first time in its history.

Lou Gerstner arrived and IBM was never the same. Derided as a man who knew credit cards and cookies because of his prior roles at American Express and Kraft, he made one of the great strategic calls in business history, deciding against common wisdom that IBM should be kept as an integrated enterprise. Where others saw modularity and interoperability across product offerings, Gerstner saw that customers wanted a solution and "it would have been insane to destroy its unique competitive advantage and turn IBM into . . . more minnows in an ocean."²

Focusing on market share and then on profit, IBM slowly—painfully—returned to health. Financial control was established, and operations rationalized and made profitable. Services were recognized as an area of strategic importance and separated from sales. Gerstner sought to make the company more customer-oriented, more collaborative, and more international in outlook. As Steve Mills, long-serving head of software, put it, "it's not that we had abandoned our values system as much as we were no longer as focused on the operational fundamentals that brought those core values out to the customer and, in turn, leveraged the customer as the essential feedback loop to understand what decisions we needed to make and where we needed to go."

IBM was organized in a way that reflected the way it went to market. Gerstner had inherited a global IBM in which powerful country organizations were virtual mini-IBMs. Gerstner flipped the business models from countries and consolidated around product lines.³ Seeing the potential of the software business, he separated it from the powerful Hardware organization. Business units managed the mainframe, software, technology services (such as outsourcing), and personal computer businesses. These businesses went to market through a powerful sales organization structured by region. In turn, strong functional organizations supported corporate leadership. All the leaders came together in the Corporate Executive Committee (CEC), a group that in one configuration or another had met for many decades to run IBM. (See **Exhibit 3** for an organization chart.)

Early in 2002, Palmisano did away with the CEC and substituted three teams, one for strategy, one for technology, and one for operations. Cultural change was the goal. Gerstner had found a company mired in bureaucracy, with occasional individual cowboy executives. He sought clarity, accountability, and strategic control points in the market. Palmisano viewed that transformation as accomplished and now sought to build a robust operating system for managing the day-to-day operations on a highly decentralized basis. The teams were part of the cultural shift.

The team membership included various members of the top leadership group, but also younger managers brought in for their knowledge and the opportunity to broaden their perspective so that they would be better able to take on senior leadership roles at a future date. Bruce Harreld, who

² Joseph L. Bower, *The CEO Within* (Boston: Harvard Business School Press, 2007), p. 9.

³ Nick Donofrio, interview, January 28, 2010.

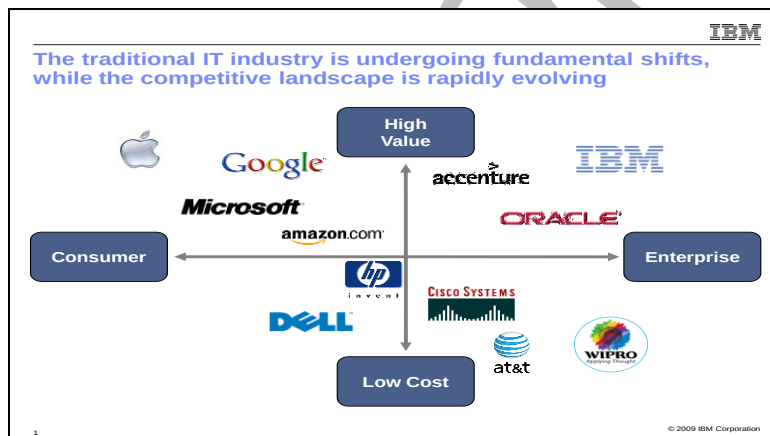
before retirement headed up the Strategy team and sat on the operating team as director of marketing, described the Strategy and Technology teams as “forums for learning, coaching, and cajoling. Cross-unit issues were often brought back for discussion four or five times.”

Video: Taking Over & Organization Changes at Top

(Palmisano's new organization as of 2010 is shown in **Exhibit 4**.)

In 2002, financial analysis revealed a distinctly uneven picture of IBM's businesses. As is apparent from **Exhibit 1**, some areas were growing and robust, while others were languishing and profitless. A widespread view held that some of those low-performing businesses such as hard disc drives (HDD) were important control points providing essential leverage for other profitable business. Others, like the PC business, were emotional touch points with a long-valued corporate history. The Strategy team offered a different view. Using a diagram like that shown in **Figure A**, they argued that in several businesses, IBM was positioned in low-value segments of the market.⁴ In the figure, the IBM PC business would be near Dell or HP, and the HDD business would be near Cisco. It made sense to exit these and move resources to high-value-enterprise markets where IBM was strong and could grow. In the words of the head of Corporate Strategy, Joel Cawley, “Sam got it. His attitude was, ‘guys, you kill yourself. You work as hard as you’ll ever work in any job anywhere and at the end of the day you take home 29 cents.’ There are better ways of putting our capital to work.”⁵

Figure A Segments of the IT Industry



Source: Company data.

The work involved was significant, as several key executives argued for the importance of the PC business. The process of working the organization took two years. Finally, Nick Donofrio, the head of technology, described the availability of Lenovo as “the last window we will have,” and the deal was done. HDD was a different problem with different defenders. Again, Palmisano believed it was not a good business for IBM. Again, the Corporate Strategy staff gathered data to refute various arguments, as the process continued until a good buyer appeared and the deal was done.

⁴ Joel Cawley, interview, April 2010.

⁵ Cawley, interview.

Video: Why We Divested

At the same time that businesses exposed to commoditization were divested, IBM examined how to grow its higher-margin business. If IBM were to move away from commoditized services, then it would need industry knowledge. In the end, selling solutions required understanding the needs of customers in the most detailed way. In 2004, recognizing the direction in which this thinking was taking IBM, Palmisano created a new division, Global Business Services, separate from technology services.

During the 1980s, IBM had essentially "given away" the application software business, allowing firms such as SAP, PeopleSoft, and Oracle to develop powerful positions. Under Gerstner, IBM's response was to develop a business in what it called "middleware," software that sat over the legacy operating systems of the customers providing a serviceable interface for applications such as SAP. Over time, middleware became a powerful business, and Palmisano invested.

The challenge was to move quickly and at scale. An organic transformation could take years. On the other hand, an acquisition looked problematic. The kind of knowledge and capabilities that IBM was seeking were to be found in consulting groups, and these were organized as partnerships. The experience of acquisitions of this sort was not good. CSC Index and A.T. Kearny had a postmerger split-up, as did Ernst & Young and Capgemini. Ginni Rometty, head of Sales & Distribution in 2010, and then responsible for the new Global Services group, described the next steps, "We had some of those industry people in IBM, probably 30,000. But Sam made a strategic bet and bought PricewaterhouseCoopers's consulting business. Clearly PwC had brand recognition for industry knowledge. Recognizing two different cultures and helping them to work together was hard work, but it worked."

Video: Why We Bought PwC

Rometty noted that buying PwC was only the first

... of many things under Sam's leadership that we did then to improve the way that we went to market. Under his leadership, we created a role called the managing director, which said simply, "if you really believe that service of clients is the most important thing you do, the most senior people in your role ... you should reward for staying in that role. So we created a role. ... Actually, it's higher compensation for staying and facing the client. So you could be the same seniority. You could have the same compensation." So it removed all those inhibitors and rewarded people for staying close to the client, and they're called the managing director. So it was a brand-new career path.⁶

As the executive team considered the organization, the challenge facing it was to unleash the enormous capabilities that were spread around the globe, while retaining strategic coherence and operating control. Palmisano described the need to "lower the center of gravity of the company." Under the previous strategy, a solution was really a product and associated software packaged to address common problems of organizations, such as back-office functions. Middleware products provided the interface between operating systems and application software provided by Oracle and SAP. The new strategy meant that IBM would be dealing with the particular needs of individual organizations, such as a city's transit system or a hospital group. A wide variety of decisions from design to pricing and then execution would be made closer to the customer's site. That meant tens of

⁶ Ginni Rometty, interview, March 2010.

thousands of IBMers in 170 countries would be implementing strategy. "So the term, lowering the center of gravity," was born.⁷

The challenge was how to provide direction and control for this activity without a stifling bureaucracy. Much as he had changed the role of the corporate leadership by substituting the Strategy, Technology, and Operating teams for the executive committee, Palmisano wanted to engage the interests and capabilities of the several hundred thousand IBMers everywhere.

Jon Iwata who worked intimately with Palmisano, described the challenge:

I became Chief Communications officer in 2002. Sam kept me in the job. I'm walking around New York City. My phone rings. It's Sam. He says, "I had been thinking about what it means to be a great company. We used to know: Admired, the role model. Then we became a very crummy company and we're back, and we're a pretty good company. What does it mean to be a great company in our time? Because it's not the same thing it was in Watson's time. So go work on that and come back and talk to me."

A good deal of work followed. Given the emerging IBM strategy, Iwata continued, the question was

how to have the advantages of a powerful centralized culture where you get consistency, but then lower the center of gravity. We're going to have to trust that people out in the countries, out in the units, are going to be able to accept delegation to have a kind of consistency—beyond business controls and ethics which we always have to have, but still provide an IBM experience for the customer?⁸ The answer turned out to be, "let's get everybody to do it collectively." Fortunately, we had a worldwide intranet that people used. So we did our very first companywide jam on our values.

(The results of the Values Jam are compared with previous statements of values by founder Thomas Watson and Lou Gerstner in **Exhibit 5**.)

Video: The Values Jam

As the strategy began to play out, the challenge was to ensure the profitability of the new service-oriented business. The weakness of a simple consulting model business model lay in the lack of leverage. More business meant more labor hours, which implied more head count. The trick would be to use software to provide semistandard solutions that the consultants could then customize. As noted, the software business had been separated for attention by Gerstner under longtime IBMer Mills, who commented:

There was a critical point in time in which Lou's sponsorship was important for us to get what we call today the Software Group going. And in particular, that was about the sponsorship to create a dedicated sales organization which had enough size to be effective. . . . And then as we came through the 90s, we began to practice at doing acquisitions, getting better and better at it. The acquisition strategy was something that really came into focus during this decade, in part because I had gone to school in the things that we did well and not so well, and I came up with a set of techniques for not just how do you buy companies, which is the easy

⁷ Jon Iwata, interview, January 29, 2010.

⁸ Iwata, interview.

part, but how do you integrate companies and accelerate their revenue. And throughout this past decade, having acquired 70-plus companies, it's been a key part of building the business.⁹

These often small software firms were integrated to provide powerful solution packages. Interestingly, the service sales organization's quotas were increased as new software added capability. The opportunity was to use an understanding of technological capability to open up new markets for growth. Donofrio noted that "we buy businesses only to add immediate value."¹⁰

Rometty described the strategy that basically involved

. . . the integration of software and services. So while we do have a distinct unit for software, we have distinct units for services, what was the business driver in this case to get integration? Two things. One was—a differentiator in the eye of our clients was that when our products were put together as a solution, they did something that others couldn't do. So in other words, the integration of our product could drive a client value they couldn't get otherwise. The second motivator was, if you don't put assets into a services business, it has to scale literally with labor.¹¹

Software Provided the Assets

Rometty continued:

Sometimes the customers can't tell you where they want to go, but if you're listening to what they're saying, you can get a sense of where they seem to want to go. You can understand their pain points. What are their issues? You understand what the technology is capable of. How do you combine your technical know-how with customer pain point to go create new capability, to even open up markets, to establish strategic direction for the company that is in response to the marketplace? But it's not isolated from the market, it's driven by the market.¹²

Video: Productizing of Service

Innovation

Under Gerstner, IBM had developed a system to drive revenue growth through the commercialization of R&D called Emerging Business Opportunities (EBO). Initially the responsibility of Vice Chairman John Thompson, after his retirement they were part of the responsibility of Corporate Strategy team under Harreld. The EBO process was designed to make important innovation systematic. Beginning in 2000 with 7 EBOs having sales of nearly \$1 billion, by 2003, 17 EBOs were underway with sales of \$10 billion. At an early planning meeting in 2003, Palmisano

⁹ Steve Mills, interview, March, 2010.

¹⁰ Donofrio, interview.

¹¹ Rometty, interview.

¹² Mills, interview.

raised the issue as to whether an approach that depended heavily on nurturing from the Corporate Strategy team was realistic.¹³ Indeed, Palmisano moved to a different approach.

The approach played out in a number of dimensions. It partly involved targeting areas of research and technology with potential for creating high business value. Recognizing that digital intelligence was being injected into the world's physical systems through pervasive instrumentation and global interconnectivity – generating an exponential increase in the volume, quality, and speed of data – the company zeroed in on advanced analytics, which enabled organizations to see, and even anticipate, patterns in all this data. Under Palmisano, IBM invested in internal capabilities and spent \$12 billion on acquisitions of software firms specializing in advanced analytics, such as Cognos, MRO Software, ILOG, Maximo, Netezza, SPSS, and Unica over the past 7 years. It also set up nine “collaboratories” – working with universities and other organizations in the United States, Saudi Arabia, Switzerland, China, Ireland, Taiwan, Australia, and India. And it worked to invent new scientific disciplines, such as Services Science, Management and Engineering (SSME), an emerging field of study that IBM pioneered in 2005 with seven universities. There are now SSME curricula at more than 450 universities in 54 countries.

And if science were at the core of IBM, the work of the scientists needed to be connected to the work of the business teams. As Donofrio, then the head of technology, related, “Sam’s charge to me was help us to become ‘IBM: the innovation company.’” With increasing strategic focus on the rapidly growing opportunity in high-value-added commercial information service business, the need for innovation to add that value was also clear. Consistent with the idea that progress could only come from “lowering the center of gravity,” Palmisano initiated work that led to another online discussion with the IBM community: the Innovation Jam. For the first time, IBM would provide public visibility into leading-edge research from IBM’s labs before it was baked into product and service offerings. The effort was productive, spawning several new businesses that later became seeds of IBM’s “Smarter Planet” strategy, which is discussed later in this case.

Video: The Innovation Jam

The Globally Integrated Enterprise

The need now was for execution, at scale with world-class quality and costs. The challenge lay in the inherited organization that was naturally focused on the major markets of the world where most of the business was. Although natural, it meant that Asia was led from Japan, even though China represented the major growth potential. Europe was led from Switzerland, although the major growth was in Eastern Europe, and Latin America was led from the U.S., all ultimately reporting to Armonk, New York. Hansueli Maerki, past head of IBM Europe, explained the problem that resulted: “What happens when there is earnings pressure in some quarter? Where do the resources go? Inevitably they are pulled away from the East and focused on our biggest markets where we can get current sales.”¹⁴ Bruno DiLeo, General Manager, Growth Markets commented, “When I was running northeast Europe, I was responsible for Germany, the U.K., the Nordic countries. And then I had CEMA, which was Central and Eastern Europe. What do you think was my number-one priority?

¹³ The information in this paragraph is drawn from David A. Garvin and Lynne C. Levesque, “Emerging Business Opportunities at IBM (A),” HBS No. 304-075 (Boston: Harvard Business School Publishing, 2005).

¹⁴ Hansueli Maerki, interview, February, 2010.

Germany and the U.K. I would allocate to the Russians and the Czechs and the Polish five minutes of my time because if I didn't get Germany and the U.K. right, I was dead."¹⁵

Palmisano made two major moves, one strategic and the other organizational, which created what IBM called a Globally Integrated Enterprise (GIE). The first move was a major investment in India. But Rometty noted:

Over a period of years, we created a global network of centers of excellence, and therefore it was not . . . just about India. We built centers of excellence for services, meaning servicing clients, right? So this is—our big business is \$50 billion today. And we service them out of a network which includes India. It includes China. It includes Brazil. It includes Canada. It includes centers in the United States. It includes Ireland, Spain—you go on. And we strategically picked where these centers should be located and then we built critical mass, but what we did different than all our competitors is that we built an end-to-end set of skills in those places.

So that means two things. You do not just put low-value labor. You put an entire continuum of high-valued skill all the way through. You also then—in many cases, we had software development skills there, research locations in the same place, and then service delivery—what we call service delivery. You might have a big SAP center, as an example. When you co-locate and put these in similar places, you now have created an environment that attracts a workforce in a very hot market because they have career potential. It was a very important thing to coordinate this across IBM. I just read a thing in one of the analysts' reports today again, which said, "will players like us force the Indian-based players to just back down into low-value work because they can't compete with this kind of integrated place sitting in these areas?" So that global integration, what I just described to you, would be how we did service delivery. That led a lot of the big mass of skills in this globally integrated network.¹⁶

The second step was to divide the customer-facing organization in two, with Sales and Distribution for Mature Markets headquartered in Armonk, but the organization for Growth Markets headquartered in Shanghai. The Growth Market's General Manager, DiLeo, a Peruvian of Italian descent and an IBM lifer, described his job: "You see where I am? My job is to create the issue inside the company. That's my job. I have to be the outsider in your thinking. I have to be the outsider telling the company every single day we're different, we're investing. You can be driving the activity in Germany and the U.S. You can be working on protecting your market positions. All the expenditures you're serving come to me. I'm investing."

As Rometty described, a very dramatic move into India was an icon of the GIE strategy. Involved was a reallocation of resources on an unheard of scale with remarkable speed—what Mills called "Sam speed."

Video: The Bangalore Event and Scaling India

The management challenges posed by the GIE strategy and the segmenting out of growth markets were considerable. DiLeo noted:

¹⁵ Bruno DiLeo, interview, March 2010.

¹⁶ Rometty, interview.

Our business is a skills business. So that's the number-one issue in growth market is skills. You need three kinds of people. Number one is you need what I call market-relevant resources. For example, if you really want to deploy a growth strategy around railroads in China, you have to put in front of the client somebody that already did three or four railroads. That knows everybody in the railroad industry. That has all the connections with Siemens and ABB. That has practical experience. You're not selling a piece of hardware or software, okay? . . . You're selling, "I will be your partner of choice in the transformation of the railroad industry." The first question a client makes is, "How—what do you know about railroads? I think you know, but what do you know about railroads?"

The second issue is no more part-timers. You need full-time high-level managers, application, development, et cetera. These are resources that you need to develop on the ground. You need to have people, train people, and it is never fast enough. Never fast enough.

And the third kind of resources you need to have is outstanding local management because you are dumping a lot of money in a country. You need to be sure that the local management is good enough. And growth is an issue there. Because sometimes you have good people—very committed, very loyal. They were good when the business was \$100 million a year, but now the business is \$800 million a year and you need more experience. You need more seniority. . . . And how do you solve this is, you overstaff. In some of these countries, we are sending country general managers or executives which are overskilled. Because we are not sending them to manage the status quo. We are paying them for what they will bring us back.¹⁷

The move to global integration also involved an entire reorganization of the IBM support staffs. Whereas previously, geographic business units would have their own staffs, now the managers in IBM worked with one shared system for each function. For example, in human relations, while there were local practices to conform to local law, there was one system. A local manager could draw from a menu of possible incentives, but there was only one menu. Incentive compensation was based on performance reviews working off a regular compensation planning cycle. Incentives for most executives were based on company rather than division performance.

For businesses that were measured by profit, support was provided everywhere, but a common treasury function sat in New York, Ireland, and Singapore. A calendar of meetings was set to forecast, budget, and review monthly results, which cascaded down from the Operations Team to every operating team. The management information system provided transparency from the top to all operating activities. Planning and control were further supplemented by a strong internal audit function.

Nonetheless, the common values were the source of very powerful control. Palmisano had added a Chairman's Uplift program, which, at his discretion, allocated significant bonuses based on actions that were emblematic of IBM values. Palmisano commented, "And all the things that we were trying to accomplish at the top relative to integrating IBM, operate as a team, put the client first, let your measurement system be high integrity in all relationships, internal and external responsibility. We'll give you the responsibility, but you're also going to have accountability with the responsibility."¹⁸

¹⁷ DiLeo, interview,

¹⁸ Palmisano, interview, May 2010.

Video: The Global Integrated Enterprise

The change in strategy and organization necessitated that IBM rethink how it communicated its financial model. Jim Kavanaugh, IBM's controller, commented, "We had in essence to entirely reconsider how we communicated our strategy and the shareholder value generated by our financial model." The challenge was to explain to shareholders how higher value, investing for growth, developing the integrated software/service market, and a new operating model and value-based system would produce exciting financial results. What IBM did was as revolutionary as its strategy: it committed externally to a four-year financial plan for the company. (**Exhibit 6** is the actual chart from May 2007.) Thereafter, at IBM's meetings with financial analysts and shareholders, it tracked performance against the "financial road map." This also became a key rallying point for IBMers; everyone knew his or her relation to the road map and what was expected of him or her. As a member of the Corporate Strategy team remarked, "It galvanized focus, pride, and confidence as we achieved—even in a down economy."¹⁹

The task of explaining IBM to outsiders was in fact a central concern of the top leadership. How could the complexity of the new strategy, the reallocation of resources, and the values be made meaningful and powerful so that customers and owners alike could appreciate the accomplishments of the company? This was particularly important since, in the vital growth-market segment, customers were often governments or their agencies. How could IBM present itself in a positive fashion that would differentiate it from potential competitors? The answer was the "Smarter Planet" strategy, launched publicly in a speech at the prestigious Council on Foreign Relations.

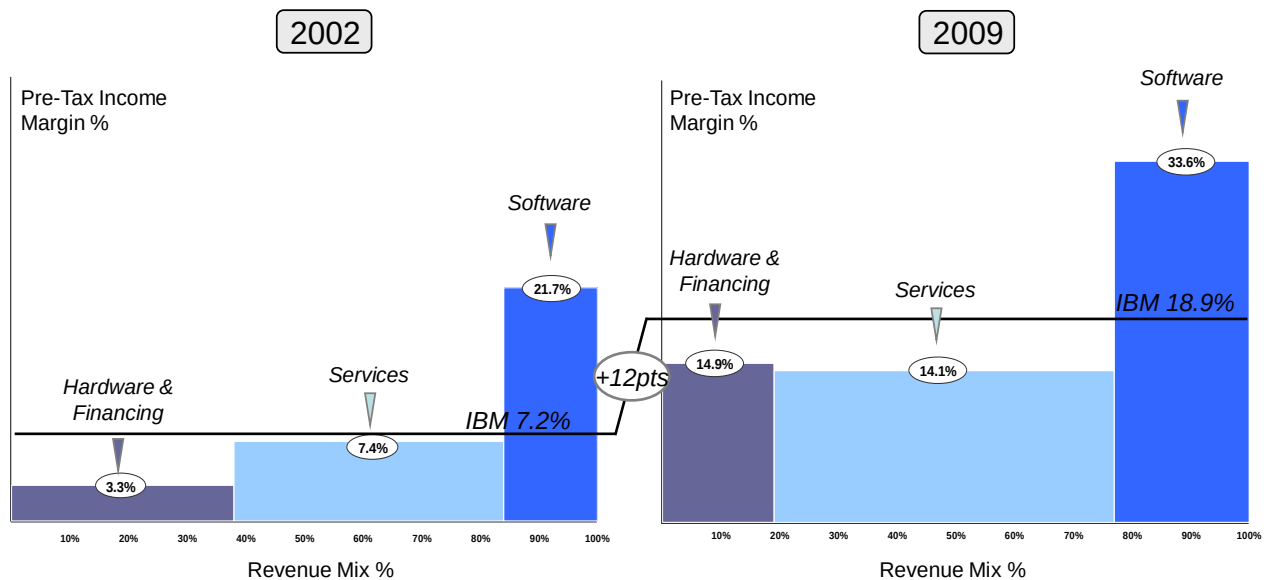
Smarter Planet was a marketing program devised by Jon Iwata and his team working over three years to find a way of capturing the meaning of the new technology and new markets. Multiple mechanisms for feeding information into a corporate system so that powerful analysis would permit near instantaneous solutions to problems: traffic congestion, DNA based health care, or a smart grid for electric power. The program was designed to capture the aspirations of growing middle classes and the governments that would serve them.

Video: Smarter Planet

In the spring of 2010, managers at IBM were heavily engaged in the many tasks associated with delivery on their ambitious plans. At the financial analysts meeting in May 2010 at which the results for 2009 were announced, IBM also presented its financial road map for 2015, which called for doubling operating earnings per share to at least \$20. When asked about the challenges implied, the leaders all focused on the need to recruit enough talent to deliver on these promises. Some also raised concerns about the risks implicit in relying on an organization that was increasingly made up of relatively new hires. In 2010, more than half the people in the organization were young and had been with IBM less than five years. How would the "me generation" deliver on the value premise of IBM? How would the 3,000 partners in 170 different countries behave when far removed from Armonk or Shanghai?

¹⁹ Martin Fleming, interview, summer 2010.

Exhibit 1 2002 and 2009 Revenue Mix Percentages



Notes

Margins reflect income from continuing operations before income taxes
 Sum of segments not equal to IBM
 2002 segment detail excludes Enterprise Investments

Source: Company data.

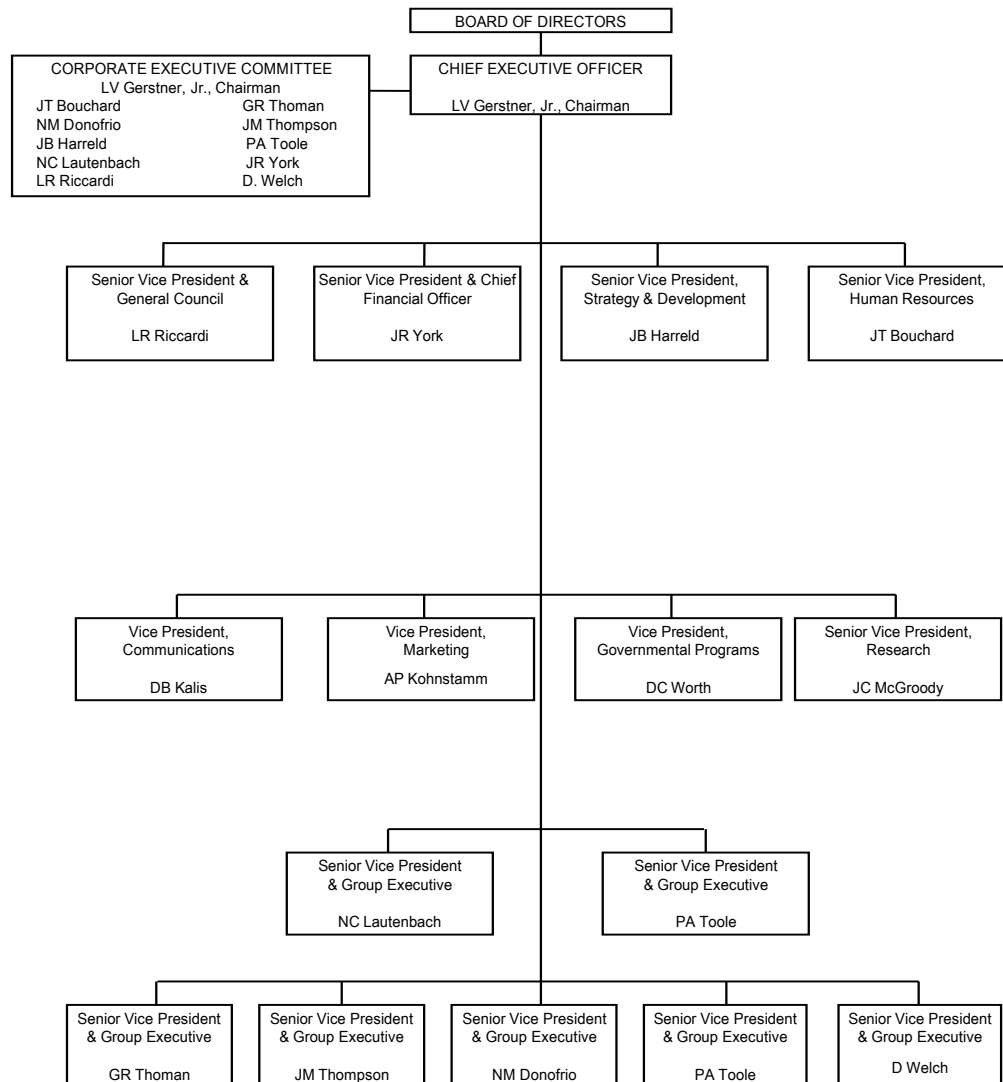
Exhibit 2 IBM — Financial Performance

(US \$ mil.)

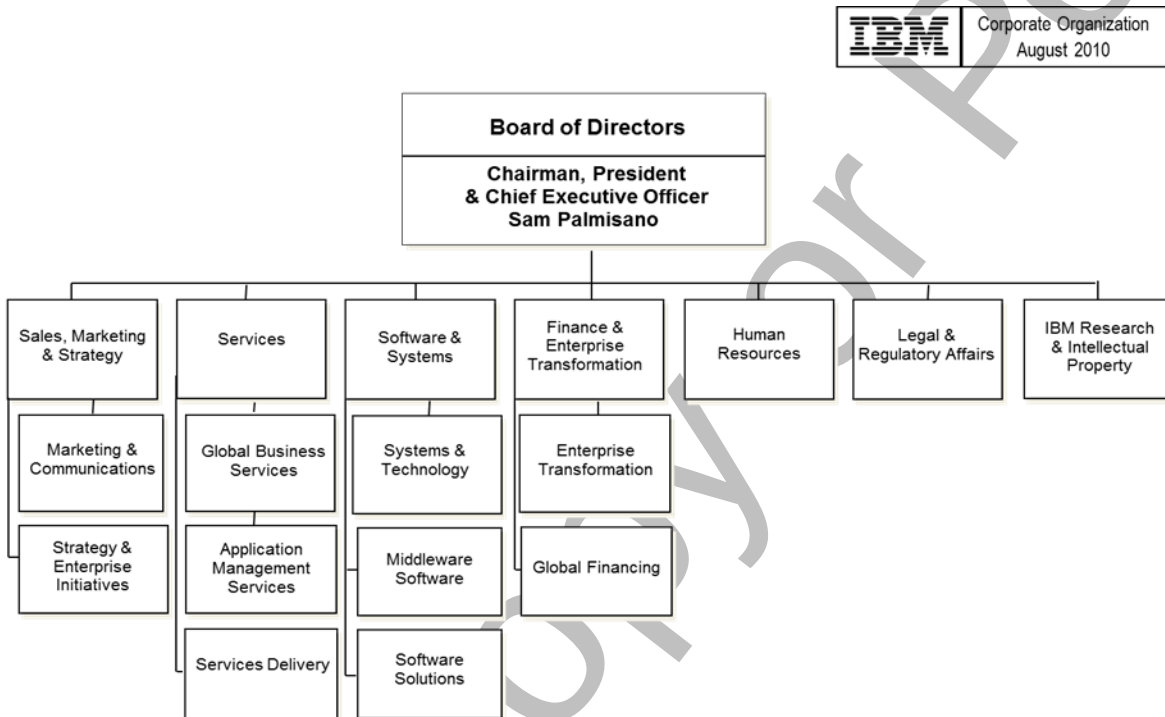
	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Sales	69,018	71,940	88,396	85,866	81,186	89,131	96,293	91,134	91,424	98,786	103,630	95,758
Gross margin %	55.5	42.2	36.7	37.0	36.7	36.5	36.9	40.1	41.7	42.0	43.8	45.5
Operating earnings	11,032	9,919	11,634	9,295	8,943	10,513	11,627	11,140	12,211	13,834	16,644	17,345
Net profit	6,020	4,116	8,052	7,709	5,316	7,613	8,425	7,932	9,416	10,418	12,333	13,425
eps	2.63	1.81	4.44	4.35	3.07	4.34	4.93	4.90	6.06	7.18	8.93	10.01
Cash	4,551	7,701	3,722	6,393	5,975	7,647	10,570	13,686	10,656	16,146	13,680	14,247
A/R	22,644	23,402	30,726	27,018	27,358	28,923	28,136	24,428	26,848	28,789	27,555	26,793
Inventory	10,108	6,323	4,765	4,304	3,148	2,942	3,316	2,841	2,810	2,664	2,701	2,494
Total fixed assets	27,241	16,579	16,714	16,504	14,440	14,689	15,175	13,756	14,440	15,081	14,305	14,165
Total assets	87,568	76,916	85,381	85,918	92,170	100,169	106,159	103,916	99,354	118,918	102,254	104,827
Current liabilities	25,276	31,648	36,406	35,119	34,220	37,623	39,798	35,152	40,091	44,310	42,435	36,002
Long-term debt	11,943	10,060	18,371	15,963	19,986	16,986	14,828	15,425	13,780	23,039	22,689	21,932
Equity	42,832	22,423	20,624	23,614	22,782	27,864	29,747	33,098	28,506	28,470	13,465	22,637
Shares outstanding	2,286	2,191	1,763	1,723	1,722	1,695	1,646	1,574	1,506	1,385	1,339	1,305
ROE	14.1	18.6	39.6	32.7	15.7	27.2	28.3	24.0	33.3	36.6	91.6	59.3

Source: Thomson Reuters Worldscope, accessed August 2010.

Exhibit 3 IBM Organization, 1995



Source: Lynda M. Applegate, Robert Austin, and Elizabeth Collins, "IBM's Decade of Transformation: Turnaround to Growth," HBS No. 805-130 (Boston: Harvard Business School Publishing, 2005), p. 20.

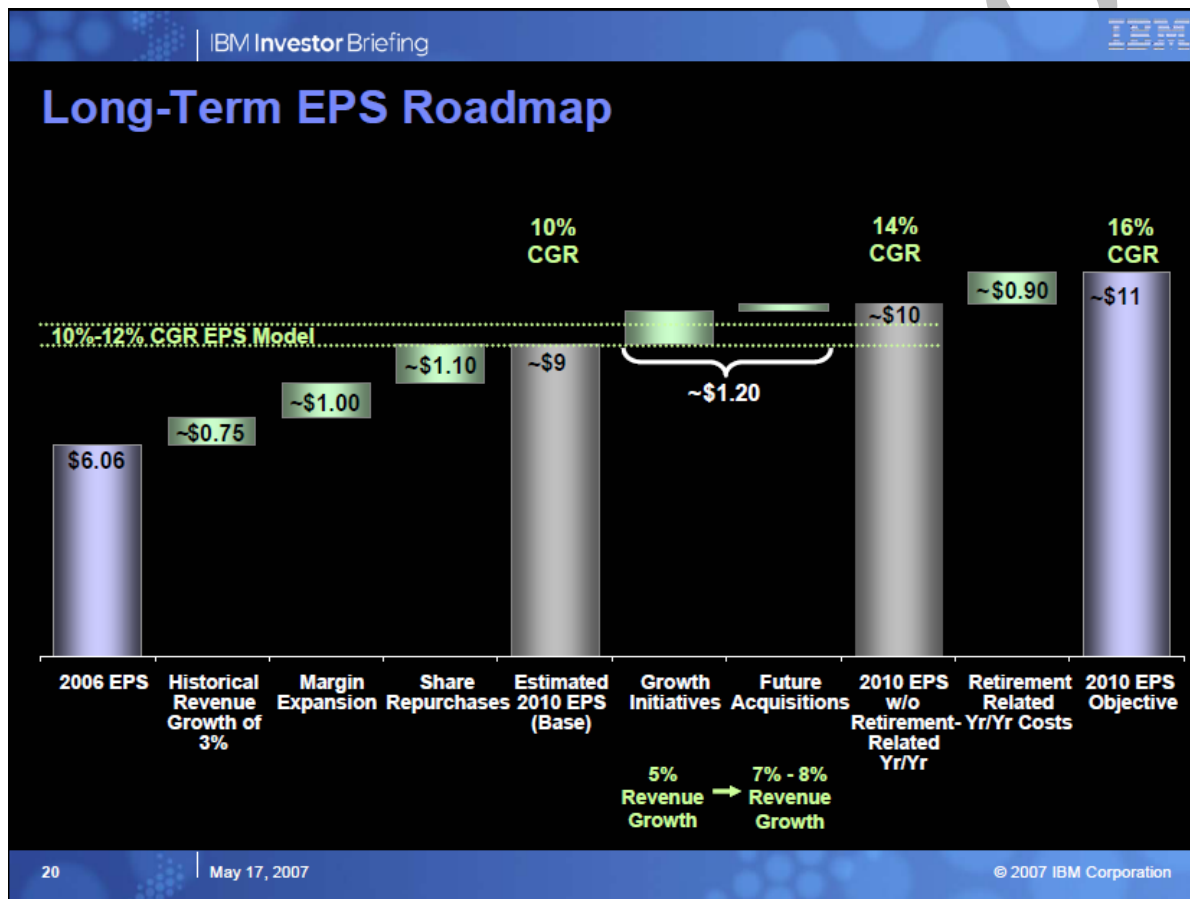
Exhibit 4 IBM Organization, 2010

Source: Company data.

Exhibit 5 IBM Values Compared

Basic Beliefs Watson, 1914	Eight Principles Gerstner, 1992	Values after the Jam November 2003
Respect for the individual	The marketplace is the driving force behind everything we do.	Dedication to every client's success.
The best customer service	At our core, we are a technology company with an overriding commitment to quality.	Innovation that matters—for our company and for the world.
The pursuit of excellence	Our primary measures of success are customer satisfaction and shareholder value.	Trust and personal responsibility and accountability in all relationships.
	We operate as an entrepreneurial organization with a minimum of bureaucracy and a never-ending focus on productivity.	
	Outstanding, dedicated people make it all happen, particularly when they work together as a team.	
	We never lose sight of our strategic vision.	
	We think and act with a sense of urgency.	
	We are sensitive to the needs of all employees and to the communities in which we operate.	

Source: Company data.

Exhibit 6 The Financial Road Map from the May 2007 Investors' Conference

Source: IBM, Investors' Conference, May 17, 2007, <http://www.ibm.com/investor/events/analyst0507/presentation/part10/part10.pdf>, accessed November 5, 2010.