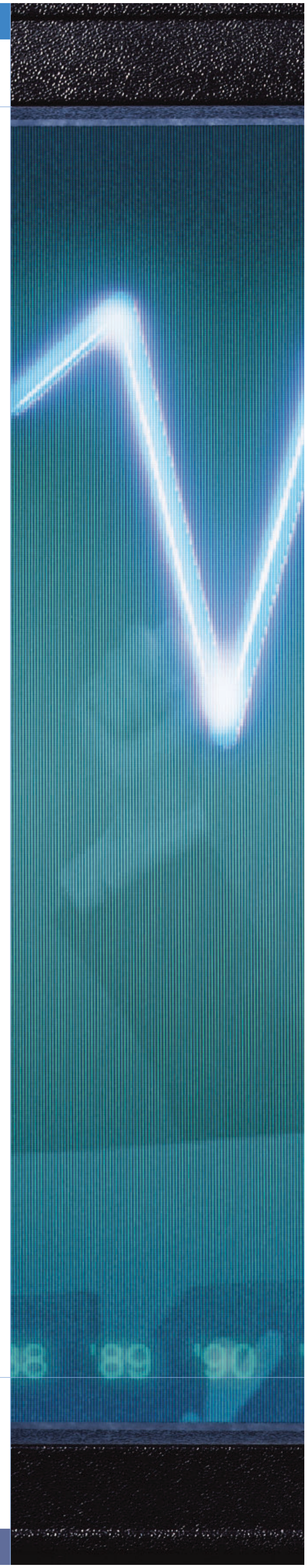
Code Blue

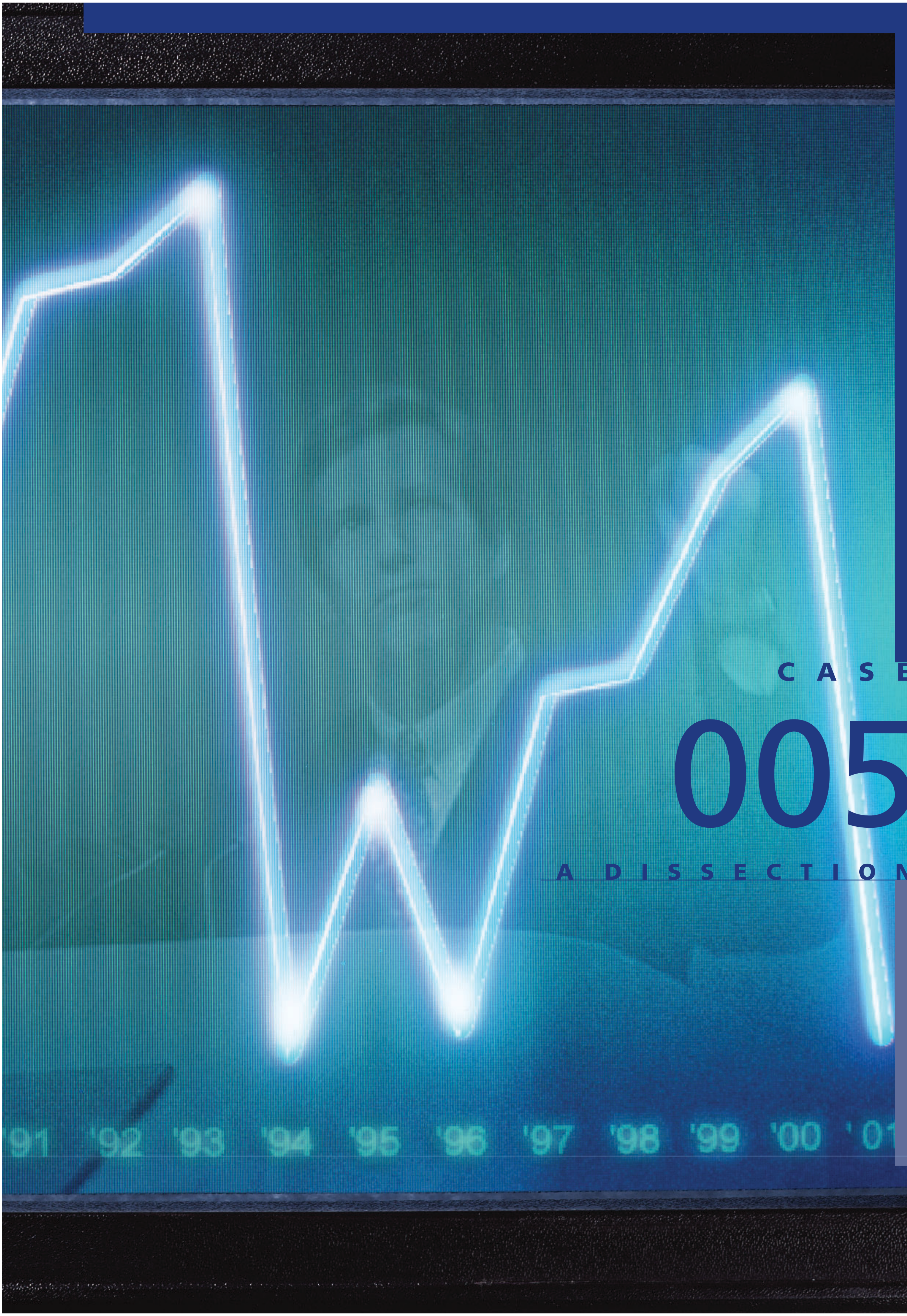
BY DAVID F. CARR AND EDWARD CONE

When Chuck Conaway took over as the chief executive of Kmart, he gave himself two years to resuscitate the discount retailer, get the right products on its shelves and make it competitive again with the new kings of general merchandising, Wal-Mart and Target. His No. 1 repair job, he said at the time, was the company's supply chain. He has 243 days to go.

PHOTO ILLUSTRATION BY HUGH KRETSCHMER



DURING THE LAST DECADE, KMART'S NET INCOME HAS FLUCTUATED WIDELY (RIGHT). CEO **CHUCK CONAWAY** IS TRYING TO PRODUCE A FAST, STEADY RECOVERY.



CASE 005

A DISSECTION

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K-MART BASE CASE

Company: Kmart
Headquarters: 3100 West Big Beaver Road, Troy, Mich.
Phone Number: (248) 463-1000
Business: Discount retailer of clothes, pharmaceuticals, general merchandise
Financials: $37 billion in sales, net loss of $244 million, net loss margin 6.6% (fiscal year 2001)
Chief Information Officer: Position open
Challenges: Fill shelves with most popular products while still in demand; lower pricing; reduce advertising expenditures while maintaining marketing impact; reduce costs; refocus stores to serve needs of mothers rearing children
Baseline Goals:
- Fix business and "make it competitive" by Aug. 10, 2002
- Keep right products in stock 95% of time, up from 86%
- Provide "super" service in 70% of stores, up from 56%
- Turn inventory 4.5 times a year or more, up from 3.6 times

September 6 may go down as a defining date in Kmart chief executive Chuck Conaway's effort to turn around the one-time king of discount stores in America. Five days before the twin towers tragedy, Conaway announced that Kmart would write off $195 million of assets held on its books that no longer had value. This included $130 million worth of supply-chain hardware and software that was being retired, and $65 million for the replacement of two outdated distribution centers. Conaway said implementing two new state-of-the-art distribution centers would allow hot-selling products to get priority treatment.

The technology write-offs were a sign that Kmart was scrapping some relatively recent investments, and even called into question Kmart's sweeping plan to work with once high-flying i2 Technologies to overhaul its supply chain.

Whether the restructuring and write-offs announced that day defined success or failure remains to be seen. But Conaway was, if nothing else, putting himself on the spot.

He had just 337 days to go.

On Aug. 10, 2000, Conaway had set his first major metric for judging the success of his attempt to revive Kmart. He said it would take 730 days—two years—to make Kmart again competitive with Wal-Mart, which had stolen Kmart's seeming birthright as the largest discount chain in 1990, and Target, which was about to sweep by Kmart to become the nation's second-largest discounter.

Setting concrete goals and meeting them is key to Conaway's method of achieving success for Kmart. "Chuck aggressively measures progress. If he's not seeing it, he's not against pulling the plug," says one consultant who has worked on Kmart's logistics systems.

GOAL: FIXING THE ACHILLES' HEEL

Which leads back to Sept. 6.

Conaway, the 40-year-old boy wonder brought in from drug chain CVS to revive Kmart's fortunes, has staked his two-year recovery plan on revamping the company's supply chain and inventory management systems. It's the biggest part of "achieving world-class execution," the number one goal he established shortly after he was hired in May 2000.

He doesn't expect to completely fix the supply chain by this coming August. But, in a Nov. 27 conference with Wall Street analysts, Conaway said Kmart was "doing a phenomenal job of reinventing" its supply chain—and that should be evident by this time next year.

The revitalization from being able to put popular products on its shelves at competitive prices can come none too soon. In the quarter that ended Oct. 31, Kmart's sales actually dropped 2.2% from a year ago, to $8.0 billion. Even disregarding the writeoffs, the company reported a net loss of $127 million, while rivals were showing profits and sales gains.

How Kmart gets products onto shelves is not its only challenge. Conaway also is fighting to create a "customer-centric" culture and to market more effectively, besides pulling people into the store with Sunday circulars.

But he has told shareholders, employees, analysts and his board that the supply chain is his No. 1 priority .

"I believe the supply chain is really the Achilles' heel of Kmart," he said in September. "Just fixing the supply chain could really turbo-charge Kmart."

September's writeoff says a good portion of what the company spent in recent years on such technology is not deemed useful any more. If this is a final clearing of the decks to make way for new systems, Conaway's ambitious plan could be succeeding. But success is not yet visible to outsiders.

"They are not dead yet, but for Kmart to get back in the game would be one of the greatest miracle comebacks, ever," says Larry Schulsinger, retailing analyst with Management Ventures in Washington. "The world can exist with more than two large mass merchandisers, and Chuck is smart enough to figure out a way to do it. But if the story ended today, they have lost."

Fourteen months ago, Kmart placed a big bet on i2 Technologies as the strategic partner that would turn its perennially underperforming supply chain into an advantage. “This represents about a $50 million opportunity—just in the beginning—for i2, and there is a tremendous amount of more work we’re going to do,” Conaway enthused onstage at an Oct. 2000 i2 user conference.

The stakes are huge. Gary Busek, who studies retail technology as president of IHL Consulting Group, estimates Kmart could add $1.9 billion to its bottom line if it could match the inventory turnover rates achieved by Wal-Mart and Target.

The number of times a company turns over the inventory in its stores and distribution network each year is a particularly crucial metric in discount retail, which thrives on high volume. Last year, Wal-Mart turned its inventory 7.3 times; Target turned its 6.3 times; Kmart: 3.6 times. And chief financial officer John McDonald says turnover will be flat, at that same rate, again this year.

Ultimately, i2 is supposed to help Kmart achieve such basic retail goals as keeping the shelves sufficiently stocked so that customers can find what they need, but without stuffing stores with an excess of inventory that Kmart can’t move.

Some of the ways i2 software can help is modeling demand for products—and what it means for keeping inventory in stock at each store and each distribution center. The software keeps track of the ability of key suppliers to fill orders, and the cost and speed of different means of transporting goods through the network.

After needs are analyzed, then instructions can be generated for executing orders, scheduling shipments, and recording the receipt of goods. If the analysis is correct and execution follows, costs of operating the network are lower and the company doesn’t have to stock as much inventory either in distribution centers or in stores. That, in turn, means Kmart can lower prices and thereby raise sales and, hopefully, profits.

The Kmart partnership was a big deal for i2, based in Dallas. I2 claims to have delivered billions of dollars of value to its customers in the past few years. The market has grown skeptical, though, partly because of high-profile snafus involving an i2 manufacturing and distribution system at Nike, which led the shoe marketer to say it missed up to $100 million in sales. AMR Research supply chain analyst Bob Ferrari sees Kmart as one of a handful of make-or-break projects for Dallas-based i2, in this case to prove it can deliver hard financial results in a particular industry like retail.

The project would be organized as “a typical skunkworks” with a cross-functional team of 500 working in a remote location and told to keep at it until the new system was finished. Conaway spoke of emulating the kind of supply chain speed of execution achieved by i2’s customers in high-tech manufacturing, such as Dell Computer. “We need to stop talking about days and start talking about hours. We have to get to that level of intensity to be world-class,” he said.

Besides speeding up supply chain processes, Conaway said he was looking to i2 to help Kmart with “micromerchandising” efforts that would allow it, for example, to make sure that a store in an area with a large Hispanic population adjusts its mix of merchandise to appeal to that population. “Great companies are going to have to look to a local customer like they’re actually a member of that community,” he said.

Now individuals close to both companies say the implementation has stalled. Kmart is not commenting. Yet, even John West, who until recently served as chief technology of-

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THE **KMART** ROSTER

Charles C. Conaway
Chairman and CEO
Role: Conaway is the driving force behind Kmart’s initiatives to overhaul its supply chain, improve customer service, and market more effectively. He joined Kmart in May 2000 from CVS Corp., where he was president and chief operating officer.

Mark Schwartz
President and COO
Role: A Wal-Mart veteran, Schwartz joined Kmart n September 2000 and was promoted to his current post in March 2001. Schwartz has taken the lead on initiatives such as shortening checkout lines and clearing out excess inventory.

Randy Allen
Executive Vice President of Strategic Initiatives and Chief Diversity Officer
Role: Allen was hired as Kmart’s CIO in September 2000 but moved to her current post in August 2001. A former partner at Deloitte Consulting, Allen was central to Kmart’s selection of i2 Technologies as a supply chain technology partner. She brought in Deloitte personnel to tailor it to Kmart’s needs.

Tony D’Onofrio
Executive Vice President and Chief Supply Officer
Role: D’Onofrio joined Kmart in October 2000 from Michaels Stores, where he was in charge of global supply chain, distribution, and logistics. He and his team halted the rollout of a custom warehouse management system and brought in a new product from Manhattan Associates.

Richard W. Blunck
CEO, BlueLight.com
Role: Blunck started in December 2000 as Chief Technology and eBusiness Officer. From the beginning he was charged with managing Kmart’s relationship with BlueLight.com and directing technical strategy for the Web commerce operation. He was named BlueLight’s new CEO in November after Kmart bought out investors and outsourced hosting and fulfillment to Global Sports. Like Allen, he hails from Deloitte.

PARTNERS

Gregory A. Brady
CEO, i2 Technologies
Role: Brady joined i2 as president in 1994. When he was promoted to CEO in May 2001, a big part of his mandate was to ensure customer satisfaction with i2 products. Brady reportedly had a hand in making the sale to Kmart in the first place. Before joining i2, he was VP of Worldwide Applications for Oracle Corp.

John West
Formerly CTO, i2 Technologies
Role: West consulted with the Kmart project team on potential changes to i2’s software, templates and best-practices guidelines that could improve the retailer’s chance of success. Recently, i2 announced West had “elected to reduce his current time commitment to the company” but would remain on in an advisory capacity.

Mark S. Hansen
Chairman and CEO, Fleming Companies
Role: Hansen is a former president and CEO of Sam’s Club, the warehouse division of Wal-Mart Stores. In February, Fleming and Kmart announced a $4.5 billion a year deal where Fleming will replenish groceries and other “consumables” stocked by Kmart stores. Success will rely on tight logistical coordination between the firms.

Jim Schuetz
Global Supply Chain Practice Leader, Chicago office, Deloitte Consulting
Role: Schuetz took overall responsibility for the relationship between the consulting firm and Kmart, including the i2 implementation.

Neil Thall
Executive Vice President, Manhattan Associates
Role: Helps Manhattan Associates address the needs of retail customers with their warehouse management and supply chain systems. Manhattan won Kmart as a customer earlier this year, displacing warehouse management vendor EXE Technologies.

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BASE TECHNOLOGIES

Kmart trumpeted a partnership with i2 Technologies as key to making its **supply chain** efficient and effective

Supply Chain Logistics

Transportation planning and sourcing	TradeMatrix (hosted service)	i2 Technologies
Supply-chain planning and management	Custom suite of i2 modules	i2 Technologies
Replenishment	Inforem	i2 Technologies
Transportation Planning	Manugistics Transportation Management	Manugistics
Warehouse Management System (old)	Custom solution (deployed in "hardlines" distribution centers)	EXE Technologies, PriceWater-housecoopers
Warehouse Management System (selected in 2001)	PkMS warehouse management	Manhattan Associates
EDI	Value added network services	GEIS
Supplier enablement	Hosted services	SPS Commerce

Sales Tracking, Demand and Merchandise Planning

Demand and Merchandise Planning	i2 offers products in this category. Kmart's commit-ment unstated	i2 Technologies
Demand Planning and Forecasting	Consumer Outlook! and Pin Point	JDA Software
Collaborative Planning, Forecasting and Replenishment (CPFR)	Extension to Kmart Merchant's Workbench (extranet)	Developed in-house
Floor space and shelf space planning	Intactix	JDA Software
Data warehouse	Teradata	NCR Corp.

Point-of-Sale Systems

Cash registers	SurePOS 700	IBM
Self-checkout registers	Self-Checkout E-Series	NCR
Sales tracking	Netfinity servers, configured as POS backend	IBM

NOTE: This point-of-sale technology rolled out in majority of Kmart stores

Inventory Tracking

Handheld scanners, wireless networking,	Multiple products	Symbol Technologies
Loss Prevention	Ultra*Max	Sensormatic

Internet Technology

BlueLight.com site management	Outsourced service	Global Sports
Intranet portal	Plumtree Corporate Portal	Plumtree Software

Operating Systems

Most Kmart enterprise systems run on IBM operating systems, including MVS, AS/400, and AIX (IBM's Unix) or on Windows NT. Kmart also makes some use of Sun Solaris

SOURCES: IHL CONSULTING, BASELINE RESEARCH

ficer at i2, admits it's not proceeding as fast as planned.

At the project's peak, individuals close to the project say the supply-chain revamp kept about 100 staff members from Deloitte Consulting customizing i2 software so that it would precisely track the movement of goods to Kmart's 2,100 stores across North America. Now, only a handful are left.

For its part, i2 says it has "multiple" applications live at Kmart. But West would name only one—a remotely hosted service called FreightMatrix, which Kmart is using for inbound transportation planning and sourcing. The slow pace may result in part from a possible absence of leadership. Randy Allen, the CIO whom Conaway hired away from Deloitte just a year ago, was reassigned in August to become executive vice president, strategic initiatives and chief diversity officer. No replacement has been named.

Allen was Kmart's fifth CIO in seven years. In contrast, when Randy Mott left the CIO's post at Wal-Mart in early 2000, he had been at the company since 1978 and taken over its top IT job in 1994. Successor Kevin Turner has been with the company since 1985 and served as assistant CIO since 1998.

Conaway's intense push comes even as Kmart's financial performance weakens. Lone among the major discount chains, Kmart reported a loss last year, of $244 million on revenue of $37 billion. By comparison, Target reported a $1.3 billion profit on nearly identical revenue of $36.9 billion. Wal-Mart, which has blown by Kmart in size and success, earned $6.3 billion on sales of $191.3 billion.

This fall, the stress of war and recession have actually boosted sales for competitors. But not for Kmart. Its sales dropped 4.4% in October at stores open at least a year. Same-store sales improved 6.7% for Wal-Mart and 2% for Target.

On those reduced sales, Conaway also is making it tougher to squeeze out a profit. He has mandated price cuts on 38,000 of the 95,000 products that Kmart stocks in its stores. He wants to cut prices on another 12,000, to stay competitive with Wal-Mart, the most efficient player.

This strategy aims to let Kmart cut back on the use of newspaper circulars and sales to draw customers to stores. But when Conaway reported Kmart's third quarter loss of $224 million on Nov. 27, he said "there's no doubt we made a huge mistake by cutting too much advertising too fast." Although "regular sales" not associated with any promotion rose 12% in the period, it wasn't enough to make up for the loss of traffic associated with advertised promotions.

Beyond that, the price cutting is meant to be a "pay as you go" program, meaning greater operating efficiency pays for the lost revenue. That's where the supply chain overhaul comes in.

On Nov. 27, Conaway said he expects changes that will provide real-time data throughout the supply chain to be completed by July 2002. He also reported progress with the integration of separate systems for distributing "hard" goods such as appliances and "soft" goods such as apparel. The updated system will allow any product to find the most efficient route to its destination, cutting lead times by 14 days.

Conaway said it has cut back the number of its suppliers by 25%; and, that a change in how it pays for supplies resulted in some invoices being dropped. The upshot? There may be other "bumps in the road" to come. "That's the reality of the massive change we're going through," he said.

Still, where last year a congested distribution system forced Kmart to choose between shipping toothpaste or

Christmas trees during the holidays, now shipping capacity has been expanded from 900 to 2,000 trucks per day, Conaway said. At the same time, replenishment systems are being tuned so that bulky items such as pillows can be held at Kmart's distribution centers, rather than taking up space in the backs of stores, he said. Further, where last year 60% of the merchandise was being allocated to stores by central planners, today 60% is pulled to the stores in response to sales, he said.

But Conaway and other Kmart executives, while upbeat and insisting their initiatives are "on track," refused repeated requests to discuss the overhaul of its supply chain, in detail. Kmart Director of Corporate Communications Jack Ferry would say only that it's a "work in progress."

GOAL: SPEND MONEY WISELY

There would be few questions of detail if Kmart over the past two decades had managed to keep pace with the competition in the technology of retailing.

Through a combination of business missteps and IT breakdowns, the company that managed to discard its five-and-dime store heritage and pretty much invent the large discount store format has been left in the dust by one prime competitor, and is about to be passed by another. Wal-Mart and now Target are outperforming Kmart and, not coincidentally, using industry-leading technology in the process.

As early as 1983, Wal-Mart spent two cents of each dollar of sales on getting goods to its stores. Kmart's costs were a nickel, according to "In Sam We Trust," a chronicle of the competition by former *Wall Street Journal* writer Bob Ortega.

"What this meant, of course, was that other costs aside, Wal-Mart could sell its goods for about 3% less than Kmart and still enjoy the same profit margin," Ortega writes.

Wal-Mart continued to press its advantage. In 1990, it eked by Kmart in size for the first time, $32.6 billion in sales for the year, versus $32.3 billion reported by Kmart at the time. Since then, Kmart has added just $4.7 billion in annual sales. Taking out inflation, Kmart has actually declined in size, to $27.6 billion, in constant 1990 dollars. Meanwhile, Wal-Mart, even allowing for inflation, has increased 4.5 times in size. By the calculation of theStreet.com, Kmart would need 21 years to earn what Wal-Mart earns in one quarter.

If Conaway hopes to revive Kmart through technology that improves the manner it which it stocks its shelves, his

KMART TURNS ON THE TECHNOLOGY: How its performance checks out

Case 005: A dissection

90

Kmart completes the installation of price-scanning and satellite data transmission systems in more than 2,200 stores. CIO David Carlson boasts this is the fastest installation of such UPC scanning in retail history

Wal-Mart overtakes Kmart in size

91

Kmart announces it is using handheld scanning terminals and wireless products from Symbol Technologies for inventory management in more than 200 stores

Kmart orders 1,500 Unisys Unix systems, in addition to 1,000 already ordered, to be deployed as point-of-sale servers in stores

92

2,000th vendor joins Kmart's electronic data interchange (EDI) network, making it one of the largest ordering networks in retailing

Kmart wins a Computerworld Smithsonian award for latest incarnation of internal net for merchandise planning, tracking and replenishment

93

Kmart gets out of the wholesale club business, selling 91 Pace stores to Wal-Mart and closing the rest

Internal report finds few Kmart employees use their computers effectively and outdated data is causing cash registers to ring up incorrect prices

94

David Carlson ends lengthy tenure as CIO, leaving as the IT department becomes a target for cost-cutting

Virginia Rago named new CIO, bears down on costs and plans to move store systems off the Unix operating system and onto Windows NT

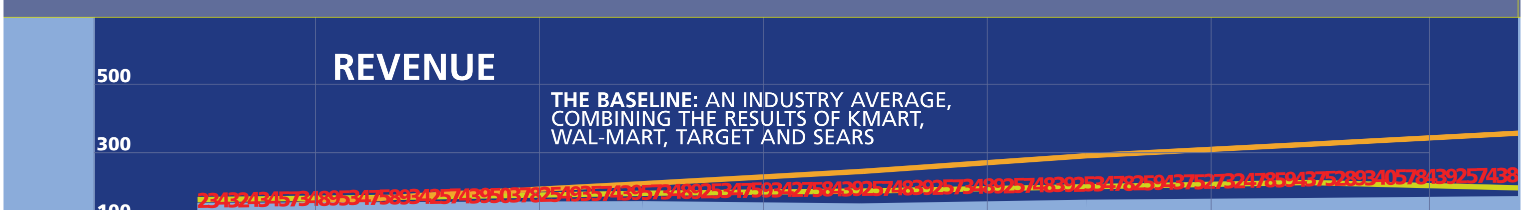
95

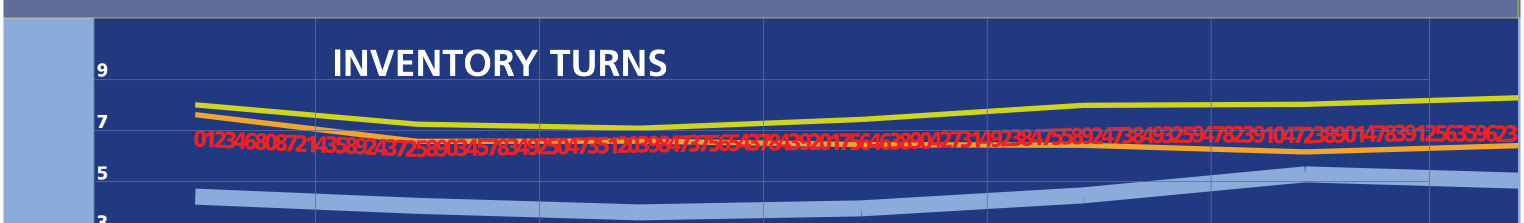
Joseph Antonini resigns as CEO

Floyd Hall, formerly of Target, becomes CEO

Hall closes 72 stores, cuts 5,800 jobs

Don Norman replaces Rago as CIO





SOURCES: THOMSON FINANCIAL, DAYTON HUDSON CORPORATION, KMART CORPORATION, SEARS ROEBUCK AND CO., WAL-MART STORES, INC. RESEARCH ASSOCIATE: LIZ BENNETT ability to juggle competing interests will be key. Because at the same time the company is reshaping how it gets goods into its stores, it is reshaping the stores.

Prudential Securities expects Conaway to bump Kmart's capital spending up by more than one-third, to $1.9 billion, by 2004 in order to convert stores to a larger format called the Super Center, which includes groceries.

After all, Wal-Mart is now the nation's largest grocery chain. "Look out 10 years from now; the discount stores we know will be a relic," says Prudential Securities analyst Wayne Hood.

Cash could be tight as Kmart tries to upgrade about 800 stores at the same time it's revamping its software. But this is a juggling act Kmart has dealt with before. "Kmart has always had a clash of what the IT guys knew they needed, and the spending of money in other parts of the business," says Hood, who nonetheless downgraded Kmart shares this summer on worries about its ability to fund from cash flow all the initiatives it needs to pursue. "There is the potential now to get into some risk of spending in the wrong place."

Making the necessary investments is not easy for a public company, especially if you're reporting losses, says Jim Dion, president of Dionco, a retail consulting firm in Chicago. "Wall Street today really does control a tremendous amount of what you are capable of doing or are allowed to do. Decisions, rather than being made for the long-term health and growth of the company, are made for the very short term."

Particularly in its early days, Wal-Mart was able to maintain a long-term focus on driving high volume through a low-margin but operationally efficient business.

So it made continual investments in its distribution network and pioneered the use of technologies such as Universal Pricing Code scanning among non-grocery retailers. Because the family of founder Sam Walton held a large share of the company, Wal-Mart would spend the money even when it cut into the profits it could report. Only Walton had to be convinced it made long-term sense. "Kmart doesn't have that luxury," Dion says.

Kmart has few technological luxuries to enjoy. It has tried various ways of spurring interest in its BlueLight.com Web site. But in July, it became the only believer, buying back the minority interests of Softbank Venture Capital, Martha Stewart Living Omnimedia and Internet portal Yahoo. Kmart paid $15 million in cash and 6 million shares of stock for the privilege and took a charge of $100 million.

96

Kmart joins the National Information Infrastructure Testbed and commits to developing a pilot "Retail Store of the Future"
Teklogix completes installation of multi-million dollar wireless communications system at 13 Kmart distribution centers

97

Norman considers merger of separate information systems that deliver hard goods and soft goods to stores
Also subject to streamlining: four different cash register systems. Stores served by two different systems from IBM; and one each from NCR and Fujitsu

98

Kmart experiments with Collaborative Planning, Forecasting, and Replenishment (CPFR) to enhance its vendor-managed inventory
Kmart introduces www.kmart.com, its first secure Web site
Don Norman leaves. Laurence Anderson serves as interim CIO for more than a year

99

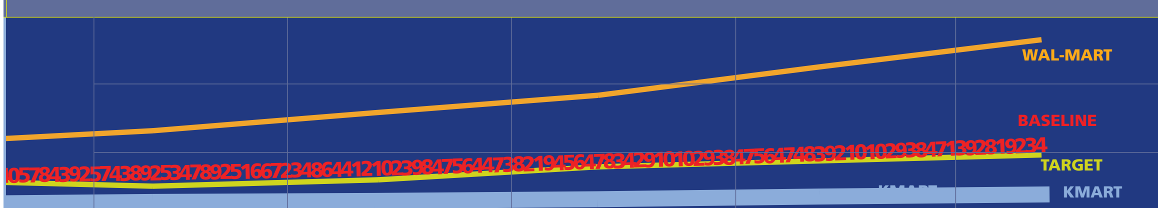
Joseph Osbourn, formerly of Disney, becomes CIO
Kmart teams with Softbank Ventures and other investors to create BlueLight.com. Mark Goldstein signs on as CEO of the Web business

00

Floyd Hall retires
Chuck Conaway, of the CVS pharmacy chain, becomes CEO
Conaway promises company turnaround by August 2002.
Randy Allen, of Deloitte Consulting, named CIO
Kmart announces strategic partnership with i2 for overhauling the supply chain

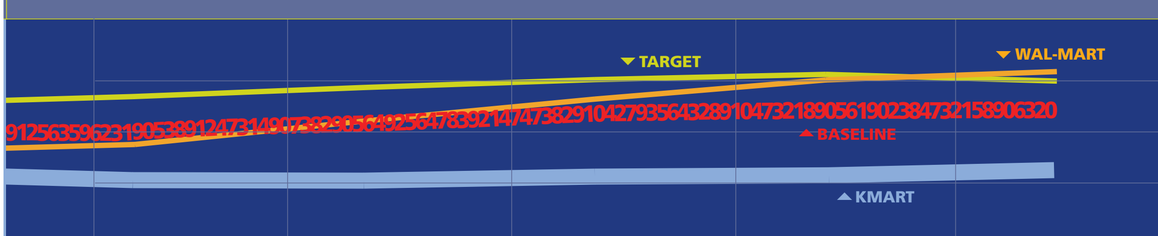
01

Kmart to buy out its BlueLight.com partners
Randy Allen is reassigned to Executive Vice President Strategic Initiatives and Chief Diversity Officer
CIO job is vacant
Kmart announces $195 million writeoff, including $130 million for supply chain systems that will no longer be used



GOING OVER THE TOP

Wal-Mart and Kmart were the same size in 1990. Since, Kmart has grown far slower than its rival or the industry



DELIVERING THE GOODS

A key to efficient distribution and retailing is turning over your inventory quickly. Kmart is getting better, but lags its rivals significantly

In return, Conaway says Kmart has been able to cut operating expenses by about 25%, by outsourcing the site's technical operations and order fulfillment.

However, integrating BlueLight.com into its stores has been difficult. Taking orders from kiosks has had little impact on sales.

At some stores, like a Kmart in Manhattan that *Baseline* visited, the kiosks have been turned off; at other locations they're running, but only able to access a small subset of the custom Web site with which they were designed to work.

An electronics department manager at a Super Kmart in the Midwest says the kiosks for a time had been fairly popular. If customers couldn't find something on the shelf, he'd encourage them to check the online store. Sometimes, they'd wind up ordering other items, such as flowers.

But now he doesn't know what to tell customers who ask about the device, which now will only display a "Store Locator/Pharmacy Refill" screen.

Joseph Chang, who was formerly director of Web development at BlueLight.com, says the kiosks were responsible for a single-digit boost in sales for the Web commerce operation, but did fall short in terms of integration with store operations.

Ideally, he would have liked to produce a Web application linked not only to the inventory of the dot-com store but also to the inventory of the store where the kiosk user was standing. Then you could have had a kiosk that could not only tell you that an item was available online but also that it was available two aisles over.

"That would be an extremely useful device, and we had pretty good people at BlueLight who wanted to achieve these goals," Chang says. "The supply chain management wasn't tight enough to give us" that capability.

GOAL: MAKE STORES COMPELLING

Of course, making BlueLight.com efficient pales beside the need to make stores more effective.

Conaway wants Kmart's supply chain to be second to none, and the revamp was supposed to start in early 2001 with the "rapid, methodical rollout" of the dozen business releases, and 93 distinct improvements by August 2002.

Following the methodology prescribed by i2, a "business release" aims to achieve an incremental improvement in business efficiency, which may be based on partial implementation of several modules.

For example, the first business release might include implementing the basic features of supply chain and inventory planning modules, in concert with changes in the ways goods

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GOTCHA!: SUPPLY CHAIN MANAGEMENT SOFTWARE

Did you know that:

Supply chain software relies on modules that can be assembled into "templates" serving particular industries? But all templates are not created equal.

Templates guide users through a workflow that covers each phase of the implementation.

"As long as you adhere to the guidelines, you get a feasible system," says i2 Technologies executive VP Pallab Chatterjee.

According to Gartner, i2 has delivered solid templates for the high-tech manufacturing and semiconductor industries. But customers in retail, process manufacturing, transportation, and high-volume distribution should expect to invest in joint development of systems to fit their needs.

Many i2 users ***Baseline*** spoke with are implementing one or two applications, rather than buying an industry template. "You really have to take it one module at a time," says one user.

The problem with power tools is it's easy to cut yourself?

The biggest danger newcomers face is becoming intoxicated by possibilities. "You can't do everything at the same time, and even if you could, you can't manage it," says J.B. Hoyt, supply-chain director at Whirlpool Corp. and chairman of the i2 Users Group.

The i2 Supply-Chain Planner that one apparel company uses is flexible enough that the company has configured it to handle day-to-day scheduling, rather than just the advanced planning functions for which it was designed. Because it's trying to serve two different functions, the system wound up being unnecessarily complex, the user says. Adding a separate scheduling system would probably work better.

The advanced planning software at the heart of supply chain management is inherently memory-hungry? It's easy to exceed the capacity of your hardware.

Planning modules work best when they can load all the variables into memory at once, rather than fetching data from a database.

That memory-resident approach can stretch the software's limits in retailing, like at Kmart. The complexity of the model grows as a multiplier of the number of products the retailer stocks, the number of locations, and the number of time periods covered. Server memory can be outstripped, easily.

You may have to cut back your ambitions by deciding to model 12 months rather than 18, for example. Or buy more hardware.

One retail member of the user group complains that i2 keeps telling him "to buy about $3 million worth of hardware," which his company is not about to do.

Problems can be solved with less memory, by breaking them up and solving them in pieces, Chatterjee says.

You have to feed your supply chain system the right data, and it has to be clean data?

Small inaccuracies and inconsistencies present in your legacy data for years suddenly become major problems. If data isn't formatted the way the system expects it to arrive, you don't get the answers you're looking for.

Defining and redesigning processes often takes longer than anyone expects?

Projects stumble because the existing logistics or planning processes have never been documented properly.

"I've heard from several retailers that this issue of defining processes, making sure they're accurate, and cleaning them up can turn a one-year project into a three-year project—it really can be that bad," says AMR analyst Randy Covill.

When LTV Copperweld brought in i2 Factory Planner, shop workers rebelled. Because they believed management used production data in the past "as a club to beat them with," it was hard to convince them that the data the new system required them to collect really was needed to drive efficiency, says Judi Malec-DiGioia, co-founder of the user group (**www.i2-usergroup.org**).

Just because they're called "modules" doesn't necessarily mean they were built to work together?

Many "modules" in supply chain software libraries were originally separate products acquired by the vendors to round out their offerings. Without major architectural changes, these products don't necessarily integrate together without some help. For example, i2 repeatedly attempted to build its own integration technology to connect its modules, the last effort producing an "Active Data Warehouse" to act as a central repository for data. With version 5.2 of the i2 system, the company abandoned its technology in favor of integration software from WebMethods.

are received at distribution centers. The second business release might include an aggressive calculation of how many kitchen appliances or tennis rackets might need to be kept in distribution center inventory, building on the efficiencies created by the first release. In this manner, Conaway hoped to march steadily toward his goal of world-class supply chain performance.

But the project is not going that smoothly. "[The project at] Kmart is definitely not dead," insists i2's West. "But they definitely have challenges."

Kmart is under pressure to show bottom-line results, West says. Part of how i2 sold this project was with a "value assessment" of the results the project would deliver.

"They're having trouble getting it to work so that they derive the value they were expecting," West concedes. "We're looking very hard at how can we help them get this implementation to where they want it to go."

While he admits to some difficulties, West maintains the project has slowed down or stalled because of "operational issues" at Kmart, not because the software didn't work. He wouldn't be more specific. But supply chain overhauls face some common hazards.

Covill, the senior retail analyst at AMR Research, says these hazards include the difficulty of combining new software with systems a company has long used, cleaning up data so it produces useful results, and the need to define and, often, redesign business processes [See "Gotcha!," p. 38].

Kmart may also have underestimated the difficulty of the task when it agreed to partner with i2 on the joint development of a retail distribution system, says Gartner analyst Karen Peterson. "They had scads, hundreds of Deloitte people in there, and it got so expensive that they had to cut back," she says. "One of the things we've seen with i2, is that they often seem to be using consulting resources to do things that i2 should have done in the first place."

"It's more people and processes than it is the technology," says Judi Malec-DiGioia, one of the founders of the i2 User Group, an independent organization that works with the vendor. "You could actually do a lot of this stuff without software, but what the software gives is the rapid reconfiguration of your planning."

GOAL: AVOID DATA OVERLOAD

Implementations of i2 software tend to stumble for reasons that have nothing to do with the software itself. "If the data's not right, it's not that it doesn't work in i2—it's just that you won't get the answer you want," says another user group member. "They've got a great product. Where they are weak is they've got to interface with every system that ever existed."

Like many of the major supply chain software vendors, i2 cut its teeth in manufacturing and is still learning the retail industry. Retail has proven particularly challenging for many enterprise software vendors, not just for i2, Peterson says.

The number of products produced by even the largest manufacturers tends to be dwarfed by the number of different products, known as stock-keeping units or SKUs, that a mass market retailer must track.

To give some idea, if Kmart is carrying about 70,000 SKUs on average in 2,100 stores, that's 147 million item-location pairs for starters. That doesn't even count distribution centers or the number of time periods that have to get tracked.

A weak point of i2's software, users say, is that it can choke on very large data sets because it tries to load the entire supply chain model into memory. I2 says the latest release has a more modular architecture that minimizes the amount of data that needs to be loaded into memory. But users say it's still an issue.

I2 can point to retail customers such as Home Depot and Barnes & Noble that have had success with its software. Yet one member of the i2 User Group's retail special interest group reports a mood of simmering discontent among his colleagues. "I think we all have the same fear of telling people what's going on, which is that i2 has done a poor job of promising something that will actually work for retail and not delivering," he says. I2 customers in industries such as aerospace or computer manufacturing have better luck overcoming the difficulties that crop up during an implementation, he contends, "but those people have really, really deep pockets and high margins—and retail doesn't have that."

When asked what the company was doing to ensure it has happy customers in retail, Bernard Goor, i2's vice president of retail product marketing, disputes the very idea that there might be unhappy customers. And he says i2 continues to have a good relationship with Kmart.

"There is so much misinformation out there about our relationship with Kmart that it's scary," says Goor. "We have an excellent relationship with Kmart."

GOAL: MAKE AN IMMEDIATE DIFFERENCE

Conaway came into a company in decline and immediately made changes. He shook things up by luring talent from other companies, including Wal-Mart veteran Mark Schwartz, the chief operating officer highly involved in tech projects, and ex-CIO Randy Allen, who came from Deloitte. The famous Blue Light Special that defined Kmart's public image for years was revived, and Wal-Mart's "everyday low prices" message was cloned with a promise of "low prices every day."

The new team also pushed hard to clean up and modernize dingy stores and improve customer service. "Customer service is going to be at the top. We're going to measure that and we're going to tie incentives around it," Conaway said.

He instituted a system of regularly polling customers on their experiences and using their responses to create a "super service index" for each store. This metric has proven its worth. The 200 stores with the highest service scores record sales that are about 2% higher than the rest, he said during an August call with analysts.

As part of this effort, store employees were told to get serious about opening a new register whenever more than three people are in line. To help, new IBM cash registers and NCR self-checkout terminals were introduced at many stores. Now, customers in some stores handle 70% of checkouts.

"We're investing in more self-checkout registers. No one would have thought one year ago that Kmart would be leading in any technology initiative, but this is something we tested and really saw promise in," said Conaway to financial analysts at Kmart's second quarter earnings call. "Now, we're seeing our competitors follow our lead."

There are logistics and supply improvements, as well. The rate of in-stock items has risen to 86% at the end of October, with a goal of 90% by the end of January. In 2000, Kmart got rid of nearly 15,000 truck trailers full of excess inventory that had been left parked behind Kmart stores because there was no space in storage rooms, let alone on shelves.

HOW KMART MEASURES PERFORMANCE

Measure	Current	Goal
Super Service Index	57%	70%
Store inventory turnover (annually)	3.8X	4.5X
Distribution center inventory turnover	4 times a year	12 times a year
Products in-stock	87%	95%
Checkout "rings" per minute	12	16
Theft and loss, as percentage of revenue	2.50%	1.50%
Clearance markdowns, as percentage of revenue	6.10%	5.00%
Event markdowns, as percentage of revenue	9.50%	4.00%
Accounts payable to inventory ratio	36%	60%
Earnings before income tax, as percentage of revenue	1.80%	4%

SOURCE: KMART

PROJECT PLANNER

ABOUT TO LAUNCH A SUPPLY CHAIN OVERHAUL? HERE'S SOME HELP IN GETTING STARTED (SEE FOLDOUT).

Conaway says part of the reason Kmart could trim the "shrink" rate for lost or stolen merchandise from 3% to 2.5% was eliminating storage in those poorly-secured trailers.

Inventory got bloated, analysts say, because of the company's reliance on newspaper circulars during former CEO Floyd Hall's regime, to promote sales. Advertising specials on lots of different items each week meant pushing lots of new products into stores each week—and then hoping they'd sell.

"It was a culture out of control. The reliance on the circular became like a drug, with more pages and more items being added," says analyst Hood.

GOAL: FIND GOOD PARTNERS

Kmart has been able to strengthen its supply chain in some ways that have little to do with the i2 project. One example is its decision to take advantage of the food distribution expertise of The Fleming Companies—owned by investor Ron Burkle, who has also bought a 9% stake in Kmart—with an exclusive contract to replenish the grocery operations of all Kmart Super Centers. "Kmart didn't have the infrastructure to do it, so they outsourced it to Fleming," says Hood.

But Kmart still needs to get its technology right, so it can accelerate the effects of successful partnerships. Gartner's Peterson compares IT to "the Valvoline motor oil" that makes a car run smooth and fast. "But you have to have the car anyway," she says. "You have to have the business processes and the executive drive. Wal-Mart has proven itself to have very good logistics processes and very good processes in general."

Wal-Mart's supply chain still runs primarily on homegrown software. The commercially available packages for retail didn't exist when those systems were being built and are still relatively immature today, Peterson says.

Kmart planned to grease the wheels with the i2 project. The original plan? I2 would use the Kmart project as the template for the retail industry. I2 would then be able to sell generic modules to other retailers and customize them. That's standard operating procedure for i2, but it has its hazards, says Peterson. "It always tends to take a little bit longer than expected."

Now, Conaway may have grown impatient. I2, which says progress has slowed down, could be fighting to stay in the game at Kmart. One clue: Vendors who a year ago couldn't get their calls returned, now are getting in the door.

For instance, Kmart bought Manugistics' transportation planning software several years ago, but certainly didn't make the kind of strategic commitment it later made to i2. "Now we're in the very early stages of talking to them about upgrading to some of the current releases," says Jerry Blanford, vice president of retail sales at Manugistics.

Kmart has declined to specify whether i2 software was in any way part of the September write-off of supply chain investments. Financial analyst Marie Driscoll says only, "they're scrapping the stuff done in the last five years that was kind of done on an ad hoc basis," she says.

The only software component of the write-off that Kmart did confirm was a warehouse management system licensed from EXE Technologies in 1997. The EXE system had been heavily customized since the initial purchase, and the decision to drop it may have had more to do with the expense of maintaining the custom parts of the system, than with the EXE product itself, said a Kmart spokesman.

I2's West says the important thing is that his company is focused on helping Kmart work past its implementation challenges. "The real challenge is standing behind your product and making it work," he says. Even though i2's software got blamed for up to $100 million in missed sales at Nike, West notes i2 ultimately did get the $400 million system up and running for the sportswear maker.

But AMR analyst Covill said i2 paints a broad vision of what it can do for customers, which is a weakness in a weak economy. "Buyers are much more focused on immediate return on investment and on lowering expenses," he said.

GOAL: ESTABLISH CONSISTENCY

If Kmart has failed to implement a consistent technical strategy, it may be because IT leaders have changed so often.

The company has had five CIOs since 1994 including the recently reassigned Allen. "New management isn't going to say, the last guy was doing it right," says analyst Schulsinger. "You have to earn your big paycheck, so you scrap whatever momentum there was."

Dave Carlson, who served as Kmart's CIO from 1986 to 1994, says one of the major supply chain initiatives he would like to have undertaken was the unification of the separate computer systems for the Kmart distribution systems used for soft and hard goods.

But the project was deemed too costly. "It meant you could never have a report that would have a single view of what was going on," he says. Only now, under Conaway, is the unification of the two systems happening.

Despite that flaw, Carlson's team won a Smithsonian award for a system that allowed for central planning of an automated replenishment schedule, while still allowing store managers the authority to override the forecast. The IT department also worked to support initiatives such as a program where vendors managed inventory in stores, helping conserve on merchandising costs.

But Kmart had deeper problems with merchandising management, Carlson says. The company had fallen into the habit of expanding the variety of products it sold without paying enough attention to which items produced the most sales. IT could design the data warehouse and produce the analysis showing what products were gathering dust on the store shelves, but store managers had to decide what to do with that information. Unfortunately, they chose to ignore it, he says.

Carlson was forced out during a crackdown on IT spending that cost roughly 250 workers in the department their jobs. His departure was also part of a larger management shakeup that stretched to the top of the company when then-chairman Joseph Antonini was replaced, after his strategy of expanding into the specialty retail business failed. Antonini bought the Pace warehouse clubs and made an unsuccessful run at Sam's Club, the warehouse store division of Wal-Mart. At one time, Kmart also owned "category killer" chains in different product niches in retailing, the Sports Authority, OfficeMax, and Waldenbooks—all of which it was eventually forced to sell off. Meanwhile, the core stores—Kmart outlets—were suffering from inattention.

Carlson was the only former CIO who agreed to speak for this report. Successors took new tacks, but enjoyed comparatively short tenures.

Virginia Rago became CIO in December 1994. She and Carlson waged a public debate in the trade press about her belief that there was plenty of fat to be cut in Kmart's IT department. She also gained attention for her plans to convert store systems from Unix to Windows NT as one money-saving tactic at a time when NT's suitability for enterprise use was unproven.

By December 1995, Kmart had another CIO, Don Norman, who adopted a philosophy of gradual evolution of the existing systems rather than wholesale replacement.

Some of Rago's initiatives, like the move to Windows NT, were put on the back burner. Early in his tenure, the Montgomery Ward and Ames alumnus did talk about improving integration between the different distribution center systems. But Norman left in July 1998 for a job at Harrod's, the British retailer.

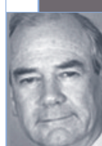
The CIO job went vacant for about 13 months, with Laurence Anderson filling in on an interim basis in addition to his role as president of the Super Kmart division.

Kmart hired Joseph Osbourn, formerly vice president of information systems at Walt Disney World in Orlando, as CIO in September 1999. By the following year, Kmart had a new CEO. Conaway replaced Osbourn with Randy Allen in September 2000, about a month after launching his two-year turnaround program. Less than a year later, Allen was reassigned and Kmart was again looking for a new CIO.

STAR SEARCH

David Carlson
CIO
Hired: July 1985

Virginia Rago
CIO
Hired: Dec. 1994



Don Norman
CIO
Hired: Dec. 1995

Laurence Anderson
Interim CIO
Hired: July 1998

Joe Osbourn
CIO
Hired: Sept. 1999

Randy Allen
CIO
Hired: Sept. 2000
Reassigned: Aug. 2001

The revolving door in the CIO's office can't help Kmart in terms of continuity on its supply-chain projects. At some point, talented people ask themselves if signing on as the sixth CIO in seven years is a wise career move.

"Good candidates will ask what's wrong with a position that stays unfilled, or turns over often," says John Koopman, a partner with search firm Heidrick & Struggles in Toronto, in assessing situations similar to that faced by Kmart. "No good executive wants a one-year assignment, even for a lot of money. That doesn't further anyone's career."

The highly regarded CIO of one national retailer is more blunt: "They could certainly find someone in between jobs that would take it, but I doubt that anyone would leave a good job."

Plus, at Kmart, revolving doors seem to abound. On Nov. 9, Kmart announced that CFO Jeffrey Boyer, brought in from Sears, had resigned after only six months on the job. Earlier this year, chief marketing officer Brent Willis, brought in from Coca-Cola, departed after four months. Andy Giancamilli was appointed president and chief operating officer in July 2000 by CEO Chuck Conaway, and resigned in March 2001.

The current CIO search began when Randy Allen was reassigned from the post in August. Big-time jobs like this one commonly take several months to fill, although two vacancies ago, it took Kmart more than a year to name a new CIO.

Of course, money can talk. Chief operating officer Mark Schwartz, who succeeded Giancamilli and is overseeing some of the IT effort, received almost $4 million in compensation last year. And there also would be the glory of turning around Kmart, after decades of trailing in technology.

One search firm executive says he would recommend going after an experienced CIO who was willing to try for "one last hurrah—five years and take the money."

CEO Conaway, who received $14.2 million in salary, bonus, and other compensation last year, may be the guy to bring in the talent.

To replace Boyer, he promoted John McDonald, whom Conaway brought over from CVS where the two had success building one of the nation's top pharmacy chains.

Conaway's own lack of experience in a chief executive spot reportedly gave pause to some on Kmart's board, but his strong personality and his track record at CVS—engineering acquisitions that made it the second-largest drugstore chain—won over the skeptics. But success can be fleeting. Disappointing third-quarter numbers at CVS caused its stock to drop 23% in one October day. The company said it will close stores and distribution centers, and improve service.

Conaway makes himself highly visible to his IT staff, frequently appearing at departmental meetings-cum-pep rallies that are held at least once a month. And when he isn't there, Schwartz is, firing up several hundred people as music blares in an auditorium or cafeteria. "It's informational and it shows that he truly supports our group," one Kmart insider says.

Also part of the boss' modus operandi: Leaving a company-wide voice mail each week to update people on good news and bad.

Conaway, 40, who has regaled the media with tales of bow-hunting exploits in Africa, may lure a CIO through this kind of adeptness in pumping up Kmart's staff at the same time he shakes up its promote-from-within culture. "He's a good inspirational leader," says one IT-department insider at Kmart. "IT is getting more of a focus on having a world-class organization that will be customer-centric, as opposed to a bunch of techies sitting in the basement." –D.C.

Former BlueLight.com CEO Mark Goldstein says the move lets Allen focus on what she does best, and, removes issues for a successor coming in. "This is going to be a much better place for a new CIO to come in right now because they have their strategy in place, and they're looking for someone to implement it," Goldstein says.

But turnovers hampered Kmart's ability to execute a consistent technology strategy. For example, a consultant familiar with the EXE warehouse management implementation noted that it was begun under one logistics executive, continued under a second, and axed by the current logistics leader, Executive Vice President and Chief Supply Chain Officer Anthony D'Onofrio.

Another program that seems to have been sidetracked by the churn in people and strategies is Kmart's Collaborative Planning, Forecasting, and Replenishment program. CPFR is a set of technical and business process standards designed to help retailers and their suppliers work together on sales forecasts, promotional plans, and keeping products in stock. Wal-Mart provided a lot of the impetus. Back in 1995, Wal-Mart had proven the concept with a pilot project, working with Warner-Lambert to boost in-stock rates of Listerine mouthwash from 87% to 98%, cut the lead time for orders from 21 to 11 days, and boost sales by $8.5 million.

Kmart began pilot projects in 1998 on similar systems. For example, Kmart and tissue maker Kimberly-Clark reported they were able to achieve a 14% increase in sales and boost in-stock rates from 86% to 94%, without an overall increase in inventory. Other participants in Kmart's CPFR program included Procter & Gamble, Colgate-Palmolive, Pharmavite and Bell Sports.

Art Karrer, CPFR project manager at Pharmavite, says the program currently covers about 30 top selling items that account for half of the vitamin maker's sales volume at Kmart. He says Kmart's sales forecasts are now 36% more accurate—and the discounter doesn't have to buy as much product to satisfy customers.

By early 2000, Kmart was talking about expanding the CPFR program from 48 suppliers to more than 200. But that never happened, apparently because Kmart changed the CPFR program's technical underpinnings. The early pilots had used Syncra ct, the hosted version of the software from CPFR specialist Syncra Systems. Syncra's software allowed retailers and suppliers to work together on forecasts and promotional plans.

At about the time that Kmart started talking about boosting the number of CPFR participants, it became one of the co-founders of the World Wide Retail Exchange, a consortium that was created to help its members interact with suppliers.

Kmart flirted with using the WWRE's planned CPFR service. But it did not participate in the exchange's pilot, dropped the Syncra product and instead created a custom system as an extension of its Merchant's Workbench extranet, according to managers with Syncra and Kmart suppliers.

Meanwhile, Kmart's plans to add more suppliers were put on hold.

"To the chagrin of the suppliers, and to the chagrin of us, they just froze things," says Syncra CEO Jeffrey Stamen. "As far as I'm concerned, Kmart had a tremendous strategic advantage, they had a leadership position, and they gave it up."

Pharmavite's Karrer contends Kmart may not have wanted to pay Syncra's subscription fees.

BASELINE ONLINE

WAL-MART CIO SAM WALTON AND KMART BOTH GOT STARTED IN THE SAME YEAR. BUT WAL-MART USED INFORMATION TECHNOLOGY TO GET A LEG UP ON ITS ONCE-LARGER RIVAL—AND IS NOW SIX TIMES AS BIG. WWW.BASELINEMAG.COM/WAL-MART

Regardless, Karrer can now download data on sales and inventory levels from Kmart and analyze it through Logility's Voyager Collaborate, another CPFR product. Once Pharmavite is done, it exports the data to a spreadsheet and posts it to Kmart's Internet site.

But an executive at another major supplier, who asked not to be identified, says he considers Kmart's current CPFR program a giant step backward. "You can't go beyond pilot size by collaborating with spreadsheets—you just can't. You can't roll out on any kind of scale that way," he says.

GOAL: FIND A NEW PERSONALITY

While it struggles with its technology, Kmart also struggles with its identity. Conaway is recasting Kmart as a destination store for mothers managing families, building on its partnership with domestic goddess Martha Stewart.

"The consumer has been confused," says Schulsinger. "It was male oriented, guns and bullets, now it's Martha Stewart—she brings big volume, but what does it do to the rifle buyers? What Kmart is depends on what day you are asking."

Kmart still sells rifles and shotguns, but recently announced that it would stop selling handgun ammunition, for instance.

Kmart also is trying to get away from "pushing" products at customers, in hopes they'll buy.

"They (Kmart) would buy a million bouncing balls ... and what people didn't buy they would put in the back of the store — or put in a truck in back of the store," says Driscoll, the financial analyst with Argus Research. "What Wal-Mart's been able to do is use their point-of-sale systems to track what's sold today and immediately pull that from the manufacturer. They've got it to the point where two-thirds of their inventory is financed by the manufacturer or supplier, and inventories turn frequently."

Kmart has had a hard time matching the merchandise pushed through its distribution system with the items it was promoting through sales, Driscoll says. "They get people to the stores, and then they don't have what's advertised. It's hard to get people back once they've had a bad experience."

Conaway disowns these practices. "We're now pulling products that customers need, rather than pushing products they don't need," he said in one recent earnings call.

Goldstein, who left Bluelight.com in May, says Conaway deserves some time to get this right. "I know their operations have lagged, but you can't blame the existing team that's only been there a year or maybe 18 months. You've got to blame who was there in the past and the fact that they chose to simply not invest in that."

Kmart may just be spending its money more carefully by making sure the i2 project and other initiatives prove their worth on a pilot basis before pushing ahead aggressively. "I2 sold the magic bullet. At the end of the day, enterprise America has woken up to a new reality—that there is no magic bullet," Goldstein says.