TECHNOLOGY

IBM's Design-Centered Strategy to Set Free the Squares

By **STEVE LOHR**   NOV. 14, 2015

Phil Gilbert is a tall man with a shaved head and wire-rimmed glasses. He typically wears cowboy boots and bluejeans to work — hardly unusual these days, except he's an executive at **IBM**, a company that still has a button-down suit-and-tie reputation. And in case you don't get the message from his wardrobe, there's a huge black-and-white photograph hanging in his office of a young Bob Dylan, hunched over sheet music, making changes to songs in the "Highway 61 Revisited" album. It's an image, Mr. Gilbert will tell you, that conveys both a rebel spirit and hard work.

Let's not get carried away. Mr. Gilbert, who is 59 years old, is not trying to redefine an entire generation. On the other hand, he wants to change the habits of a huge company as it tries to adjust to a new era, and that is no small task.

IBM, like many established companies, is confronting the relentless advance of digital technology. For these companies, the question is: Can you grow in the new businesses faster than your older, lucrative businesses decline?

Mr. Gilbert answers that question with something called design thinking. (His title is general manager of design.) Among other things, design thinking flips traditional technology product development on its head. The old way is that you come up with a new product idea and then try to sell it to customers. In the design thinking way, the idea is to identify users' needs as a starting point.

Mr. Gilbert and his team talk a lot about "iteration cycles," "lateral thinking," "user journeys" and "empathy maps." To the uninitiated, the canons of design thinking can sound mushy and self-evident. But across corporate America, there is a rising enthusiasm for design thinking not only to develop products but also to guide strategy and shape decisions of all kinds. The September cover article of the Harvard Business Review was "The Evolution of Design Thinking." Venture capital firms are hiring design experts, and so are companies in many industries.

Still, the IBM initiative stands out. The company is well on its way to hiring more than 1,000 professional designers, and much of its management work force is being trained in design thinking. "I've never seen any company implement it on the scale of IBM," said William Burnett, executive director of the design program at Stanford University. "To try to change a culture in a company that size is a daunting task."

Daunting seems an understatement. IBM has more than 370,000 employees. While its revenues are huge, the company's quarterly reports have shown them steadily declining in the last two years. The falloff in revenue is partly intentional, as the company sold off less profitable operations, but the sometimes disappointing profits are not, and they reflect IBM's struggle with its transition. Last month, the company shaved its profit target for 2015.

In recent years, the company has invested heavily in new fields, including data analytics, cloud computing, mobile technology, security, social media software for business and its Watson artificial intelligence technology. Those businesses are growing rapidly, generating revenue of $25 billion last year, and IBM forecasts that they will contribute $40 billion by 2018, through internal growth and acquisitions. Just recently, for example, IBM agreed to pay $2 billion for the Weather Company (not including its television channel), gaining its real-time and historical weather data to feed into Watson and analytics software.

But IBM's biggest businesses are still the traditional ones — conventional hardware, software and services — which contribute 60 percent of its revenue and most of its profit. And these IBM mainstays are vulnerable, as customers

increasingly prefer to buy software as a service, delivered over the Internet from remote data centers.

Virginia M. Rometty, IBM's chief executive, has warned that this will be a difficult transition year. It will take time, she says, before its new businesses are large enough to become engines of growth for the whole company. The strategy, she insists, is the right one. What remains is to move ahead faster. "People ask, 'Is there a silver bullet?'" Ms. Rometty said in a recent interview. "The silver bullet, you might say, is speed, this idea of speed."

Ms. Rometty is pulling other levers to accelerate the pace of change at IBM, but she said, "Design thinking is at the center."

Breaking With the Past

Recognizing the importance of design is not new, certainly not at IBM. In the 1950s, Thomas J. Watson Jr., then the company's chief executive, brought on Eliot Noyes, a distinguished architect and industrial designer, to guide a design program at IBM. And Noyes, in turn, tapped others including Paul Rand, Charles Eames and Eero Saarinen in helping design everything from corporate buildings to the eight-bar corporate logo to the IBM Selectric typewriter with its golf-ball-shaped head.

At that time, and for many years, design meant creating eye-pleasing, functional products. Now design thinking has broader aims, as a faster, more productive way of organizing work: Look at problems first through the prism of users' needs, research those needs with real people and then build prototype products quickly.

Defining problems more expansively is part of the design-thinking ethos. At a course in New York recently, a group of IBM managers were given pads and felt-tip pens and told to sketch designs for "the thing that holds flowers on a table" in two minutes. The results, predictably, were vases of different sizes and shapes.

Next, they were given two minutes to design "a better way for people to enjoy flowers in their home." In Round 2, the ideas included wall placements, a rotating flower pot run by solar power and a software app for displaying images of flowers on a home TV screen.

Mr. Gilbert came to design thinking as a technologist and a software entrepreneur. He helped build Lombardi Software, in Austin, Tex., first as its chief technology officer and then president. Over the years, in trying to develop software faster and to improve products, he studied and adopted some of the design principles of people like David Kelley, chairman of the global design company IDEO and a founder of the Stanford design program.

In 2010, when IBM bought Lombardi Software, with its 220 people, he had no inkling of what lay ahead for him.

When Ms. Rometty became chief executive in January 2012, she told her executive team that she wanted to improve — "to rethink and reimagine" — the experience of IBM's customers. This was motivated partly by a shift in how businesses were buying technology. As more purchased software as a service over the Internet, buying decisions were often being made by workers in functional departments — human relations, sales, marketing and data analytics — rather than by a central corporate information technology office. In this new market, software that was tailored to workers' needs and could be used without technical help from IT employees would win the day.

At a top-management meeting, Robert J. LeBlanc, a senior software executive, mentioned that there was a guy in Austin, at a start-up IBM had acquired, who was a design and user-experience fanatic. Mr. LeBlanc called Mr. Gilbert and asked if he thought the design work he was doing in a small corner of the software business could be done across IBM. Mr. Gilbert replied that he didn't know but it was worth considering. After a couple of days' study, Mr. Gilbert came back and said that to have an impact, IBM had to be prepared to hire and train 1,000 designers.

Mr. Gilbert assumed that would be the end of the matter. But two weeks later, he got a call from Ms. Rometty. "Go," she said, as he recalled. "And how fast can you go? How many can you hire in the first year?"

The Need for Speed

Since the program began in August 2012, IBM has hired several hundred designers, about two-thirds of them freshly minted college graduates and a third experienced designers. By the end of this year, IBM plans to have 1,100 designers working throughout the company, on the way to a target total of 1,500. They are embedded in IBM product teams and work alongside customers in the field or at one of 24 design studios around the world.

IBM has hired designers from top schools like Stanford, Carnegie Mellon, the Rhode Island School of Design and Parsons School of Design. But initially, recruiting required skillful persuasion. When Mr. Gilbert first showed up at the graduate design school at Stanford, he was greeted with skepticism. "These are millennials in Silicon Valley — they think Google is an old company," Mr. Burnett said, recalling their first impression. "To them, IBM was a historical relic."

The recruiting pitch made by Mr. Gilbert and his colleagues has been essentially twofold: First, you can make a difference in socially important fields because IBM's technology plays a crucial role in health care, energy, transportation, water and even agriculture. Second, you can be part of a groundbreaking effort to apply design thinking in business.

At Stanford, the prevailing view of working for IBM, Mr. Burnett said, has shifted from "Are you kidding me?" to "This is a pretty interesting opportunity."

Joe Kendall thinks so. Mr. Kendall, 28, finished a two-year graduate design program at Stanford and joined IBM in June. He chose IBM over Apple, where he would have worked in its iPhone business. At Apple, he figured, his opportunity would be to help make a great product a little bit better. At IBM, Mr. Kendall sees a different opportunity. "No one is using design thinking to solve problems on this scale," he said, adding that he could be part of "changing the future of this giant entity."

IBM's senior managers have all been through design training. Ms. Rometty and her executive team were among the first. The training varies, with executives getting one-day sessions; product managers, a week; and new designers, three-month programs. In all, about 8,000 IBM employees so far have had some in-person

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