Kodak: The End of an American Moment

by Joe Deaux • July 31, 2013 • original (http://www.thestreet.com/story/11991488/1/kodak-the-end-of-an-american-moment.html?cm_ven=GOOGLEN)

ROCHESTER, N.Y. (TheStreet (http://www.thestreet.com)) -- "They hired a f---ing clown."

That was Kathy Avangelista's comment about a man tasked with pumping up a crowd that had gathered in the summer of 2007 to watch the implosion of Building 9 at Eastman Kodak's manufacturing complex -- still one of the world's largest industrial facilities -- in Rochester, N.Y., known by former employees as Kodak Park.

After more than a century of opulence, outsized executive compensation, annual bonuses and generous separation agreements, **Eastman Kodak** literally was imploding, and just a few years from bankruptcy. So what was one more expense?

The "clown" was an employee of the company who was wearing silly clothes, jumping

up and down, "acting generally goofy" and hollering 'Boo-yah! Boo-yah! Boo-yah!,' recalls Avangelista, a former 40-year Kodak employee. The throng watching the spectacle cheered as the building crashed to earth and spewed a plume of gray powder into the air. But to Avangelista and other former employees who witnessed the demolition of many Kodak buildings beginning in the 1990s, it was a sad moment. "They were trying to celebrate a new product while they were celebrating the destruction and demolition and the implosion of the buildings in what they considered the old business, you know?" Avangelista says. The old business was more like a family. Employees met their spouses at Kodak, their children worked there, the most talented engineers and business people around the world competed for the company's positions. Building 9 handled paper finishing. Building 23, where Avangelista worked for two decades, was the engineering division that designed and maintained manufacturing equipment and services at Kodak Park. The company imploded 23 the next day. It was one of more than 100 buildings that Kodak appraised as "surplus and obsolete," which by 2007 could have described its fading photographic film business that for more than a century had made the company one of the most recognizable brands in the world. In 2012, when Kodak was forced into Chapter 11, the company reported a loss of $1.3 billion on revenue of $4.11 billion, a near 80% decline from its best-ever annual report in 1991. There is now a phrase to capture such failure: a Kodak moment. Kodachrome film, once so commonplace that it served as a hook in a Paul Simon song (http://www.youtube.com/watch?v=pLsDxvAErTU), had faded as consumer preference shifted in the early 2000s to digital images -- a transition that all but crippled the maker of the first digital camera. In searching for people or events to blame for Kodak's downfall, some might pick on the 25-year-old Kodak employee, Steve Sasson, who coined the phrase "filmless photography." But in fact the company's downfall is a more complex tale of a powerful company that failed to come up with the next big idea. This is the story of Eastman Kodak's fall.

Steve Sasson pulls from his large scrap book a letter from the patent department about the electronic camera he finished at Kodak in 1976 and with it, a note he wrote to his father that said the company was moving forward with the application.

"I've never shown this to anyone before," Sasson says as he stands in his study room, wearing light grey jeans and a black polo shirt.

Sasson, an electrical engineer, penned the note with blue ink in cursive handwriting scratched across blue-lined graph paper.

"Dear Mon Père, I got a copy of this from the patent lawyers this morning. Looks like other people are crazy like me. They've stopped my patent application until they get a

copy of this patent. This will get some more people worried about this approach now, seeing as somebody else is moving. Well maybe they'll give us some more money now. I told them! Bye," the note to his father reads. Scribbled below the note is the crude doodle of a man wearing a "K" on his chest while waving his hand. Sasson grins. The Brooklyn, N.Y.-born engineer, who says he discovered his flair for technology at Brooklyn Technical High School, was just a 25-year-old employee when he learned how to snap a photo and instantly play it back on a television screen. A few years before Sasson started work on his electric camera, **Bell Labs** produced a technology called the charge-coupled device (CCD) -- it's the critical component that captures an image and reads it out electronically. Kodak approached Sasson, his boss, Gareth Lloyd, and other employees in the electronics group to experiment with Bell Labs's new invention to see if the company could use it for imaging.

The electronics group at Kodak worked on broad sets of projects that ranged from troubleshooting manufacturing lines to proposing new ideas for consumer products. Sasson says the electronic camera was a "very casual" product project.

"So, it wasn't any big plan of mine to sort of disrupt film or anything, I just thought, if you could do this, it would be interesting," he says.

Leaders in Kodak's higher ranks recognized Sasson had created a product with huge implications for the imaging space, but uncertainties remained. So, they approached Sasson and asked him to put together an Invention Report.

Sasson presented his report to company representatives in marketing, business development, organization and research and development. The presentation was straightforward: take pictures of people and show it to them instantly, right there in the room. Sasson didn't present the camera as "digital" because, he says, in the 1970s the word carried a bad reputation. Digital was experimental, expensive, esoteric and unreliable. That's why he called it electronic. He entitled the presentation "filmless photography."

It was a bold title for a presentation about a new technology that took months to create and didn't use anything Kodak had spent 100 years developing to that point. And there was the simple fact that Sasson was presenting to "film guys." A business leader who worked with a company that processed microfiche imaging of checks attended one of the meetings and got excited about the camera, Sasson recalls. "I remember this because I wasn't used to this: he got up, he took a check out of his wallet and slammed it down on there and said, 'Take a picture of that.' Which I did and it went up on the screen. He looked at it and he said, 'Boy, not enough resolution.

If we had more resolution, we could really use this'," Sasson says. It was one of the early problems with Kodak's electronic camera: Sasson's image (http://retrothing.typepad.com/photos/uncategorized/2008/05/06/kodakplayer.jpg) didn't match the quality of Kodachrome prints. Another problem was that the camera didn't fit into Kodak's vertically integrated business system.

The major components for the film-making process could be manufactured internally by the picture company with little outside assistance, and Kodak Park (since renamed Eastman Business Park) was like a small city: the company operated its own power plant, a water treatment system, a railroad, internal trucking operations and its own fire department. Kodak even had its own gelatin plant, although contrary to popular belief, George Eastman never bought cows to create his own gelatin. The cow story was an "untrue legend," says Kodak spokesman Christopher Veronda.

So, even though Kodak was a small city in the 1970s, it didn't have the infrastructure to manufacture digital cameras. When the electronic engineering group in the 1980s and 1990s needed a camera to continue tinkering with digital photography, they would leave the plant, drive down the street, and buy a Canon camera at the local electronics shop, says Todd Gustavson, curator of the technology collection at the George Eastman House. (That's exactly what the company did in 1986 when it produced the first digital single-lens reflex camera. James McGarvey, who was a Kodak engineer, designed the imaging firmware and data storage system for the sensor and connected it to the back of a Canon. They called it the Tactical Camera

and it produced 1 megapixel images. The storage system was a black cuboid box the size of two bricks stuck together.)

Kodak in 1900 introduced its famous Brownie camera, which sold for $1. Credit: Shawn Elias

Regardless of how disruptive electronic imaging became in 1976, it wasn't as good as the company's premier film product. The image was merely 0.01 megapixel.

What struck Sasson during the presentation was that the executives didn't ask about the technology; instead, they focused on general questions about the marketplace.

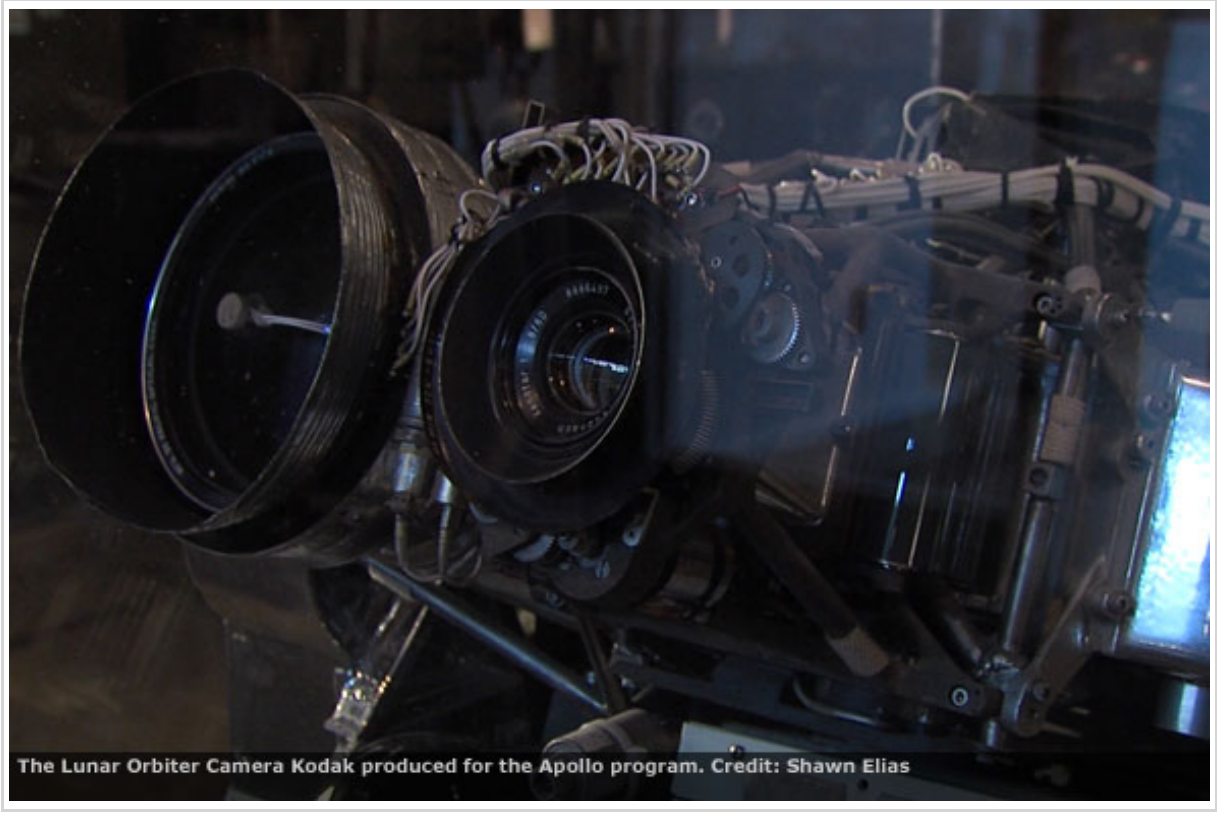
They wanted to know how soon it could be developed to market as a consumer product. "I thought they'd say, 'Gee, how'd you get the CCD to work this way? How did you get the storage to work this way? What kind of memory did you use?' We hadn't seen all this stuff pulled together in this form before," Sasson says. Another more obvious problem was that the Kodak engineer was proposing a product that bypassed the need for film -- the company's lifeblood, a lucrative business that produced 70%-to-80% profit margins for a company that once controlled 90% of the rolled-film market. This was suicide.

To say that Kodak tucked the digital camera away in order to avoid the inevitable would be misleading, Sasson says. Executives didn't kill the concept. They patented the camera in 1978 and poured significant resources into R&D on digital.

What bothered the employees working on the digital projects through the 1980s and 1990s is that they didn't receive the attention of a huge breakthrough that the employees of the film segments did. Kodak never mentioned the projects in annual reports. The company didn't even authorize Sasson to reveal he had invented the first digital camera until 2001.

Part of this may have been that management had difficulties coming up with a consumer plan for digital photography, another issue was Kodak's highly secretive culture. The company didn't want ideas being spread to competitors, so it tightly guarded research and development.

Robert Shanebrook, a former employee who worked for more than 30 years in photographic film, "touched every camera that went to the moon" and authored the only book that describes the entire process (http://www.makingkodakfilm.com/) of Kodak's filmmaking, says that if Kodak had to transport an emulsion formula for a film process to another manufacturing plant, management would separate the formula into two packages and carry each half on different routes bound for the same location. That wasn't secure enough, so each group had its own alphanumeric labels for components in the package.



The Lunar Orbiter Camera Kodak produced for the Apollo program. Credit: Shawn Elias

"This confidentiality was necessary," says Shanebrook, who worked and remains friends with Sasson. "Kodak had spent literally billions of dollars perfecting silver halide film manufacturing process technology starting in 1880. In some cases parts

per million and even parts per billion [of material added to photographic emulsion] can have a dramatic influence on a film's performance." Larry Matteson, a former senior vice-president at Kodak and now a professor at the University of Rochester's business school, says a reckless dive into the digital space had its drawbacks. For starters, it was difficult for management to justify a transition to the 3% to 4% margins of a consumer electronics business when it had been producing 70%-to-80% profit margins from photographic film sales for 100 years. Second, Kodak's earliest digital cameras were expensive, which meant that the only consumers were the government or large corporations that could afford the $15,000 to $25,000 price tag in the 1980s and early 1990s.

Kodak's first digital camera technology had outpaced the other consumer electronic technologies needed to make it work. Digital photography requires a storage system. The images are viewed on a screen, and in order to display those images, the data is pulled from a memory card, hard drive or cloud. Even if the lesser quality of digital images compared to film at the time is discounted, there were few computers in the 1980s and early-1990s with the capacity to store the hundreds and thousands of photos that consumers snapped and placed into bounded-albums.

"The price of storage is down now to about $1 a megabyte. I remember when I retired I bought a ... one gig card for $50, and now they're about $1 a gigabyte. So that 50 to 1 reduction in price of storage has become a big factor in the demise of film," says Shanebrook through his white beard, as his grey eyes peer through his double-bridged wire glasses.

Even if Kodak wanted to jump into the consumer electronic camera market, costs made it entirely unprofitable.

Digital became more affordable in the late 90s, and Kodak eventually made a huge push in the digital camera space. Matteson points out that by 2003, Kodak held the largest market share in electronic cameras, but overall revenue still only rose 0.58% that year. (Kodak discontinued the sale of digital cameras in 2012, and contracted for supply of cameras from third parties Asia Optical and Altek, Kodak spokesman Veronda says.)

So, did Kodak act too slowly? Even if Kodak had pivoted earlier to dominate the point-and-shoot digital camera boom, the company then would have needed to anticipate the rise of high resolution camera phones. Kodak's leadership understood what was happening, but it was only mismanagement in the sense that the company didn't roll out the next big idea, says Shanebrook. "They realized they've been making

the same crap for 119 years at the same site," says Shanebrook. "Tragic is probably overstating [Kodak's bankruptcy]. It's a technological change." The company didn't foresee the smart camera in the '80s and '90s, says Matteson, but Kodak R&D personnel predicted the emergence of the smart camera by 2000. Twelve years later, Eastman Kodak filed for bankruptcy.

Layoffs, the 'M' Word and an End to Prostitution

Weaknesses in Kodak's market power appeared well before digital technology started to squeeze margins in the '90s and 2000s.

Through most of its history, Kodak controlled a dominant share of the film market. The business model was fairly simply, and incredibly profitable: Give the consumer a cheap point-and-shoot camera, and sell them the film and photographic print paper at huge profit margins.

Executives took the "M"-word seriously. They were sensitive to those who uttered "monopoly" throughout the halls of Kodak, mostly because it was true, says Larry Matteson, who sits in a lecture room at the University of Rochester's business school wearing a yellow shirt, garnet and gold tie, brown blazer and thick glasses that magnify his blue eyes against an aging face.

But a number of dynamics began to challenge that monopoly status in the 1980s. "Fuji had become a considerable global competitor, making fine products, and Kodak no longer had what, in retrospect, I think, could be called a monopoly position in film, and so profits were under pressure from traditional areas," Matteson says. When asked if he can pinpoint the year Kodak began its long slide toward bankruptcy, Matteson doesn't hesitate: "1983." Kodak launched several major products in 1983, including a blood analyzer, a brand new copier product and the disc camera. The year also marked a decade since the company had released a new film format. In the 1960s, they introduced the Instamatic camera with simple cartridge-loading film and it controlled the market. The company's Web site says it produced more than 50 million by 1970. Kodak introduced in 1972 the Pocket Instamatic camera, which offered consumers greater convenience. The company says it produced 25 million of the new cameras in less than three years. When Kodak introduced the disc camera -- a camera built around a rotating disc of film -- in 1982, Matteson says it became clear by 1983 that it would not be a successful product. "Every decade was an indication of the market power. The company got to decide when the industry changed," says Matteson. "When it introduced the disc camera, the marketplace decided that Kodak no longer had the power to set those directions." The copier product, called the Kodak KAR 4000, was a system that offered computer storage of documents on microfiche.

But the graphic arts industry favored **Apple's** new PCs for their work without the burden of film. Kodak's EKTACHEM DT60 Analyzer was a desktop unit that would analyze blood inside the doctor's office. The analyzer continues to be a successful product for **Johnson & Johnson** (JNJ (http://www.thestreet.com/quote/JNJ.html) (http://www.thestreet.com/quote/JNJ.html)), but Kodak had trouble getting it started.

The health imaging segment faced major pressures in 1983 as other medical processes appeared, including CAT scans and MRIs, among others, that had been done by x-rays, but were being substituted with electronic imaging.

Matteson was running Kodak's Elmgrove plant at the time and recalls the company reduced employment in 1983 to about 17,000 from 23,000. The cuts were actually even deeper than Matteson remembers: According to a *Associated Press* article published the following year, 1984, the Rochester workforce had been cut by 7,000 employees, or 11.6%.

Sweeping layoffs were unheard of at Kodak. When asked if they could remember the first serious round of cuts, former Kodak Park employees and others interviewed for this story repeatedly mentioned 1983.

Recalling the layoffs are Phil Argento, 76, and Jack Borrille, 77, who sit at a corner booth at the back of a diner located 10 minutes west of Eastman Business Park, where the two used to work when it was called Kodak Park. A blue ball cap with a white-colored capital "K" stitched on the front covers Argento's jet-black hair. Argento says he had this replica cap made for the interview because he wore out the original one. Thick black plastic-rimmed glasses rest on his weathered face.

"Morale began going down," Argento says in a deep western New York accent. "It was not good." When Kodak started to let go employees in 1983, the company called in Argento and others to offer them severance packages. Argento says he had the option to remain, but the woman offering his severance warned the deal may not be as sweet the next year. "I think we were misled a little bit," Borrille says in a muffled tone, brown ball cap resting atop his long face. Kodak continued to offer severances to employees well after the 1983 cuts. (Some employees who were asked to leave in 2011 before the bankruptcy were offered a year's salary and a bonus.) You'd get hired and they'd take care of you, says Shanebrook, who because of his years working in Kodak's photographic film division, met many famous shutterbugs, including Ansel Adams who he used to visit at the photographer's cabin in Yosemite.

An early photo of George Eastman. Credit: George Eastman House

Kodak's custom of having offered all employees -- from the executive board to the janitors -- the most competitive salaries, benefits and bonuses dated back to its founder, George Eastman, who was known for taking care of his workers. Eastman saw it as necessary to keep the best talent in Rochester, and to keep talent from leaving and directly competing against his business. (He famously offered (http://query.nytimes.com/mem/archive-free/pdf?res=F30610F63B5C13738DDDAD0A94DF405B858DF1D3) more than $1 million to the Rochester Dental Society in 1915 to endow a Free Dental Institution and construct a building for free dental care to anyone who couldn't afford it.)

Argento and Borrille recall the 1960s and 1970s when bonuses would hit workers' paychecks. Yearly bonus time in Rochester was a bigger retail occasion than Christmas. Appliance merchants and car dealerships would roll out their biggest sales. Argento remembers local newspaper advertisements would swell, offering the newest deals for washers, dryers and refrigerators. Borrille says vehicles would roll off car lots in lines. In fact, Borrille bought a 1966 Pontiac GTO with his bonus that year.

Employees' hour-long lunches could be spent doing various activities. Kodak's Theatre on the Ridge showed movies every day and timed it so that workers could watch a full movie in three parts across three afternoons. Argento, who was a hall-of-fame fast pitch softball player for Kodak, says his managers would sometimes let him rest during the day before a big company softball game set for the evening.

It's that type of culture that left many employees shocked when rounds of layoffs started in the 1980s and continued through the bankruptcy.

Borrille says the company would hold onto you any way they could. He once wanted to become a welder at Kodak Park, but failed to pass the test to get the position. Instead, they assigned him work in the darkrooms. At one point, his managers turned him over to paint scrap cans -- where they would dispose of scrap film, or unused film -- white. When asked why they'd ask him to paint the cans white, Borrille said: "I guess because I had been working in the darkrooms. I don't know, that's how it was."

By the end of the '80s most of the commercial businesses had been affected by electronic imaging. Layoffs, **Fujifilm's** rise and the failure of Kodak's newest products to dominate the market were not unnoticed. In a special section of Rochester's *Democrat and Chronicle* in 1988 that highlighted Kodak's 100-year anniversary, the newspaper reported a meaty feature that questioned the strength of the company's photographic film business. "Photography could move to a back row in Kodak's new picture," the article headline reads. The story came shortly after Kodak that year had purchased **Sterling Drug**, a pharmaceutical company, for $5.1 billion, and two years after it had started to produce batteries. Kodak executives were not unfamiliar with making major acquisitions and venturing into products that didn't fit with the photography business. In the late 1970s, Kodak prominently featured in its annual reports accomplishments by its **Eastman Chemical** (EMN (http://www.thestreet.com/quote/EMN.html) (http://www.thestreet.com/quote/EMN.html)) division that created clothing fabrics and plastic soda bottles.

The 1988 newspaper article featured an interview with then-CEO Colby Chandler (1983-1990), who was touting the company's ability to be successful in areas other than photographic film. "In fact, Chandler said Kodak is a chemical company first, an imaging company second -- a statement that will surprise even some Kodak insiders," the newspaper wrote.

This comment came at a time when Kodak's most profitable business was photographic film.

When asked by *TheStreet* what business today could boast equivalent 80% profit margins to Kodak's former film business, University of Rochester's Matteson responds: "Prostitution. Maybe dope."

But leadership within the company, as well as Wall Street analysts failed to foretell the speedy downfall of the film business. Chandler said in the newspaper interview that he couldn't foresee a time when photography wouldn't be a big business at Kodak, but

admitted that there might be a time when it comes. A former Dean Witter Reynolds analyst told the paper: "I would expect photography as we basically know it today will still be around decades from now, and the potential profits can still be large, but it will not be a growing business, it will be a declining business."

Aerial view of Kodak Park decades before the company started to demolish buildings. Credit: George Eastman House

Kodak's photographic film business lasted just more than two decades after those interviews. Blame and criticism has been placed on Chandler and other former CEOs for not doing enough, or for making the wrong acquisitions and sales in the '80s and '90s, but that blame has had the advantage of retrospection. Kodak executives displayed an unwillingness to unwind dependency on photographic film, despite growing evidence that competitors and technology were beginning to take a significant bite from the pie. But Matteson asks: If you created Twitter and knew it would flame out in four years, would you do it? "You can't say you wouldn't," says Matteson.

The 1990s began with a new CEO, Kay Whitmore, who held the position for the shortest period in the company's history, and a stinging court defeat by rival **Polaroid**.

In 1991, Kodak concluded a landmark case in which it paid just shy of $1 billion to Polaroid for patent infringement of its instant camera technology. Kodak stopped instant photography in the mid-1980s, but the public court battle left a scar on the world's most powerful photographic film company.

"They had a whole legal department -- hundreds of people who worked day and night, three shifts to fight this legal battle," says Sue Becker, a former employee who worked there for 37 years in customer service and the warehouse. "That was a circus."

Becker says the Polaroid suit was astonishing to employees because they were surprised Kodak could have been so lax about oversight on patents and therefore "do something wrong." Kodak supporters say the company should have never lost the legal battle to Polaroid. Whitmore ascended to Kodak leadership and immediately faced dwindling revenues and profits. Revenue grew a paltry 2.8% in 1990 and 2.7% in 1991. Whitmore was responsible for half of 1990 and most of 1993, but quarterly reports during his tenure worked against shareholders. Every quarter from the fourth quarter of 1991 through the third quarter of 1993 -- the last full quarter before the board ousted its CEO -- Kodak posted negative year-over-year declines in revenue and consistently reported weak earnings. Critics pointed out that Whitmore was

reluctant to cut costs on the company's legacy film operations and was slow to embrace the growing digital revolution. Others argued that Whitmore faced a different Wall Street environment from his predecessors. Corporate governance had shifted from the 1980s idea of control to the 1990s notion of survival that demanded beating an earnings forecast. Large shareholders were complaining more vocally that they weren't well-served by company boards. Whitmore represented the so-called culture of Kodak. Former employees interviewed for this story said they had misgivings about "the culture," which they characterized as unchanging, unobtrusive and country club-like. Tim Nally, who for 24 years worked for IBM's team that took care of its Kodak account, says that during Whitmore's tenure there was one woman in the executive ranks who was shaking things up at the company. That was Katherine Hudson, who had been the director of corporate information systems and ignited a firestorm when she suggested outsourcing information technology to IBM. Hudson was dealing with three separate geographies -- Kodak Park, Kodak Office and Kodak Apparatus Division -- and they were all distinct cultures from one another. Hudson came in to reduce costs and questioned the need for three separate IT organizations across three divisions that Kodak owned and operated.

Read Next Page (#)
