

# Eating Your Own Cooking: The Impact of Social, Mobile, Analytics and Cloud Technologies at IBM

*Teaching Case*

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## **Abstract**

*In its 100+ years of company history, IBM reinvented itself multiple times. In the last 20 years, IBM had shifted from individual products to integrated solutions and moved to become a globally integrated enterprise with standardized processes. In 2014, the expanding adoption of social, mobile, analytics, and cloud (SMAC) technologies generated excitement in the industry. IBM believed these technologies presented a huge growth opportunity. Simultaneously, management viewed SMAC technologies as disruptive forces demanding transformative changes to how IBM worked. And introducing new ways of working to 400,000 employees in 175 countries was a daunting task.*

*Based on personal interviews with 17 IBM business and IT executives, the case illustrates organizational challenges of introducing current technologies that even providers of these technologies face – in other words, when they “eat their own cooking.” It demonstrates the difficulties large companies face when implementing technologies that students use daily and take for granted.*

**Keywords:** Digitization, transformation, cloud, analytics, social, mobile

The teaching note can be requested via e-mail from the first author.

## Introduction

IBM, a \$100 billion computer hardware, software, and services company, was incorporated in 1911 as the Computing Tabulating Recording (CTR) Company selling commercial scales, industry recording devices, and even meat and cheese slicers. Over its more than one hundred years in existence, IBM had reinvented itself multiple times.

In 2014, it was the rapidly expanding adoption of cloud, analytics, mobile, and social technologies that generated a lot of excitement in the industry. IBM's management believed that these technologies presented a huge business growth opportunity.

*Computing advantage will be created through data and analytics, business models will be shaped by cloud, and individual engagement will be powered by mobile and social technologies.*  
—Linda Sanford, Senior Vice President, Enterprise Transformation

Simultaneously, management viewed cloud, analytics, mobile, and social technologies as a disruptive force demanding transformative changes to the way IBM worked internally. Earlier transformations had positioned IBM to deal with business changes globally. Nonetheless, introducing new ways of thinking and working to over 400,000 employees in 175 countries was a daunting task. This transformation was the latest one in a series of transformations that IBM had gone. And the company was convinced this wouldn't be the last one.

*IBM has built a business model predicated on a commitment to continuous transformation. In an industry in which there is perpetual tension between innovation and commoditization, IBM has followed the path of innovation and reinvention.*  
—“Creating a Smarter Enterprise: The Science of Transformation,” IBM Global Business Services Executive Report, 2013

But would IBM's actions around social, mobile, analytics and cloud suffice for business success in the digital economy?

## A Recent History of Transformation at IBM

In 1993, Louis Gerstner, Jr. took on the roles of chairman and CEO of IBM, which had reported a net loss of \$8 billion for FY 1993 after losing money for three years. Gerstner quickly introduced two big changes to the company. First, he restructured and consolidated what had become a highly decentralized business; most notably, he moved IBM from country to global brand profit and loss (P&L) statements. Second, he initiated a shift in IBM's sales emphasis from individual products to integrated solutions and services. Both changes represented transformations from long-standing company practice. By 1994, IBM's net earnings had rebounded to \$3 billion.

The company had been steadily growing profits (see appendix 1 for IBM financial performance over time) when Samuel (Sam) Palmisano succeeded Gerstner as CEO in 2003. In 2006, Palmisano laid out Roadmap 2010, an initiative to raise earnings per share (EPS) from \$6 to \$11. To deliver on that goal, he initiated a transformation that involved widespread adoption of standardized global business processes and global distribution of labor.

When Sam Palmisano became CEO, IBM functioned as a collection of “mini IBMs.” Each major country replicated the functions of the corporation. While allowing IBM to address country-specific requirements, the mini-IBM model was expensive and inhibited the coordination across countries that global customers demanded. Combined with separate P&Ls for hardware, software, and services, this organizational model made it difficult for IBM to provide integrated solutions.

To address these limitations, Palmisano introduced the term and concept of a “globally integrated enterprise” (GIE).<sup>1</sup> The GIE established global standards for a broad set of basic company processes, thus ensuring a stable base of transactions, operations, and back-office processes:

*A globally integrated enterprise operates with one set of processes, shared services and broadly distributed decision making, carried out by a highly skilled global workforce managed by a common set of values. —IBM website<sup>2</sup>*

Starting with Finance and Supply Chain, IBM standardized and globalized all support functions. Over time, IBM created fifteen global processes as part of its enterprise process framework (EPF; see appendix 3 for a visualization). Although business units continued to have P&L responsibilities, newly introduced global process owners had the budget and greater authority to define common processes across businesses.

Enterprise processes were grouped into three categories: Operating, Enabling, and Supporting. The six operating processes represented the client-facing processes that were driving revenue for IBM (e.g., generating products/services, bringing them to the market, generating sales orders). The four processes in the enabling category, while not directly client-facing, were important enablers of operating processes (e.g., strategic planning, procurement). The five supporting processes were foundational and deemed necessary to run IBM as an enterprise (e.g., HR, IT processes).

The EPF defined a common language and created a much more standardized process environment around the world. However, implementing standard processes in 175 country organizations operating in diverse businesses demanded senior executive commitment and persistence. While people across IBM believed in the value of standardized processes, they found adoption much more difficult:

*Take the HR process. I kept hearing, “I can’t do that in my country because of the laws, or because of the works council, or because that’s not our culture.” [...] So anytime I heard “There’s a law,” I’d say, “Show me. Send me the document.” And I became the “prove it to me” person.  
—Kari Barbar, Vice President, Globally Integrated Enterprise Enablement*

To facilitate adoption, management solicited broad input on the processes. A central team arranged numerous calls with representatives from all geographic areas and business lines to come to agreement on a process that would be at least 80% standard. Management accepted that specific execution steps at lower levels of a process might differ across business lines or geographies. But local deviations from standards were allowed only if value to customers had been demonstrated:

*That unique way of pricing, unique way of notifying, whatever it might be in a process—if you think being unique is important to your business or your country, verify that with the client. Here’s how you verify it: not only do you ask them does it have value, but are they willing to pay for it?  
—Linda S. Sanford, Senior Vice President, Enterprise Transformation*

The introduction of global standards created efficiencies and facilitated integration across businesses, geographies, and functions. For instance, clients were able to access global experts within IBM much more easily. However, the EPF’s matrix of business/geography verticals on one axis and horizontal, global processes on the other also meant that individuals at the customer interface had to do integration work in some cases: for example, salespeople now had to deal with globally dispersed central contacts for routines such as contracting, pricing approvals, procurement, and updating sales data.

But employees generally understood that what might be a more arduous process at the individual level produced company-wide benefits:

*I have an optimistic mind saying to myself, “Okay, I understand where IBM is heading and I understand that we have to have some kind of globally integrated processes to really enable this*

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<sup>1</sup> Palmisano’s essay, “The Globally Integrated Enterprise,” was originally featured in the May/June 2006 issue of *Foreign Affairs*. Also, Palmisano co-authored an e-book on the subject—“Re-Think: A Path to the Future”—with Matthew Rees, published in 2014 by the newly founded Center for Global Enterprise.

<sup>2</sup> <http://www-03.ibm.com/ibm/history/ibm100/us/en/icons/globalbiz/transform/>

*kind of strategy.” It’s the price of working in a globally integrated enterprise.*

*—Martin Gerhardt, Senior Client Executive, IBM Sales & Distribution, Germany*

The significant efficiencies generated from all these changes allowed IBM to post profitable results in 2008 despite a rapidly contracting global economy. IBM met its Roadmap 2010 EPS targets and then announced Roadmap 2015 with an EPS target of \$20.

By the time Virginia (Ginni) Rometty succeeded Palmisano as CEO in 2012 gross profit margin had increased and net income growth remained strong. Between 2010 and 2013, IBM grew profits at an annual rate of 3.6%. But IBM had posted continuous declines in quarterly year over year revenues starting in mid-2012. In IBM’s 2013 annual report, Rometty wrote, “While 2013 was an important year of transformation, our performance did not meet our expectations.” As a consequence, she and her executive team turned down annual bonuses.

In 2014, only nine out of twenty-five analysts tracked by Bloomberg expected IBM to meet its \$20 EPS targets from Roadmap 2015. And financial reporters and analysts voiced concern that the company’s EPS growth had been based on cost reduction and share buybacks.<sup>3</sup> IBM management countered with plans to grow revenue and profit by divesting low-margin commodity technologies (such as the x86 server business<sup>4</sup>) and services while investing in higher-margin business opportunities, particularly those that IBM could wrap into integrated solutions. Cloud, analytics, mobile, and social technologies and processes were key elements of the vision to become an increasingly integrated and global business.

## **Integrating and Extending IBM’s Offerings**

In 2014, IBM was organized into three core businesses: (1) Systems and Technology (hardware) and Global Financing, (2) Software, and (3) Global Services (see appendix 2 for IBM’s performance by segment). Although IBM reported financial performance for each business, management was emphasizing integrated solutions as its unique value proposition:<sup>5</sup>

*Integrated solutions are the most valuable thing we can provide our clients. We sell many things, but why do you come to IBM? We don’t just sell you a piece of hardware, and someone else a piece of software and someone else provides a service. The power lies in bringing those things together.*

*—Kari Barbar, Vice President, Globally Integrated Enterprise Enablement*

Integrated solutions combined different offerings from IBM’s hardware, software, and services businesses to solve specific client problems. For example, Indian telecommunications company Bharti Airtel credited IBM with providing the capability to process 1.5 million new customers per month through an integrated solution combining IBM System p servers with its WebSphere middleware software and outsourcing services from its Global Technology Services unit.<sup>6</sup>

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<sup>3</sup> Tiernan Ray, “IBM: \$20/Sh EPS Goal Increasingly Irrelevant, Says Bernstein, Why Stick to It?,” *Tech Trader Daily* (blog), *Barron’s*, February 3, 2014, <http://blogs.barrons.com/techtraderdaily/2014/02/03/ibm-20sh-eps-goal-increasingly-irrelevant-says-bernstein/>; Nick Summers, “The Trouble With IBM,” *Bloomberg Businessweek*, May 22, 2014, <http://www.businessweek.com/articles/2014-05-22/ibms-eps-target-unhelpful-amid-cloud-computing-challenges>; Steve Denning, “Why IBM Is In Decline,” *Forbes*, May 30, 2014, <http://www.forbes.com/sites/stevedenning/2014/05/30/why-ibm-is-in-decline/>.

<sup>4</sup> IBM Press release Oct 1, 2014: <https://www-03.ibm.com/press/us/en/pressrelease/44997.wss>

<sup>5</sup> IBM had been working on becoming an integrated solutions provider instead of operating autonomous businesses since the Gerstner era. See Louis V. Gerstner, Jr., *Who Says Elephants Can’t Dance?: Leading a Great Enterprise through Dramatic Change* (HarperCollins Publishers, 2002). In its 2015 annual report, IBM stated that it had worked on “mak[ing] it easier and quicker to put together solutions drawn from our expanding digital portfolio” with the aim of “accelerating growth and enhancing client experience.”

<sup>6</sup> For a description of this case study, see <http://www-03.ibm.com/software/businesscasestudies/us/en/corp?synkey=K659433012428G82>.

Selling integrated products and services was more difficult than selling individual products because of the additional coordination it required across various parts of the company. This new value proposition was creating a more complex organization, but IBM believed integrated solutions provided greater value to clients:

*Some companies for many years [focused solely on] the PC business and were able to deliver value to their clients. But now those clients have moved on. A single PC or a single x86 server is less interesting to them. In the last decade, IBM increased the integration of products and services, which has been a great benefit, because we're viewed as an integrated solution provider.*

—Pat Toole, General Manager, System z, Systems and Technology Group

IBM leaders recognized the potential of analytics, mobile, social, and cloud technologies to contribute to a strategy focused on increasingly integrated solutions. The company had been building its product and service portfolio in these areas for a number of years.

For almost a decade, IBM had been adding **analytics** software that addressed a range of client needs. Tools included statistics software SPSS (acquired in 2009) and business intelligence software Cognos (acquired in 2008). In 2011, IBM showcased the analytical capabilities of Watson—a computer system based on artificial intelligence for cognitive computing—on *Jeopardy!*, a popular TV game show.<sup>7</sup> The technology could analyze vast stores of varying types of data to provide better decision-making information for operational tasks. For example, in July 2014 USAA, a financial services company serving the US military, announced a pilot that allowed its customers to ask Watson questions about the financial implications of transitioning out of the military.<sup>8</sup> In another example, the Memorial Sloan Kettering Cancer Center was developing a solution based on the Watson technology that was “designed to help oncologists anywhere make the best treatment decisions for their individual patients” by feeding Watson with cancer case history.<sup>9</sup>

While IBM was not offering **mobile** devices, it was active in all other aspects of delivering mobility solutions. For example, it provided products supporting mobile device management and mobile application development, as well as mobile network infrastructure management services and mobile security. In July 2014, IBM and Apple announced a global partnership to deliver “more than 100 end-to-end mobile solutions, including a new category of mobile apps that are enterprise ready.”<sup>10</sup> These industry-specific enterprise apps were intended to combine IBM’s capability around delivering integrated solutions to enterprise customers with the customer experience of Apple’s iOS devices.

IBM had introduced its Connections **social** networking platform already in 2007 to facilitate collaboration. Various components supported functions such as social networking, team spaces, forums, wikis, microblogging, and shared document stores, which integrated with enterprise applications as well as with email, directories, and calendars. Within IBM’s large corporate customers, Connections offered an extension to enterprise communications and knowledge-sharing capabilities.

Social, mobile, and analytics tools and capabilities could all be sold as individual products, but they could also be part of integrated solutions that included other IBM hardware, software, and services. Ongoing innovation within IBM, along with acquisitions of innovative technology firms, offered considerable opportunities for revenue growth consistent with IBM’s existing value proposition.

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<sup>7</sup> In a 2011 match, IBM’s Watson defeated *Jeopardy!* record holders Ken Jennings and Brad Rutter. See John Markoff, “Computer Wins on ‘Jeopardy!’: Trivial, It’s Not,” *The New York Times*, February 16, 2011. <http://www.nytimes.com/2011/02/17/science/17jeopardy-watson.html><http://www.nytimes.com/2011/02/17/science/17jeopardy-watson.html>.

<sup>8</sup> Darryl K. Taft, “USAA Taps IBM’s Watson as Military Veterans Advisor,” *eWeek*, July 23, 2014, <http://www.eweek.com/database/usaa-taps-ibms-watson-as-military-veterans-advisor.html>.

<sup>9</sup> Jennifer Bassett, “Memorial Sloan Kettering Trains IBM Watson to Help Doctors Make Better Cancer Treatment Choices,” Memorial Sloan Kettering Cancer Center, April 11, 2014, <http://www.mskcc.org/blog/msk-trains-ibm-watson-help-doctors-make-better-treatment-choices>.

<sup>10</sup> <https://www.ibm.com/mobilefirst/us/en/>

**Cloud**, on the other hand, was a somewhat less natural fit. IBM's market strength had historically depended on selling and leasing hardware, particularly mainframes and servers. The market in 2014, however, was rapidly moving toward cloud computing environments.<sup>11</sup> Recognizing this important shift, in June 2013 IBM acquired SoftLayer, an Infrastructure-as-a-Service provider with clients such as Tumblr and WhatsApp. SoftLayer provided data center services via the cloud in a highly automated, self-service fashion. For example, with a few clicks from a remote website, a customer could perform common operational services like reboot a server, turn off power and turn it on again, reload an operating system, or change a configuration setting.

*Automation makes everything so much easier for the customer. If it cannot be automated, we don't do it.*

—Francisco Romero, IBM Cloud Services, Chief Operating Executive for SoftLayer

SoftLayer's high degree of automation was based on a strict adherence to standard infrastructure components (e.g., servers, storage, maintenance software) that customers could configure and combine but never adapt or tweak. Francisco Romero, SoftLayer's chief operating executive, noted that this automated approach allowed SoftLayer to ramp up a data center in "thirty to forty-five days instead of six months" and run "100,000 servers with only 750 employees." Such benefits were enticing, but fully standardized services were not necessarily in-line with IBM's long-standing value proposition based on customization for its enterprise customers.

SoftLayer had serviced mostly small to mid-sized customers, but IBM believed that cloud services would increasingly appeal to IBM's customer base of large enterprises. This might sometimes involve helping large enterprise customers adopt new approaches to meeting their computing and business needs:

*The challenge you have to overcome is to help customers understand that this very standardized environment still fulfills the needs of their specific business and that they can do anything they do today in their own customized environment but on a standardized environment with all the benefits that that brings.*

—Francisco Romero

Even though cloud offerings would cannibalize some traditional mainframe-related hardware, software, and services, management viewed the SoftLayer acquisition as a critical component of IBM's future strategy. After the SoftLayer acquisition, IBM experienced early success in bringing large enterprises on board. InformationWeek reported that revenue from IBM's SoftLayer business was growing at an annual rate of 86%<sup>12</sup>—and that SoftLayer was growing six to seven times faster than it had been as an independent company.<sup>13</sup>

## Using IBM's Own Tools to Globally Integrate IBM

The movement towards cloud, analytics, mobile, and social technologies affected IBM's product portfolio. But these technologies were also a key ingredient of a transformation within IBM itself that changed how people worked to deliver the targeted integration of the company's products and services.

### ***Social Media as a Tool for Global Integration***

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<sup>11</sup> Cloud computing enabled on-demand access to shared computing resources (including IT infrastructure like storage or servers, software applications, and platforms for developing software) over the internet. See <http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf> for a detailed definition of cloud computing.

<sup>12</sup> Doug Henschen, "Microsoft, IBM Gain On Amazon Cloud," *InformationWeek*, July 28, 2014, <http://www.informationweek.com/cloud/infrastructure-as-a-service/microsoft-ibm-gain-on-amazon-cloud/d/d-id/1297599>.

<sup>13</sup> Charles Babcock, "SoftLayer Cloud Business Thriving Inside IBM," July 14, 2014, <http://www.informationweek.com/cloud/infrastructure-as-a-service/softlayer-cloud-business-thriving-inside-ibm/d/d-id/1297248>.

In 2014, IBM had more than 400,000 employees distributed across 175 countries, and most of them worked outside of company offices. Additionally, over 50% had tenure at IBM of five years or less.<sup>14</sup> Thus, as IBM emphasized solutions that integrated multiple business unit offerings for increasingly global customers, collaboration had simultaneously become more important and more difficult:

*If we don't do anything to connect people beyond the business unit, they tend to work within their business unit and their world is the hardware, systems, and technology group; the software group; or one of our services branches. But our clients really want to leverage all of IBM, and so we need to connect our people so that they can easily have access to expertise across all of IBM. That is the challenge.*

—Ross Mauri, Vice President, Social and Analytics Transformation

IBM intended to address this challenge by becoming a “Social Business” that would connect employees with each other and with clients in improved ways. But becoming a Social Business meant introducing new ways of collaborating, communicating, and connecting—behaviors that required a cultural shift as they were expected to “flatten” what used to be a “command and control” organization.

IBM used several tools, such as Connections and Sametime, to support collaboration among its employees. For example, support employees from different business units used these tools to solve a client’s problem when it was unclear whether the problem lay in hardware, software, or elsewhere:

*With social, you can have support teams collaborate with each other around the client's problem: the hardware, storage, and software teams are talking behind the curtains and collaborating to help clients on their problem without having the client go component by component. So we are removing that complexity from the client so they won't get frustrated.*

—Ross Mauri

Internal tools such as Faces and Expert Locator helped employees find the right contact people within IBM. For example, Faces could search for any combination of keyword and name; a search for “Ross social” would return Ross Mauri as the top result out of 600+ matches. Faces could also do a visual search, and it offered functions like auto-complete when typing.

However, just adding more tools to existing communication tools like email and phone risked overwhelming employees with too many connections and interruptions. IBM mitigated this risk by integrating the new tools with existing ones and replacing existing forms of communication when appropriate:

*What doesn't work for most people is when social is just one more thing to do, something else I have to think about. What really works—and we strive to do this for all new products and applications we're rolling out—is to integrate them and the user experience together. We try to not have Connections be a separate social platform. We try to connect that and integrate it into all work applications.*

—Ross Mauri

By using these integrated tools and following certain rules (like opting not to “reply to all”), a pilot group within IBM was able to reduce its email messages by 90%.

Adapting to the culture of a Social Business also required different values and generated new incentives:

*In the past, people had their diplomas on the wall of their office and they had their CV or resume, and their reputation was built up by things they authored. Today your digital presence is built by how active you are out there digitally. Are you really answering questions and being someone who is viewed as an expert by how you're “favorited” or “liked?”*

—Ross Mauri

To help employees learn new tools and adapt to its new culture, IBM provided guidelines<sup>15</sup>, training, and more importantly, created new roles such as social coach and social ambassador. More than two hundred social coaches were helping executives become fluent in effectively using social tools. Social ambassadors

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<sup>14</sup> E.g., because those employees joined IBM from other companies as part of outsourcing contracts or as experienced hires.

<sup>15</sup> E.g., IBM’s Social Computing Guidelines: <http://www.ibm.com/blogs/zz/en/guidelines.html>

modeled the use of social tools and helped other employees with their use in their respective units. Ambassadors and coaches accepted their roles on top of their regular full-time duties.

Senior management support also helped. For example, CEO Ginni Rometty used a video clip accompanied by a blog to address the implications of becoming a Social Business. Ultimately, the goal of Social Business was to foster greater global integration, which would manifest itself in improved customer experience and better products and services. But beyond feedback from customers about the improved ability to get in contact with IBM experts globally, management found it difficult to measure the impacts as the use of collaborative tools slowly permeated the company.

### ***Analytics as a Tool for Global Integration***

The vision of the globally integrated enterprise called for distributed decision making, but this was no easy task in such a highly distributed and diverse company. To ensure that decisions were made consistently across the company and reflected IBM's values and objectives, management had emphasized the use of analytics. Insights gained from analytics could guide revisions to business processes and business rules to better drive desired outcomes.

Leaders encouraged widespread use of analytics, so that using data to guide decision making would become part of the company's culture. As a start, management had created a team of eight employees whose job it was to enable other people to do their own analytics projects.

This team had worked with other teams on some notable successes. For example, one initiative helped to develop a recommendation engine for "Coverage Optimization with Profitability." Based on the history of IBM's relationship with a client over three years, the profitability of that relationship, and an estimate of future opportunity, the tool made recommendations to sales managers as to whether salespeople should increase or decrease the intensity of contacts with a particular client. The result was increased total revenues and revenues per salesperson in the areas where the tool was applied.

Analytics tools were also used to help reduce attrition in countries with traditionally high attrition rates like India and China. The tool identified employees who were at risk of leaving the company due to manager turnover, compensation issues, promotion history, education, or other factors. Managers used the tool's suggestion for appropriate actions to retain key employees.

But widespread use of analytics involved changing all kinds of habits. For a variety of reasons, adoption was difficult. For example, some people did not value additional insight into their decisions:

*The challenge is that successful business people have been successful because they have good judgment and they have good intuition, but now we're asking them to hold that in abeyance while they get some additional insight through the use of the analytics tools.*

—Martin Fleming, Vice President, Business Performance Services and Chief Economist

Some people were concerned about data quality issues:

*Many people want to start talking to me about how their data is imperfect, and I tell them: "Yes. Everybody's data is imperfect." And if they tell me that we've got to make their data perfect before starting to use analytics, my answer will be: "Then you won't get the significant value that analytics can provide."*

—Doug Dow, Vice President, Business Analytics Transformation

Adoption often depended on "a lot of very careful and close work at a relatively low level in the organization." Martin Fleming described the effort associated with rolling out the coverage optimization tool:

*We organized a set of workshops across the various geographies, and spent a week country-by-country, region-by-region working with the sales managers and the various sales leaders in the organization taking them through the capability, demonstrating to them what the recommendations look like, and providing them whatever insight we can, based on the tools.*

—Martin Fleming

The analytics team found that the success of new analytics-based decision-making initiatives depended on integrating analytics tools into a business process and application, rather than introducing a new step with a new tool:



*Don't make it an extra step; don't make it something that's off to the side. Embed it in the business process, so that people know where to use it and how to use it.*  
—Emily Plachy, Distinguished Engineer, Analytics

Process owners were among many IBM leaders who looked for opportunities to insert analytics into operational level decision-making tasks. But the company's ability to operate as a globally integrated enterprise required that individuals throughout all of IBM embrace a culture of distributed, data-driven decision making.

## **Institutionalizing Continuous Transformation Management**

Beginning with Louis Gerstner's introduction of global brand P&L statements, followed by Sam Palmisano's creation of the concept of the globally integrated enterprise, and then Ginni Rometty's focus on cloud, analytics, mobile, and social,<sup>16</sup> IBM had been transforming for more than twenty years. Viewing transformation as an enduring feature of its corporate DNA, IBM had established an Enterprise Transformation unit as part of its organizational structure. Led by Senior Vice President Linda Sanford, the Enterprise Transformation unit encompassed both the IT organization and a business transformation team:

*My team is a permanent team. It is not a task force. It's not a special project. This is because we have seen the rapid pace of change occurring in more and more unpredictable ways. This building and continuously reinventing yourself and transforming is the only way to get ahead of and stay ahead of the changes in the marketplace.*

—Linda Sanford, Senior Vice President, Enterprise Transformation

Teams governed by the Enterprise Transformation unit were responsible for specific transformation areas including Enterprise Process Simplification, Sales Transformation, Global Workforce Transformation, Business Analytics Transformation, and Social Transformation. IBM as a whole, and the Enterprise Transformation unit in particular, recognized that rapidly changing technology introduced constant disruptions into the business. The Enterprise Transformation unit ensured that IBM was alert to the needed changes.

Given its desire to rapidly introduce new technologies, IBM was aggressively pursuing acquisitions that would allow the company to enter a new market segment, fill a gap in the product/service offering, or expand the scale of an acquired product or service.<sup>17</sup>

Counting itself as “among the most acquisitive organizations in the world,” IBM's Corporate Development and M&A Integration teams had developed a standard risk assessment model that was applied to every M&A transaction and then updated to incorporate new data to facilitate integration risk assessment on future acquisitions even in new business areas. The model was part of a process covering the whole M&A lifecycle, supported by a workflow management tool (the M&A Accelerator) that included checklists, templates, and social tools such as a wiki for retaining best practices and disseminating lessons learned.

*The combination of integration analytics, workflow, and best practices helps ensure appropriate acquisition choices and effective integration processes. Early identification of potential pain points with appropriate action planning helps to align fast start integration execution with achieving business results, thus reinforcing positive morale with sustained momentum.*

—Paul Price, Director, M&A Integration

Every new deal meant that IBM was acquiring not just new technologies, but also new processes, capabilities, and cultures. In some cases, the acquired company needed to absorb IBM's way of doing things.

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<sup>16</sup> IBM referred to cloud, analytics, mobile, and social as CAMSS, adding security as an important pervasive ingredient.

<sup>17</sup> IBM was involved in more than one hundred merger and acquisition (M&A) transactions since 2005 with a total transaction value of over \$30 billion. Source: 2005–2013 IBM Annual Reports, Note C.

But in other cases, the acquisition could act more independently, and in still others, IBM would benefit from adopting processes from the acquired company.

The SoftLayer acquisition exhibited the deep impact acquisitions could have on IBM. Although SoftLayer was acquired to provide important new services for IBM customers, company leaders recognized the need to increase its own use of cloud services. SoftLayer's standardized and highly automated approach to data center management presented opportunities to simplify IT infrastructure service delivery within IBM. However, to fully benefit from SoftLayer, IBM needed to replace some of its existing business processes with ones better suited to a cloud environment:

*[We are] trying to a certain extent to reverse-integrate [SoftLayer's way of doing things] into IBM. And hopefully some of the things that we do right permeate into the broader IBM company as well as what they do right permeates into SoftLayer.*

*—Francisco Romero, IBM Cloud Services, Chief Operating Executive for SoftLayer*

Some of these changes would have far-reaching implications:

*We're updating some of those fifteen [EPF processes] to operate in the cloud world. Usually, the time it takes you to close a traditional sales opportunity is going to be measured in two, three, six, nine months. In the cloud world, transactions are closed in hours or minutes. In traditional infrastructure deployments it took you 90, 120 days, six months to deploy infrastructure for the customer. In the cloud world it takes hours or minutes.*

*—Francisco Romero*

Leaders throughout IBM recognized that its success depended on its ability to deliver new technologies as part of integrated solutions that addressed the constantly changing technology needs of its enterprise customers. These new technologies introduced new integration challenges. Thus, business transformation had to be a core competency within IBM. In 2014, IBM had adopted CAMSS (cloud, analytics, mobile, social with pervasive security) as both the product set that would support revenue growth and the toolset that would support the internal transformation needed to deliver the growth.

Many investor services debated whether IBM would be able to transform in ways that led to sustained growth and profitability. For example, newspapers reported that "IBM struggles to turn Watson Computer into Big Business"<sup>18</sup> And in October 2014, IBM abandoned the \$20 EPS target that formed part of its long held Roadmap 2015.<sup>19</sup> Yet, IBM was reported to be the only technology stock that star investor Warren Buffett had invested in and continued to buy in 2014.<sup>20</sup> IBM was counting on the opportunities created by CAMSS—and the company's ability to transform in order to address those opportunities—to prove that Buffett's instincts were right.

Given its previous successful transformations, would IBM's actions around social, mobile, analytics and cloud suffice for business success in the digital economy?

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<sup>18</sup> Wall Street Journal, Jan 7, 2014, <http://www.wsj.com/articles/SB10001424052702304887104579306881917668654>

<sup>19</sup> <http://www.reuters.com/article/2014/10/20/us-ibm-results-idUSKCN0I912G20141020>

<sup>20</sup> "Berkshire Makes Secret Trades and Opens Express Scripts Stake," WarrenBuffet.com, November 18, 2014 <http://www.warrenbuffett.com/tag/ibm/>

## Appendix 1: IBM's Financial Performance over Time

Table 1. IBM performance over time; Source: IBM annual reports and Non-GAAP Supplementals										
<i>In billion Euro</i>	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Revenue (\$ in millions)</b>	91,134	91,424	98,786	103,630	95,758	99,870	106,916	104,507	99,751	92,793
<b>Net Income (\$ in millions)</b>	7,970	9,492	10,418	12,334	13,425	14,833	15,855	16,604	16,483	12,022
<b>Net Profit Margin</b>	8.75%	10.40%	10.55%	11.90%	14.00%	14.90%	14.80%	15.90%	16.50%	13.00%
<b>Operating EPS (\$)</b>	5.32	6.06	7.18	8.93	10.01	11.67	13.44	15.25	16.28	16.53
<b>Employees</b>	329,373	355,766	386,558	398,455	399,409	426,751	433,362	434,246	431,212	379,592

Table 1. IBM performance over time

## Appendix 2: IBM's Financial Performance by Segment

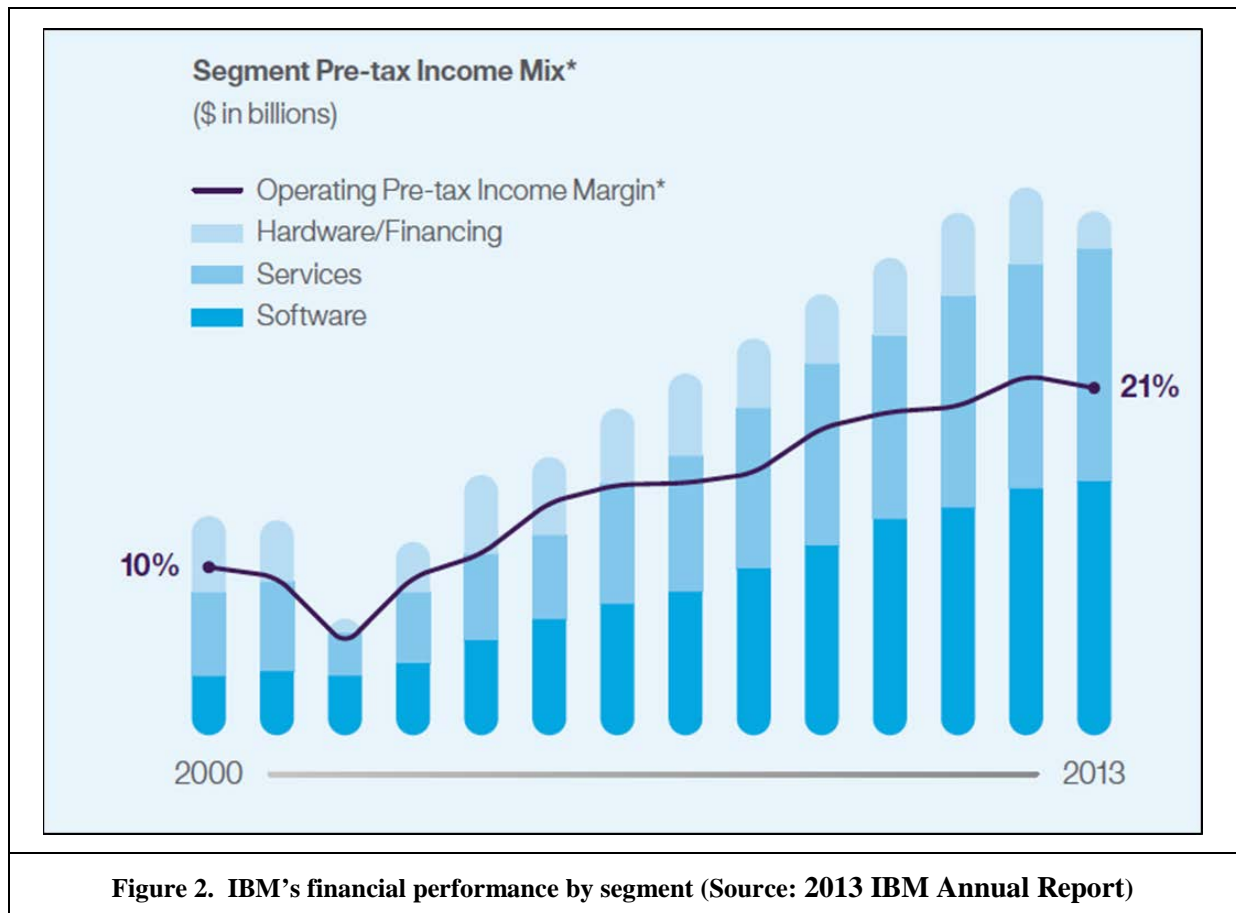


Figure 2. IBM's financial performance by segment (Source: 2013 IBM Annual Report)

### Appendix 3: IBM’s Enterprise Process Framework (EPF)

