

CASE 22

Jeff Immelt and the Reinventing of General Electric¹

On April 25, 2012 Jeff Immelt, chairman and CEO of the General Electric Company, presided over the company's annual shareholders' meeting in Detroit, Michigan. As representatives of the "99 Percent Movement" protesting GE's low rate of corporate tax were ushered from the hall, and GE's board members and corporate officers took their seats, Immelt reflected on his eleven years as head of GE.

Immelt knew that taking over from Jack Welch—"living legend" and "best manager of the 20th century"—would be a difficult challenge. Little did he know just how tough his job would be.

Four days after Immelt took over the chairman's suite, two hijacked airliners crashed into New York's World Trade Center, setting off a train of events that would profoundly affect GE's business environment. A month later, Enron's collapse precipitated a crisis of confidence over corporate governance, financial reporting, and business ethics. The mounting controversy over financial statement manipulation and executive compensation soon engulfed GE—which was forced to restate earnings and reveal the details of Welch's staggeringly generous retirement package. Then came the financial crisis of 2008-9—a major blow to GE since its financial services arm, GE Capital, was one of America's biggest financial services businesses and for two decades had been GE's primary growth engine. It was now seen as "ticking time bomb" of bad debts requiring asset writedowns. In 2008, GE downgraded its earnings forecasts, cut its dividend, suspended its share buyback program, and sought a \$3 billion equity injection from Warren Buffett. In the following March, S&P cut GE's credit rating from AAA to AA+.

Yet, throughout this eleven year period of turbulence, Immelt had systematically put in place a long-term transformation strategy for GE. This strategy had involved reconfiguring GE's business portfolio around two core businesses, infrastructure and specialty financial services, reorienting GE's performance goals towards revenue growth, refocusing GE's competitive advantage around technological innovation and customer service, and adjusting GE's structure, management processes, and corporate culture.

By the time of 2012 shareholders' meeting, the results of the strategy were becoming apparent:

GE today is the world's biggest infrastructure company, and we have a great midmarket lending company in GE Capital. Really, two main core businesses, and our goal is really to expand our infrastructure footprint. We're more than \$100 billion globally today and continue to build a valuable specialty finance business.

The things we work on are superior technology, leadership in growth regions, services and customer relationships, margin expansion and smart capital allocation. At our core we're a technology company. Keith said we invest about 6% of our revenue back into R&D. It's about \$6 billion. We'll launch more than 880 new products next year...

¹ This case was prepared by Robert M. Grant. ©2012 Robert M. Grant.

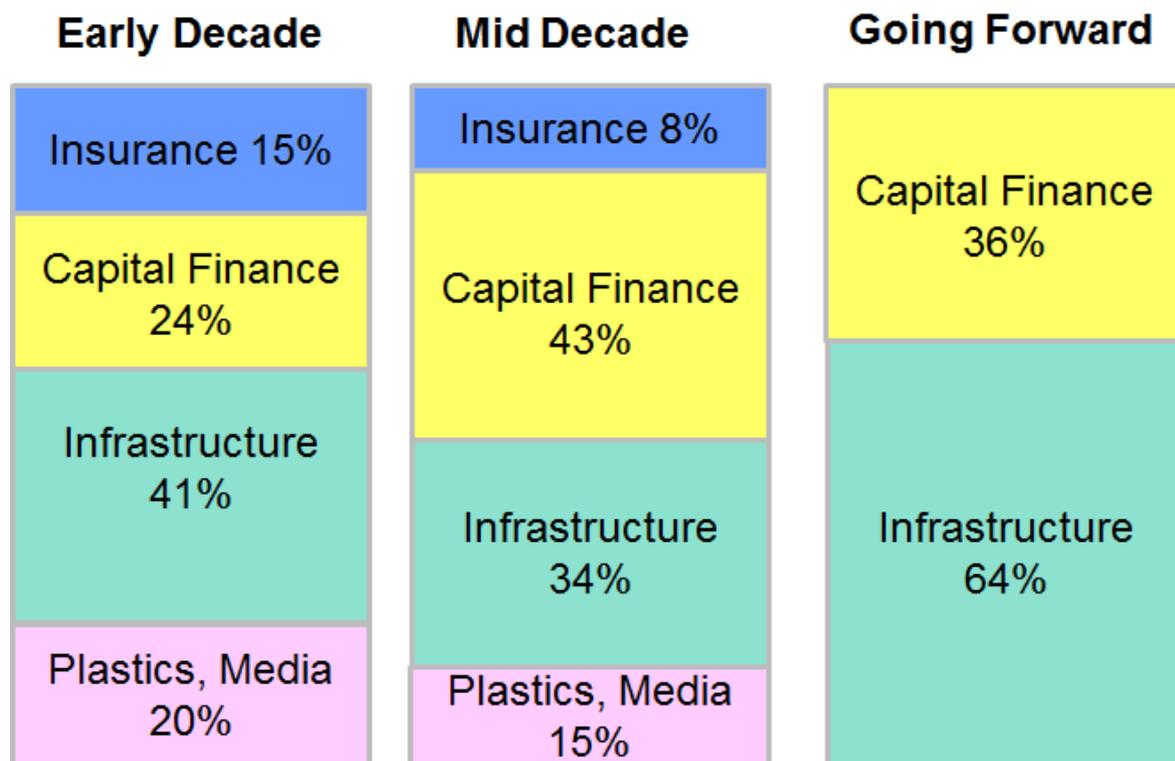
Services are important for the Company. It's about 70% of our industrial earnings, about \$45 billion in revenue. Here we're just really trying to help our customers make more money. We continue to invest in technology that upgrades our customers' performance.

GE is a very global company. As Keith said, about 60% of our revenue is outside the United States. Industrial growth regions, these are really the emerging markets like Asia, the Middle East, places like that. We have a lot of leadership there. Our businesses are growing there substantially. In resource rich regions we're growing in excess of 20%. And rising Asia, like China and India, are growing 10% to 15%.

Lastly, we fly under the banner of GE Works. We're really focused on being mission based, moving, curing and powering the world, believing in continuous improvement. Really a relentless drive to solve customer problems, to create a world that works better. But very much based on our terms and our people and we think that's what makes GE great.ⁱ

The changing shape of GE's overall business makeup is shown in Figure 1. However, for all of Immelt's success in transforming GE's business model and guiding GE through the challenges of the 21st century, financial performance had lagged. During 2002-2003 Immelt, had established ambitious performance targets for GE: sales growth at 2-3 times that of global GDP, 10%-plus earnings growth and 20%-plus return on total capital.ⁱⁱ GE's performance had fallen well short of these targets (see Table 1). GE's share price told the story: when Immelt's appointment had been announced late in 2000, GE's stock was trading at \$53. For most of 2001-08, GE's shares fluctuated between \$20 and \$40, but in the midst of the financial crisis GE's stock fell below \$6 (March 5, 2009); by April 26, 2012 it had climbed to \$19.81.

Figure 1 General Electric Strategic Overview: A Stronger Portfolio



Source: Adapted from General Electric Shareowners Meeting, April 25, 2012

Table 1. General Electric: performance indicators, 2001 and 2011

	Sales (\$bn.)	Net income (\$bn.)	Return on equity (%)	Return on invested capital (%)	Market capitalization, 31 st Dec. (\$bn)	Employees (,000s)	% of Non- US employees
2001	125.9	13.7	26.0	27.0	397.9	310	49.0%
2011	147.3	14.2	11.9	11.6	187.8	301	56.5%

Immelt had been widely applauded for deft leadership of GE in guiding it—more or less unscathed—through the financial crisis and taking steps rebalance GE away from financial services towards technology-based, industrial businesses. Moreover, Immelt has sustained GE’s emphasis on long-term development built upon investment in technology, developing new businesses, international expansion, and upgrading of GE’s manufacturing base. Yet without a sustained improvement in GE’s financial performance, the doubts about GE remained.

For all Immelt’s reframing of GE as an “infrastructure company with two core businesses,” GE remained a widely diversified enterprise. Although Immelt forcefully argued that GE was not a conglomerate, most investment analysts regarded it as such and, as a result, was always open to the possibility that it could create shareholder value by being broken up (as had happened to most other conglomerates including ITT, Tyco International, General Mills, Fortune Brands, and Vivendi-Universal). The case against highly-diversified companies was reinforced by the growing recognition of the need for in-depth domain expertise for senior managers. Andrew Hill of Financial Times raised the question: “If the demand is now for depth over breadth, with there be enough 'serial masters' capable of understanding, let alone running companies of the scale and scope of General Electric? And if not, at what point will the market judge that such companies are simply too big to manage?”ⁱⁱⁱ

Table 2 summarizes GE's financial performance during 2002–8.

Table 2 General Electric: selected financial data, 2006–11

(\$ billions)	2011	2010	2009	2008	2007	2006
General Electric Consolidated						
Revenues	147.3	150.2	156.8	182.5	172.5	151.6
Net earnings	14.2	11.6	11.0	17.4	22.2	20.7
Cash from operating activities	33.4	36.1	24.6	48.6	43.3	31.5
Cash used for investing activities	19.9	32.4	43.0	(35.4)	(69.5)	(52.6)
Return on average equity	11.9%	12.1%	11.6%	15.9%	20.4%	19.8%
Stock price range (\$)	21.65- 14.02	19.70- 13.75	17.52- 5.87	38.52- 12.58	42.15- 33.90	38.49- 32.06
Year-end closing stock price (\$)	17.91	18.29	15.13	16.20	37.07	37.21
Total assets	717.2	747.8	781.8	797.8	795.7	697.3
Long-term borrowings	243.5	293.3	336.2	330.1	319.0	260.7
Total employees	301,000	287,000	304,000	323,000	327,000	319,000
US	131,000	133,000	134,000	152,000	155,000	155,000
Other countries	170,000	154,000	170,000	171,000	172,000	164,000

GE data (industrial businesses)						
Short-term borrowings	2.2	0.5	0.5	2.4	4.1	2.1
Long-term borrowings	9.4	9.6	11.7	9.8	11.7	9.0
Shareowners' equity	116.4	118.9	117.3	104.7	115.6	111.5
Total capital invested	129.0	133.1	135.3	123.5	137.8	128.2
Return on average capital invested	11.6%	11.8%	10.6%	14.8%	18.9%	18.5%
Borrowings as % of capital invested	9.0%	7.6%	9.0%	9.9%	11.4%	8.7%
Working capital	(0.0)	(1.6)	(1.6)	3.9	6.4	7.5
GECS data (financial services)^a						
Revenues	49.1	49.91	51.8	71.3	71.9	61.4
Net earnings	6.5	2.2	1.4	7.1	10.3	10.7
Shareowner's equity	77.1	69.0	70.8	53.3	57.7	54.1
Total borrowings	443.1	470.5	493.3	514.6	500.9	426.3
Ratio of debt to equity at GECS	5.75:1	6.82:1	6.96:1	8.76:1	8.10:1	7.52:1
Total assets	584.5	605.3	650.4	660.9	646.5	565.3

Note: ^a GECS is General Electric Capital Services which owns GE Capital

Source: General Electric, 10-K reports

History of the General Electric Company

The GE that Jeffrey Immelt inherited in 2001 was the world's most valuable company (in terms of market capitalization and was widely regarded as the world's most successful. It was the only company to have remained a member of the Dow Jones industrial index since the index was created in 1896. The key to its success had been to combine massive size with constant adaptation. Over the decades GE had adapted both its business portfolio and its management systems to the demands and opportunities of a changing world.

GE was founded in 1892 from the merger of Thomas Edison's Electric Light Company with the Thomas Houston Company. Its business was based upon exploiting Edison's patents relating to electricity generation and distribution, light bulbs, and electric motors. Throughout the twentieth century GE was not only one of the world's biggest industrial corporations, it was also “a model of management—a laboratory studied by business schools and raided by other companies seeking skilled executives.”^{iv} Under the leadership of Charles Coffin, between 1892 and 1922, GE successfully married Edison's industrial R&D laboratory to a business system capable of turning scientific discovery into marketable products. After the Second World War, Chairman Ralph Cordiner, assisted by Peter Drucker, pioneered new approaches to the systematization of corporate management. Under Fred Borch (CEO 1963–72), GE's corporate management system based on strategic business units and portfolio analysis became a model for most diversified corporations. Reg Jones, GE's chairman from 1973 to 1981, linking GE's techniques of strategic planning to its systems of financial management.

During his two decades at GE's helm, Jack Welch had led the most comprehensive strategic and organizational upheavals in GE's long history. Welch reformulated GE's business portfolio through exiting low growth extractive and manufacturing businesses and expanding services—financial services in particular. By the time he retired, GE Capital represented almost half of GE's revenues and the majority of its assets. At the heart of Welch's remaking of GE was the creation of a performance culture supported by comprehensive systems for setting and monitoring performance targets and providing powerful incentives for their achievement:

Changing the culture—opening it up to the quantum change—means constantly asking not how fast am I going, how well am I doing versus how well I did a year or two before, but rather, how fast and how well am I doing versus the world outside. Are we moving faster, are we doing better against that external standard?

Stretch means using dreams to set business targets—with no real idea of how to get there... We certainly didn't have a clue how we were going to get to 10 inventory turns [a year] when we set that target. But we're getting there, and as soon as we become sure we can do it—it's time for another stretch.⁵

Welch declared war on GE's elaborate bureaucracy and stripped out layers of hierarchy. His management style was direct, personal and often confrontational: managers were encouraged to commit to ambitious performance targets, after which they and their subordinates were under intense pressure to deliver. Every aspect of GE's management systems was redesigned from the ground up, from strategic planning to human resource management. Welch also introduced periodic challenges for the whole organization. These included: “Be #1 or #2 in your global industry”; “Work-out,” a process for company meetings that allowed grassroots ideas about organizational change to be implemented; “Six Sigma,” a program of company wide initiatives to improve quality and reliability; and “Destroy your business dot.com,” an initiative to drive adoption of internet technologies.

The outcome was two decades of outstanding corporate performance. Between 1981 and 2001, revenues grew from \$30 billion to \$126 billion, net income from under \$2 billion to \$14 billion, and stock market capitalization from \$14 billion to \$510 billion—an average annual return to stockholders of 24%.

Jeff Immelt

Jeffrey R. Immelt was appointed CEO of GE at the age of 44. He had previously been head of GE's Plastics business and, most recently, head of Medical Systems. He had an economics and applied math degree from Dartmouth and an MBA from Harvard. He claimed that his own experience of GE extended beyond his two decades with the firm—his father spent his entire career at GE. On being recruited from Harvard by GE in 1982, Immelt was identified as a “young high potential” which meant that his progress would be carefully tracked by top management at GE. In 1987, Immelt attended the executive development course at Crotonville, GE's management development center. This course was considered the gateway to the executive ranks of GE. At GE Appliances, GE Plastics and GE Medical Systems, Immelt acquired a reputation for turning around troubled units, driving customer service and exploiting new technologies. He also demonstrated the ability to motivate others—an aptitude that he had revealed as an offensive tackler for Dartmouth's football team in the 1970s.⁶

In December 1994, the GE board began to consider possible candidates to replace Jack Welch. Immelt was one among a list of some 20 GE executives submitted by Welch for board consideration. After five years of careful monitoring and assessment the list had shrunk to three: Jim McNerney, Bob Nardelli and Immelt.

Immelt's emergence as front runner owed much to his outstanding success at GE Medical Systems, which he led from 1997 to 2001. He demonstrated strong leadership capabilities in energizing and motivating others: "He brought the life and energy that drives major growth," commented GE's head of HR.

His personality and leadership style contrasted sharply with those of Welch. "Where Welch ruled through intimidation and thrived as something of a cult figure, Immelt opts for the friendlier, regular-guy approach. He prefers to tease where Welch would taunt. Immelt likes to cheer people on rather than chew them out. That style has given him a very different aura within GE. He may not be a demigod, but it's his man-of-the-people nature that draws praise from the top ranks to the factory floor."^v This different style of leadership had implications for the organizational and management changes that Immelt would introduce, however, it was radical changes in GE's business environment that would be dominant driver of GE's strategic and organizational development.

GE's Business Environment, 2001–12

The remarkable growth in profits and stock market valuation that Welch had achieved was against a backdrop of an economy effused by optimism, confidence, and growth. The new century presented a whole new set of challenges. In his first letter to shareholders, Immelt observed: "The exuberance of the late 1990s and the inevitable downturn have created difficult times. Entire industries have collapsed, poor business models have been exposed, large companies have filed for bankruptcy and corporate credibility has been called into question."^{vi}

In this world of turbulence, Immelt initially believed that GE's diversified portfolio of businesses would provide GE the stability to weather business cycles. Yet, the experience of the 21st century was that the returns to different businesses tended to become increasingly correlated. Indeed, during the financial crisis, contagion became the norm—problems in any one business would tend to infect other businesses

A further key change in the business environment was the discrediting of the 1990s' obsession with shareholder value maximization. From the outset, Immelt was anxious to disassociate himself from cruder versions of shareholder value maximization. In all his communications to shareholders, Immelt was emphatic that the job of the CEO was not to manage the stock price but to manage the company for the long-term earnings growth that would drive the stock price: "We all want the stock to go up. But to do that we have to manage the company. In fact, the only way you can run GE is to believe that performance will ultimately drive the stock."^{vii}

The critical challenge of the business environment of the 21st century, believed Immelt, was identify the potential sources of profit for GE. Under Welch, GE had created value cost reduction, eliminating underperforming assets, and exploiting the opportunities offered by financial services. By the time Immelt took over, these sources of value had been mined out: GE would need to look into new areas. Top-line growth, he reasoned, would have to be the driver of bottom-line returns. Yet, given the

generally poor outlook for growth in the world economy, growth opportunities were likely to be meager: “I looked at the world post-9/11 and realized that over the next 10 or 20 years, there was not going to be much tailwind.”

In identifying opportunities for profitable organic growth, Immelt sought to identify key global trends that would offer business opportunities for GE. Four external trends emerged as paramount:

- *Demography.* The aging of the world's population would create opportunities for goods and services required by older people—healthcare services in particular. Population growth in the developing world would also offer expanding demand for many other of GE's businesses—including entertainment.
- *Infrastructure.* GE predicted massive investments in infrastructure. GE's positioning in infrastructure products, services and financing offered it opportunities in energy, aviation, rail transportation, water, and oil and gas production.
- *Emerging markets.* China, India, Eastern Europe, Russia, Middle East, Africa, Latin America and South East Asia would offer rates of GDP growth around three times that of the world as a whole. These countries would be key centers of business opportunity for GE.
- *Environment.* The challenges of global warming, water scarcity and conservation would become increasingly pressing creating the need for technologies and innovative responses to alleviate these problems.

GE's Growth Strategy

Growth—organic growth in particular—became the central theme of Immelt's strategy for GE. In 2002, he committed GE to an organic growth rate of 8% per annum (under Welch organic growth had averaged 5% a year) and to “double digit” earnings growth. This 8% revenue growth was based upon the idea that GE should be able to grow at between two and three times that of world GDP. Profits would grow faster than revenues, explained Immelt, because of reductions in general and administrative expense as a percentage of sales and higher margins resulting from new products and services. Between 2002 and 2007, GE comfortably met these targets: revenues grew at 13% each year, operating earnings at 14%. However, in the wake of the financial crisis, both revenues and profits went into a sharp decline.

Reshaping the Business Portfolio

To position GE for stronger growth, the company would need to exit slow-growth businesses, reallocate resources to businesses where growth prospects were strong, and enter new businesses. A key theme in Immelt's reshaping of GE's business portfolio towards higher growth was the creation of new “growth platforms.” Growth platforms could be extensions of existing businesses or they could be entirely new areas of business. Identifying new growth platforms was established as a central strategic challenge for GE's businesses.

In several cases, GE's growth platforms were areas of business where it was already present, but where there was potential to greatly expand its market presence. For example:

- *Healthcare.* GE was the world leader in diagnostic imaging: X-ray equipment, CT scanners and MRI scanners. Under Immelt it became a major area of growth for GE expanding its range of products and services and its geographical presence. Key acquisitions included: Amersham (a UK-based diagnostics and medical equipment company), HPSC (financial services for medical and dental practices), and Abbott Diagnostics (the world's leading provider of in vitro diagnostics).
- *Energy.* Power generation was GE's oldest business; in addition it had developed a promising business supplying equipment to the oil and gas sector. Immelt viewed energy as a particularly attractive growth platform for GE. One major growth areas was alternative energy. Here key acquisitions included Enron's wind energy business, BHA Group which supplied emission reduction equipment, ChevronTexaco's coal gasification business, and AstroPower which supplied solar energy products. Another was oil and gas where GE diversified its offerings of products and services through acquiring Vetco Gray (subsea platforms) and Hydril Pressure Control (petroleum drilling equipment).
- *Broadcasting and entertainment.* During 2001-7, GE's expanded its entertainment activities beyond its NBC broadcasting and cable TV businesses. Key acquisitions were Telemundo which took GE into the fast-growing market for Spanish language broadcasting and Vivendi Universal's entertainment business, which took GE into film studios and theme parks. However, by 2009, it was increasingly evident that NBC-Universal did not fit with Immelt's identification of GE as a technology-based industrial company. As a result, NBC Universal was merged with Comcast's cable TV channels, with the new company 49% owned by GE and 51% by Comcast (GE received \$6.2 billion from Comcast).
- *Technology infrastructure.* Infrastructure provided a valuable umbrella for a number of Immelt's growth initiatives. In 2003, he had announced: "We are taking the company to a place where few can follow: big, fundamental, high technology infrastructure industries in which GE can have enormous competitive advantage."^{viii} Growth platforms included: security systems, where GE's acquisitions included In Vision Technologies (explosive detection systems), Edwards Systems Technology (fire detection), and Interlogix (security systems); water treatment, where GE acquired Ionics and BetzDearborn; and aerospace where GE built upon its strong position in jet engines to diversify into avionics (Smiths Aerospace was a major acquisition).

Developing growth platforms involved the analysis and segmentation of markets to identify high-growth segments that offered the potential for attractive returns, building upon GE's existing businesses, and using acquisitions to help deploy GE's financial, technical and managerial resources to build a leading position. Immelt explained the approach:

We did a lot of heavy lifting in our portfolio because we didn't have enough juice. We saw where we needed to go and we found that we wouldn't get there with our existing businesses. So, we bought homeland security, biotech, water—businesses that would give us a stronger foundation for innovation.^{ix}

In addition to the sale of a majority share in NBC Universal, GE also exited other businesses, most notably, plastics where it believed that high petroleum prices would limit growth opportunities. However, by far its greatest divestment challenge was the financial services business, GE Capital. For all Immelt's emphasis on GE as a technology-based, industrial company, GE Capital continued to grow over most of his tenure. For 2006 and 2007, GE Capital accounted for 49% of GE's total net profit (up from 25% in 2001). GE Capital's growth during 2001-7 had been reinforced acquisitions in

equipment leasing, commercial finance, credit cards and consumer finance. However, even before the financial crisis, Immelt was committed to pruning GE Capital. During 2004 and 2005, GE sold most of its insurance businesses. The financial crisis created urgent pressures to shrink GE Capital's assets (i.e. reducing its loan exposure), increase its liquidity, improve its risk profile, and redefine its role within GE. Increasingly, GE Capital was reconceived as a supplier of specialist financial service with a particular emphasis on "mid-market lending and leasing, financing in GE domains and a few other specialty finance segments."^x

Table 3 General Electric's principal acquisitions and disposals, 2001–12

2001	NBC acquires Telemundo, a leading Spanish language television networks.
2003	GE Healthcare acquires Instrumentarium.
2003	GE Capital acquires Transamerica Finance from AEGON.
2004	NBC acquires the entertainment assets of Vivendi Universal, to form NBC Universal (80% owned by GE)
2004	GE Healthcare acquires Amersham plc. for \$9.5 bn.
2004	GE Capital acquires Dillard's credit card unit for \$1.25 billion.
2004	GE sells 60% of GE Capital International Services (GECIS) to private equity companies, Oak Hill Capital Partners and General Atlantic, for \$500 million.
2004	GE's life and mortgage insurance businesses spun off as Genworth Financial.
2004	GE Security acquires InVision Technologies, a leading manufacturer of airport security equipment.
2005	GE Commercial Finance acquires the financial assets of Bombardier, a Canadian aircraft manufacturer for \$1.4 billion.
2006	GE Healthcare acquires IDX Systems, a medical software firm, for \$1.2 billion.
2006	GE Advanced Materials division is sold to Apollo Management for \$3.8 billion.
2006	GE Water & Process Technologies acquires Zenon Environmental Systems for \$758 million.
2006	Sale of GE Insurance Solutions and GE Life to Swiss Re for \$6.5 bn.
2007	GE-Aviation acquires Smiths Aerospace for \$4.6 billion.
2007	GE Oil and Gas acquires Vetco Gray for \$1.4 billion.
2007	GE Plastics is sold to Saudi Arabia Basic Industries Corp. for \$11.7 billion.
2007	GE NBC-Universal acquires Oxygen Media (cable TV channel).
2008	GE Co. acquires Vital Signs Inc. for \$860 million.
2008	GE Energy Infrastructure acquires Hydril Pressure Control (oilfield equipment).
2008	GE Capital finance acquires Merrill Lynch Capital, CitiCapital and Bank BPH.
2009	GE increases its ownership in BAC to 75%
2010	GE Healthcare acquires Clariant, Inc.
2010	GE Capital deconsolidates Regency Energy Partners L.P., and sells its general partnership interest in Regency
2011	GE Energy Infrastructure acquires Converteam, Dresser, Inc., the Well Support division of John Wood Group PLC, Wellstream PLC, Lineage Power Holdings, Inc.

GE's Competitive Advantage

A major theme in all Immelt's speeches and strategy presentations as Chairman and CEO was emphasis of the competitive advantages that GE shared across its different businesses. Immelt placed

a particular emphasis on three sources of competitive advantage: technology and innovation, customer focus and integrated solutions, and global presence.

Technology

Immelt identified technology as a major driver of GE's future growth and emphasized the need to speed the diffusion of new technologies within GE and turn the corporate R&D center into an intellectual hothouse. His commitment to technology was signaled by expanding GE's R&D budgets. This began with a \$100 million upgrade to GE's corporate R&D center in Niskayuna, New York and was followed by the construction of new Global Research Centers in Shanghai, Munich, and Rio de Janeiro. In 2012, GE claimed to have 37,000 technologists working in its businesses and in its research centers.

Immelt's emphasis on technology reflected his belief that the primary driver of sales was great products: "You can be six sigma, you can do great delivery, you can be great in China, you can do everything else well—but if you don't have a good product, you're not going to sell much".^{xi} Increasing product quality and product innovation became a critical performance indicator for all of GE's businesses.

Under Immelt, GE focused upon fewer, bigger, longer-term projects. This emphasis was reflected in GE's Advanced Technology Programs in molecular imaging and diagnostics, nanotechnology, energy conversion, advanced propulsion and sustainable energy.

Immelt was particularly interested in identifying and supporting projects that offered large-scale market potential. "Imagination Breakthroughs" were promising projects with the potential to create \$100 million in sales over a three-year period. By mid-2006, some 100 Imagination Breakthroughs had been identified and individually approved by Immelt. Major Imagination Breakthroughs included:

- *Evolution hybrid locomotive*: an energy-saving locomotive that would use energy lost in braking to be stored in batteries.
- *Smart Grid*: a marriage of IT with electrical infrastructure to support twenty-first century energy needs.
- *Sodium batteries*: a novel, patented battery technology for large-scale electricity storage.

GE's "Ecomagination" was a program of product and business development launched in 2005 as "GE's commitment to address challenges such as the need for cleaner, more efficient sources of energy, reduced emissions and abundant sources of clean water."^{xii} The Ecomagination program provided funding and coordination for developing environmentally-friendly products and business solutions across GE's different business divisions. In 2011 it was credited with generating \$21 billion of clean energy revenue.

Customer Focus and Integrated Solutions

Throughout his career at GE, Immelt has emphasized customer orientation and value of spending time with customers, building relationships with them, and working on their problems. Soon after taking over as CEO, Immelt emphasized the primacy of customer focus:

We're dramatically changing our resource base from providing support to creating value. Every business has functions that add high value by driving growth. These are the functions that deal with the customer, create new products, sell, manufacture, manage the money and drive controllership. Call that the front room. Every business has backroom support

functions that sometimes are so large and bureaucratic they create a drain on the system and keep us from meeting our customers' needs and keep us from growing. So we're going to take more of the back-room resources and put them in the front room—more sales people, more engineers, more product designers. We're changing the shape of this company and we're doing it during a recession.”^{xiii}

The increased customer focus involved increased investment in GE's marketing function—including hiring talented marketing executives and developing processes for identifying new product and service offerings and unmet customer needs.

A major avenue for translating enhanced customer focus into value creation for GE was through bundling products with support services to offer customized “customer solutions.” Expanding the range of customer service offerings to include technical services, financial services, training, and other forms of customer support. Creating customer solutions required coordination across GE's businesses. For example, in the case of a new hospital development, there might be opportunities not just for medical equipment but also for lighting, turbines and other GE businesses as well. To exploit new opportunities that cut across GE's existing divisional structure, GE began to create cross-business, high-visibility marketing campaigns.

As we shall see, increasing GE's capacity to serve customers better with integrated solutions was a key consideration in Immelt's reorganization of GE's structure which combined and reorganized GE's divisional structure (see below).

Global Presence

Immelt believed that some of the biggest payoffs from greater customer orientation would come from GE's increased success in international markets. Positioning GE to compete in growing emerging markets was a central strategic priority for GE. In 2011, Immelt appointed vice chairman John Rice to lead its international growth efforts—with particular emphasis on high-growth markets such as China, India, the Middle East and Brazil. Maximizing GE's potential in these markets required a coordinated approach across GE's businesses: “A great example is our spectacular success with the Beijing 2008 Olympic Games. This event produced \$2 billion of revenues across multiple GE platforms, while building our relationships in China. In 2008, we announced a multifaceted partnership with Mubadala, the commercial investing arm of Abu Dhabi, which includes a commercial finance joint venture, projects in renewable energy, and a training center in Abu Dhabi. Mubadala will also become a ‘Top 10’ GE investor.”^{xiv} In 2009, GE announced its “Company-to-Country” strategy where GE worked directly with government in order to meet local needs across a range of infrastructure investments. China, India and Brazil were the focal points for GE's top-down business initiatives. In 2012, GE announced that, “In Nigeria, we are building out a comprehensive “Company-to-Country” approach to address infrastructure challenges; Nigeria should be our next billion-dollar country.”^{xv}

Internationalization involved a fundamental rethink of GE's approach to product development and an adapting products and services to meet local market needs. GE's traditional approach had been to develop products for the US market, then to offer simpler, less costly “de-featured” versions to emerging markets. Combining GE's international emphasis with its increasing customer focus, reoriented GE towards a “customer-optimization” approach to

product development where local teams were given greater freedom in adapting and innovating products for their own markets. The outcome was “reverse innovation”: many of the product concepts developed to meet the needs to emerging markets customers could be applied in GE’s the advanced industrialized nations. For example, a low cost, portable, battery operated ultrasound machine designed to meet the needs to physicians in India and China, became a commercial success in the US.^{xvi}

Exploiting global opportunities also involved globalizing GE's organization and its talent base. For example, the headquarters of GE Healthcare was moved to the UK, while in 2011 it announced the transfer of its X-ray business from Wisconsin to Beijing, China. Internationalization of the workforce included core corporate functions: by 2006, of 400 younger members of GE's audit staff, about 60 were Indian.

Changing the GE Management Model

The management system that Immelt inherited had been reformulated by his predecessor and mentor, Jack Welch, but as also a product of 120 years of continuous development. Immelt respected GE's management systems and process, and recognized that many of them were so deeply embedded within GE's culture that they were integral to GE's identity and the way it viewed the world. At the core of GE's management system was its management development—its so-called “talent machine”—and its system of performance management.

Leadership Development and Performance Management

From early days, GE was committed to internally developed leadership: all of its CEOs were promoted from within the company. General Electric's meritocratic system of development and promotion was put in place by Charles Coffin, the CEO who succeeded Edison in 1892. Since then GE has been a “CEO factory” producing top management talent not only for GE, but for corporations worldwide. Its management development system rested on two key pillars: its corporate university at Crotonville, NY, and its “Session C” system for tracking managers’ performance, planning their careers, and formulating succession plans for every management position at GE from department heads upwards. Under Welch the Session C reviews became all-day events at each of GE's businesses where Welch and the division CEO reviewed the performance and potential of every manager.

GE’s management appraisal and development processes together with its financial and strategic planning systems formed the core of GE’s performance management system. Under Jack Welch the GE's system of performance management became increasingly based upon quantitative targets that allowed focus and accountability. Immelt was equally committed to GE’s metrics-driven approach to performance management: “Nothing happens in this company without an output metric,” observed Immelt. All of Immelt's strategic initiatives—from earnings and organic growth targets to productivity improvements, reductions in overhead costs and six sigma quality—were linked to precise quantitative targets. In 2005 GE standardized its customer satisfaction metrics, focusing on “net promoter scores” (the percentage of customers who would recommend GE to a friend, minus the percentage who wouldn't).

Immelt's strategic initiatives represented a challenge to GE's metrics-based performance management system. Goals such as innovation, enterprise selling, and environmental sustainability tended to be less amenable to quantification and objective measurement than goals of cost efficiency, productivity and profitability.

The shifting of strategic priorities also had implications for GE's management development system. As with Jack Welch, Immelt saw his most important task as helping to develop GE's managerial talent. Implementing GE's growth strategy required that GE's employees internalize growth as part of their personal mission. This required inculcating among GE's managers the skills and aptitudes to becoming "growth leaders." A benchmarking exercise investigating the management characteristics of 15 companies with outstanding records of revenue growth resulted in the identification of five "growth traits." These included: external focus, imagination and creativity, decisiveness and clear thinking ability, inclusiveness and deep domain expertise.

These growth traits became part of GE's annual HR review, with each of GE's top 5000 people rated on each of the five traits and the results of the assessment built into their subsequent development plans. Career planning also changed: because of the importance of "domain expertise" (knowledge of the particular business), managers were required to stay longer in each job.

Changing Organizational Structure

The most visible of the management changes introduced by Immelt concerned the overall structure of the organization. Between 2002 and 2008, Immelt reversed several of the major structural changes that Welch had introduced during the 1980s. As part of "delayering" and his effort to create a more responsive company, Welch had broken up GE's major industrial sectors into smaller divisions. In order to facilitate greater cross-business integration, the bundling of products and services into "systems", and the creation of new "growth platforms", Immelt progressively reorganized GE's divisions into a smaller number of broad-based sectors. Reorganizations in 2002, 2005, and 2008 reduced the number of business sectors reporting to Immelt from twelve to five; before a further reorganization in 2010 increased them to seven (see Figures 2 and 3).

Figure 2 GE's Organizational Structure, 2001

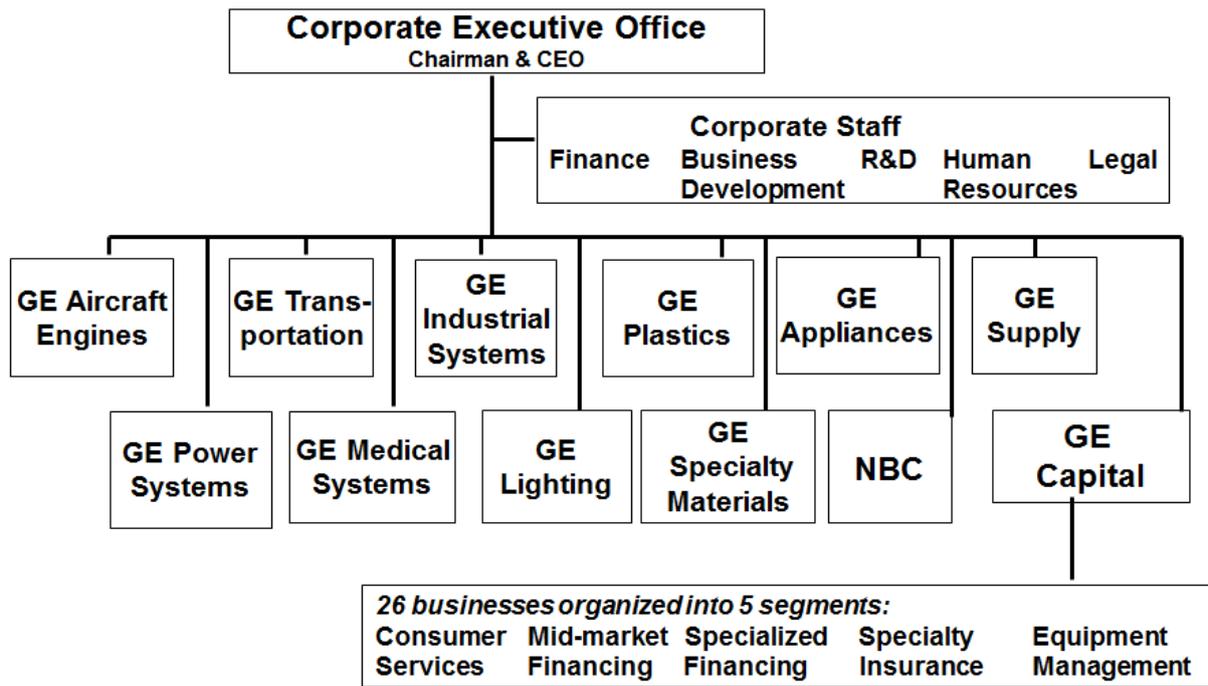
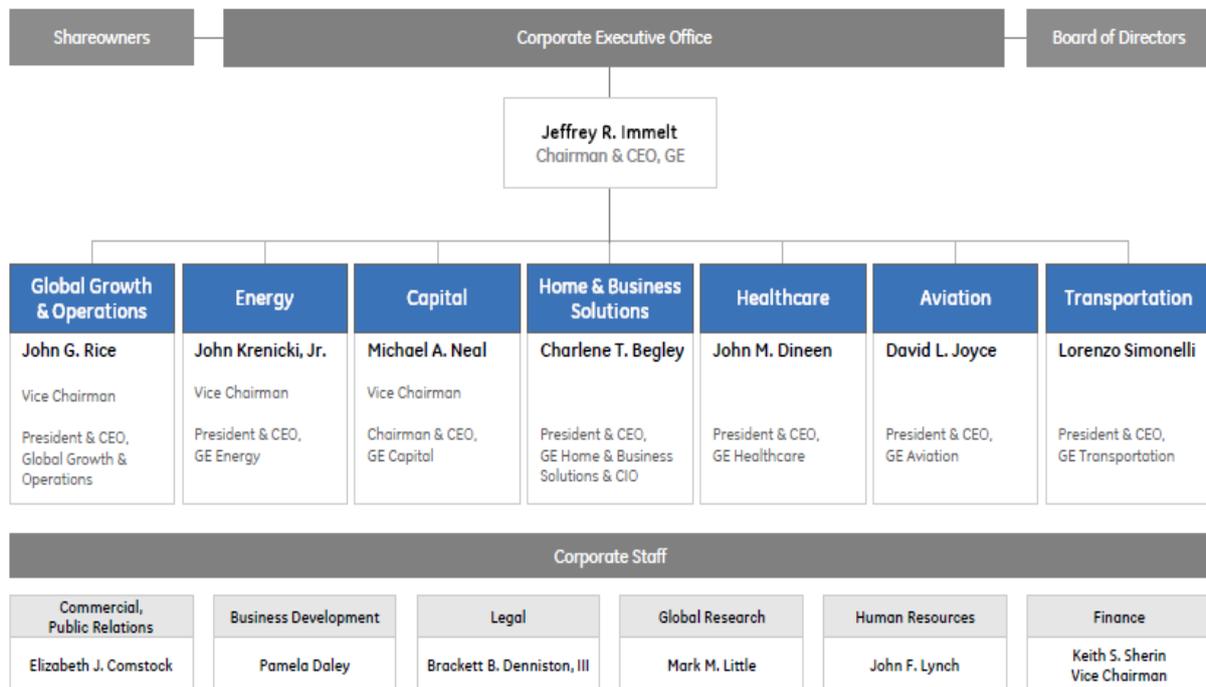


Figure 3 General Electric Organizational Chart, February 2012



Innovation and New Business Development

A key challenge was to reconcile GE's famous obsession with profitability and cost control with nurturing the innovation needed to drive growth. Innovation, especially when it included big, long-term projects, involved substantial risk. The danger was that GE's obsession with performance metrics might discourage business unit heads from making big bets on promising new opportunities. Furthermore, given the fact that many of the biggest opportunities were likely to require cooperation

across divisions further increased the likelihood that that they would fail to get the support they needed. The “Imagination Breakthroughs” initiative was designed to ensure that major, innovatory projects would receive the investment and attention needed to exploit their potential. “Imagination Breakthroughs” were promising projects for new business creation that had the potential to create \$100 million in sales over a three-year period. By mid-2006, some 100 Imagination Breakthroughs had been identified and individually approved by Immelt. Once approved, these projects were protected from normal budget pressures. About half involved new products and the other half involved changing commercial structure. Immelt saw these Innovation Breakthroughs as a means of focusing attention on the goal of business creation and development. Given that some of these projects involved substantial levels of investment (GE's hybrid locomotive, for example, would require tens of millions of dollars), by lifting these projects from the business level to the corporate level, it took pressure off the business heads. One problem, observed Immelt, was that GE did not possess sufficient product managers and systems engineers to put in charge of high-visibility programs involving substantial risks and substantial possible returns.

Marketing and Sales

Realizing Immelt's goal of a customer-driven company required revitalization of GE's marketing function: “Marketing was the place where washed-up salespeople went,” observed Immelt^{xvii} Upgrading GE's marketing was achieved through creating the new senior position of Chief Marketing Officer, the recreation of GE's Advanced Marketing Seminar, developing an Experienced Commercial Leadership Program, and requiring that every business appoint a VP-level head of marketing. Most important was the creation of GE's Commercial Council, which brought together GE's leading sales and marketing leaders to develop new business ideas, to transfer best practices and instill a commercial culture within GE. A key initiative was “At the Customer, For the Customer, ” a program that deployed six sigma in marketing, sales, and customer relations activities, applied GE's six sigma methodologies to customers' own businesses, and used new metrics to track customer satisfaction and customer attitudes.

As with all aspects of GE's approach to management, marketing was subject to the same systematized, metrics-driven analysis as all other functions within the firm, often with some startling revelations:

We're getting the sales force better trained and equipped with better tools and metrics. A good example is what we're doing to create discipline around pricing. Not long ago, a guy here named Dave McCalpin did an analysis of our pricing in appliances and found out that about \$5 billion of it is discretionary. Given all the decisions that sales reps can make on their own, that's how much is in play. It was the most astounding number I'd ever heard—and that's just in appliances. Extrapolating across our businesses, there may be \$50 billion that few people are tracking or accountable for. We would never allow something like that on the cost side. When it comes to the prices we pay, we study them, we map them, we work them. But with the prices we charge, we're too sloppy.²³

The GE Growth Process

Very soon after his appointment as GE's chairman and CEO in 2001, Immelt had articulated his strategic vision of GE as a technology-based, customer focused, growth orientated industrial powerhouse. Implementing this vision was a longer term project. Immelt's changes in GE's

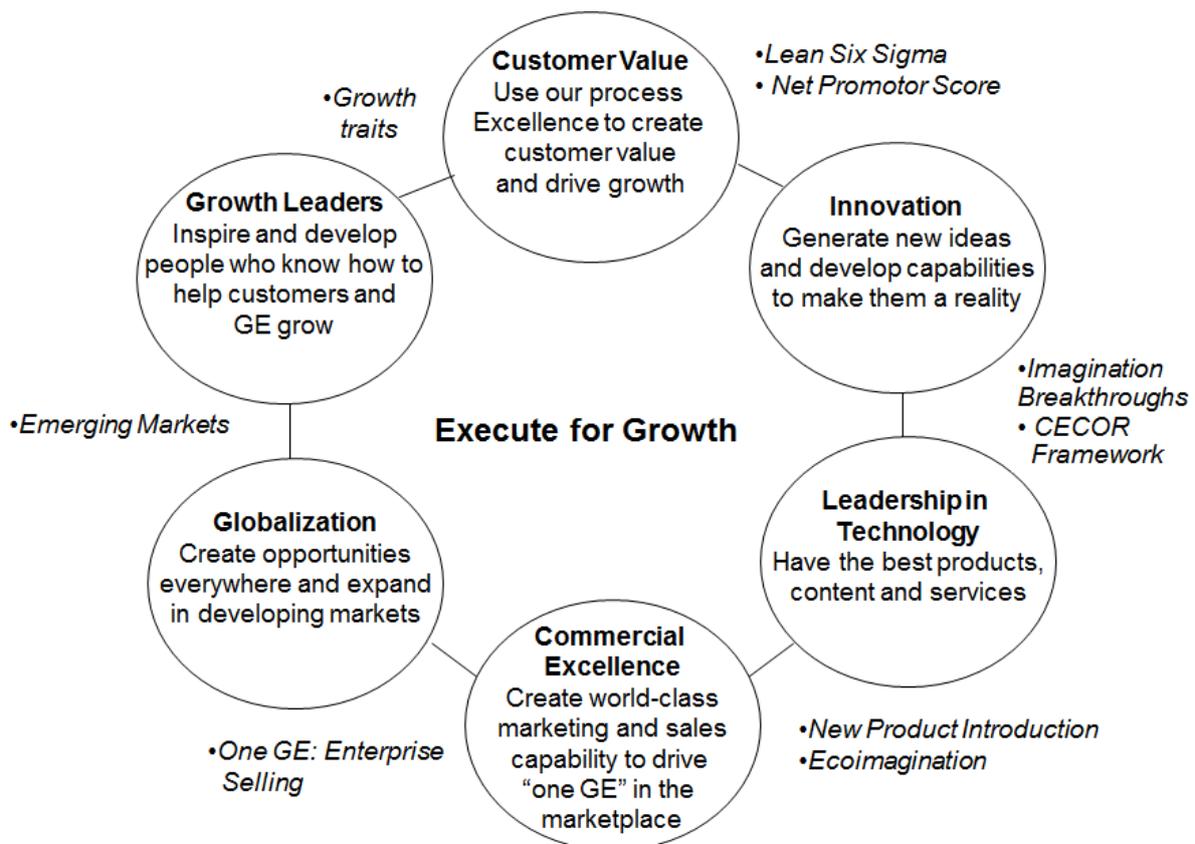
organizational structure, its management development and appraisal system, and its marketing and technology functions were all efforts to align GE’s structure, systems and processes with the intended strategy. By 2006, these various initiatives had coalesced in Immelt’s mind around an integrated system that he referred to the GE Growth Process. As Immelt explained:

If you run a big multibusiness company like GE and you're trying to lead transformative change, that objective has to be linked to hitting levers across all of the businesses—and it must keep that up over time. So you've got to have a process. That's true from an internal standpoint, but it's also the only way you get paid in the marketplace. Investors have to see that it's repeatable.

I knew if I could define a process and set the right metrics, this company could go 100 miles an hour in the right direction. It took time, though, to understand growth as a process. If I had worked out that wheel-shaped diagram in 2001, I would have started with it. But in reality, you get these things by wallowing in them awhile. We had a few steps worked out in 2003, but it took another two years to fill in the process.^{xviii}

During 2006, Immelt's view of GE's growth engine as an integrated, six-part process was disseminated throughout the organization and became a key part of Immelt's communication to GE's external constituencies (see Figure 4).

Figure 4 General Electric's six-part growth process



Source: General Electric 2005 Annual Report, p.8

The Challenge of Integration and Complexity

Common to most of the organizational changes initiated by Immelt was the desire to create value through the many parts of GE working together more closely and more effectively. “Working at GE is the art of thinking and playing big; our managers have to work cross-function, cross-region, cross-company. And we have to be about big purposes, ” observed Immelt.²⁵

However, greater integration across GE's different businesses created complex coordination problems. Consider GE initiatives relating to product bundling and customer solutions through its “enterprise selling” and “company to country” initiatives. At one level these strategies are intuitive and straight-forward:

If somebody's building a hospital, that might represent a total package of \$1 billion, of which the GE market potential might be \$100 million. We're probably already talking to the C-suite because we sell the medical equipment. What we need to do is set things up so that the medical rep can bring in the lighting rep, the turbine rep, and so on.

Similarly with whole countries:

In Qatar, the emir wants to know everybody doing business in his country. In a dinner set up to talk about oil and gas bids, he might say, “Jeff, I'm going to put \$10 billion into a hospital, ” or he might mention that they're going to buy GE engines for Qatar Airways.^{xix}

However, the organizational ramifications were complex. Sales and marketing staff becoming less focused upon their particular business and more oriented towards the opportunities provided from across the company as a whole. In practice, this creates complex problems of organization, expertise, and incentives. Exhibit 1 describes the difficulties encountered in the apparently simple bundling of medical diagnostic equipment with consulting services.

Exhibit 1 GE Medical Systems Customer Solutions Initiative

One of the earliest initiatives to exploit opportunities for bundling products and services was to combine the sale of medical imaging equipment with consulting services. In 2001, GE Medical Systems (soon to become GE Healthcare) created a new unit, Performance Solutions, to provide an integrated approach to hospital diagnostic imaging departments by combining equipment with technical support and patient-management systems. A lead customer was Stanford University Medical Center which transitioned to all-digital imaging for its hospital and outpatient unit.

After a promising start, by 2005, Performance Solutions was in trouble. The medical equipment sales people had limited understanding of the consulting services being offered by the Performance Solutions unit and provided few sales leads for the new integrated offering. They were also reluctant to share their customers with sales personnel from Performance Solutions. Meanwhile, the sales personnel from Performance Solutions considered themselves as “solution providers” and felt constrained by having to limit their solutions exclusively to GE offerings.

Source: Based upon Ranjay Gulati “Silo Busting How to Execute on the Promise of Customer Focus, ” *Harvard Business Review* (May, 2007).

As Immelt recognized, organizing to meet customer needs implied a different type of organizational structure from organizing for operational efficiency. Similar challenges existed in relation to GE's efforts to develop large-scale innovations that cut across its existing business-based structure. Reconciling these different coordination needs posed organizational challenges that even GE had not fully resolved:

I've found that few companies are actually structured to deliver products and services in a synchronized way that's attractive from a customer's perspective. Individual units are historically focused on perfecting their products and processes, and give little thought to how their offerings might be even more valuable to the end user when paired with those of another unit. It's not just that the status quo doesn't reward collaborative behavior—although the right incentives are also critical. It's that the connections literally aren't in place.

One way to forge those connections is to do away with traditional silos altogether and create new ones organized by customer segments or needs. Many companies, however, are understandably reluctant to let go of the economies of scale and depth of knowledge and expertise associated with non-customer-focused silos. A company organized around geographies can customize offerings to suit local preferences, for instance, while a technology-centric firm can be quick to market with technical innovations. In many cases, functional and geographic silos were created precisely to help companies coordinate such activities as designing innovative products or gaining geographic focus. A customer focus requires them to emphasize a different set of activities and coordinate them in a different way.

In their initial attempts to offer customer solutions, companies are likely to create structures and processes that transcend rather than obliterate silos. Such boundary-spanning efforts may be highly informal—even as simple as hoping for or encouraging serendipity and impromptu conversations that lead to unplanned cross-unit solutions. But the casual exchange of information and ideas is generally most effective among senior executives, who have a better understanding than their subordinates of corporate goals and easier access to other leaders in the organization.^{xx}

Establishing informal collaboration across divisional boundaries was the way in which companies such as Samsung, IBM, and had responded to the conflicting requirements for responsiveness and integration. For GE however, flexible boundary spanning risked conflicting both with GE's metrics-based system of performance management and with its culture of internal competition. Internal competition—between divisions and business units for resources and between individuals for performance bonuses and promotion was a fundamental feature of its management systems and its organizational culture.

Immelt's efforts at creating a more integrated GE, had also changed the relationship between GE's corporate headquarters and the businesses. Under Welch, there was a clear division of roles and responsibilities between the business divisions and that of the corporate HQ. The business divisions with their individual CEOs were responsible for running their own businesses both operationally and strategically. The role of the corporate headquarters was both to support the businesses through various centralized services and to drive business performance by putting divisional top management under intense pressure to deliver.

As headquarters became increasingly involved in promoting and supporting developmental initiatives (e.g. "Imagination Breakthroughs" and enterprise selling), so the corporate HQ became more of a

partner with the business divisions rather than an overseer of divisional performance and interrogator of business strategies.

As a result, much of the simplicity and directness associated with Welch's management style had been supplanted by an emphasis on managing integration which inevitably involved more intricate and sophisticated approaches to strategy execution. Developing new products, businesses, and customer solutions required new and more complex cross-business and cross-functional coordination within GE. The new performance requirements were being built on top of GE's existing commitments to efficiency, quality and financial performance. Could this added complexity be borne by a company that was steadily growing larger and encompassing a widening portfolio of businesses and products? Most US companies that had achieved outstanding performance by successfully combining innovation with efficiency in fast-moving business environments were fairly specialized. Certainly the great majority of companies on *Fortune's* list of "most admired companies" were strongly focused around a single core business. To find examples of highly diversified, multinational corporations that were also outstandingly successful, Immelt had to look far beyond US shores to Samsung and Tata Group. As Immelt reminded his top managers, GE was entering uncharted waters: "The business book that can help you hasn't been written yet."

APPENDIX. General Electric Segment Performance

Table A1. General Electric: segment performance, 2006–11 (\$ millions)

	2011	2010	2009	2008	2007	2006
Revenues						
Energy Infrastructure	43694	37514	37134	38571	30698	25221
<i>of which:</i>						
Energy	31080	29040	30185	31833	24788	19406
Oil and Gas	13663	9483	7743	7417	6849	4340
Technology Infrastructure	--	37860	42474	46316	42801	37687
<i>of which:</i>						
Aviation	18859	17619	18728	19239	16819	13017
Enterprise Solutions	n.a.	n.a.	3957	4710	4462	3951
Healthcare	18083	16897	16015	17392	16997	16560
Transportation	4885	3370	3827	5016	4523	4159
Home & Business Solutions ^a	8465	8648	8443	n.a.	n.a.	n.a.
NBC Universal	n.a.	16901	15436	16969	15416	16188
GE Capital	45730	46222	48906	67008	66301	57943
Consumer and Industrial	n.a.	n.a.	n.a.	11737	12663	13202
Profit						
Energy Infrastructure	6650	7271	6842	6080	4817	3518
<i>of which:</i>						
Energy	4992	5887	5782	5067	4057	2918
Oil and Gas	1872	1553	1222	1127	860	548
Technology Infrastructure	n.a.	6314	7489	8152	7883	7308
<i>of which:</i>						
Aviation	3512	3304	3923	3684	3222	2802

Enterprise Solutions	n.a	n.a.	704	691	697	620
Healthcare	2803	2741	2420	2851	3056	3142
Transportation	757	315	473	962	936	774
Home & Business Solutions ^a	300	457	400	365	1034	970
NBC Universal	n.a.	2261	2264	3131	3107	2919
GE Capital	6549	3265	2344	8632	12243	10397
Assets						
Energy Infrastructure	54389	38606	36663	33836	31466	24456
Technology Infrastructure	n.a	51474	56392	58967	57670	49641
Aviation	23567	21175	20377	n.a	n.a	n.a
Healthcare	27981	27784	27136	n.a	n.a	n.a
Transportation	2633	2515	2714	n.a	n.a	n.a
Home & Business Solutions ^a	4645	4280	4965	5065	5351	5740
NBC Universal	--	33792	32282	33781	33089	31425
GE Capital	552514	565337	537060	572903	583965	491000
Investment in fixed assets						
Energy Infrastructure	2078	954	945	1226	1054	867
Technology Infrastructure	n.a	789	880	1395	1954	1389
Aviation	699	471	442	n.a	n.a	n.a
Healthcare	378	249	302	n.a	n.a	n.a
Transportation	193	69	68	n.a	n.a	n.a
Home & Business Solutions ^a	278	229	232	284	363	373
NBC Universal	--	286	282	131	306	352
GE Capital	9882	7674	6426	15313	17832	14489

Notes: ^a For 2006-9, the figures for Home and Business Solutions refer to the Consumer and Industrial segment

Source: General Electric, 10-K Report, 2008.

Table A2. GE Capital: financial data by business segment (in \$ millions)

	2011	2010	2009	2008	2007	2006
Revenues						
Commercial Lending & Leasing	18178	18447	20762	26742	27267	25833
GE Money	n.a	n.a	n.a	25012	24769	19508
Consumer	16781	17204	16794	n.a	n.a	n.a
Real Estate	3712	3744	4009	6646	7021	5020
Energy Financial Services	1223	1957	2117	3707	2405	1664
GE Commercial Aviation Services	5262	5127	4594	4901	4839	4353
Profit						
Commercial Lending & Leasing	2720	1554	963	1805	3801	3503
GE Money	n.a	n.a	n.a	3664	4269	3231
Consumer	3551	2523	1282	n.a	n.a	n.a
Real Estate	(928)	(1741)	(1541)	1144	2285	1841

Energy Financial Services	440	367	212	825	677	648
GE Commercial Aviation Services	1150	1195	1016	1194	1211	1174
Total assets						
Commercial Lending & Leasing	193869	202650	205827	232486	229608	n.a
GE Money	n.a	n.a	n.a	183617	209178	n.a
Consumer	139000	147327	176046	n.a	n.a	n.a
Real Estate	60873	72630	81505	85266	79285	n.a
Energy Financial Services	18357	19549	22616	22079	18705	n.a
GE Commercial Aviation Services	48821	49106	51066	49455	47189	n.a

Source: General Electric, 10-K Report, 2011.

Notes

ⁱ Transcript, General Electric Company Annual Shareholder Meeting, April 25, 2012

ⁱⁱ “Letter to Stakeholders,” General Electric Annual Report, 2002: p. 3,

ⁱⁱⁱ “Can a Specialist Run General Electric?” March 7, 2012. <http://blogs.ft.com/businessblog/2012/can-a-specialist-run-general-electric/#axzz1tv41XKUt>

^{iv} “What Makes GE Great?” *Fortune*, March 6, 2006, pp. 90–6.

^v “The Days of Welch and Roses,” *Business Week*, April 29, 2002.

^{vi} General Electric, Annual Report, 2002.

^{vii} Address to shareholders, Annual Shareowners' Meeting, Philadelphia, April 26, 2006.

^{viii} Letter to stakeholders,” General Electric Annual Report, 2002: p. 9.

^{ix} “Growth as a Process: An Interview with Jeff Immelt,” *Harvard Business Review*, June, 2006.

^x “Letter to shareowners,” General Electric Annual Report, 2011: p. 5.

^{xi} “Growth as a Process: An Interview with Jeff Immelt,” *Harvard Business Review*, June, 2006.

^{xii} “GE Launches Ecomagination,” General Electric Press Release, May 9, 2005.

^{xiii} Ibid.

^{xiv} General Electric, Annual Report 2008, pp. 6–7.

^{xv} “Letter to shareowners,” General Electric Annual Report, 2011: pp. 6.

^{xvi} J.R. Immelt, V. Govindarajan and C. Trimble, “Hoe GE is Disrupting Itself,” *Harvard Business Review*, October 2009: pp. 56-65.

^{xvii} “Growth as a Process: An Interview with Jeff Immelt,” *Harvard Business Review*, June, 2006.

^{xviii} Ibid.

^{xix} Ibid.

^{xx} Ibid.