2010

The Retail Roadmap
for Chief Executives

PREFACE

Over the next decade, the retail industry will undergo dramatic changes. Consumers will continue to do most of their shopping at physical stores, but the way these stores operate will be vastly different. New business processes and new technology will change the way customers shop, employees work, and suppliers and retailers cooperate.

Retailers that embrace and plan for these changes can achieve significant reductions in operating costs, significant increases in sales, and enhancements in employee productivity and profit margins. Retailers that do not plan for these changes will be left behind their competition.

Cisco Systems® works closely with many of the world's most progressive retailers, helping them anticipate and plan for this future. While no one can be sure what retailing will look like in 2010, several important trends are all but certain to play a major role in shaping the future. This book will help retailers not only to understand these trends, but also to develop a plan of action that takes full advantage of them.

Part One of this book offers a glimpse of what a store in 2010 might look like from the perspectives of the customer, the employee, and the supplier. It summarizes the main trends that differentiate the store of the future from the store of today. Part Two offers a step-by-step roadmap to help retailers begin creating the store of the future, today. Part Three lists the important business and organizational issues that retailers need to consider as they prepare for the future. It provides a model of the underlying IT infrastructure that retailers should create as they implement new solutions.

The Retail Roadmap for Chief Executives

01.

PART ONE

Offers a glimpse of what a store in 2010 might look like from the perspectives of the customer, the employee, and the supplier. It summarizes the main trends that differentiate the store of the future from the store of today.

02.

PART TWO

Offers a step-by-step roadmap to help retailers begin creating their 2010 store, today.

03.

PART THREE

Lists the important business and organizational issues that retailers need to consider as they prepare for the future. It provides a model of the underlying IT infrastructure that retailers should create as they implement new solutions.

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The Vision 2010 Store

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Instant Access to Information

Smart Products

Customer Knowledge

01.
The Vision 2010 Store

To help visualize what retailing might look like in the future, we have created an imaginary store set in the year 2010—the "Vision 2010" store. This store sells groceries and household items, but the innovative solutions portrayed here apply to all retailers. These new technologies and business processes are universal and bring higher value, productivity, and efficiencies to retail customers, employees, and suppliers.

More Loyal Customers

Deborah Chen is just finishing work when she receives a message on her mobile phone. The message is from Vision 2010, her local food and variety store, alerting her that her daughter's favorite baby formula is on sale, as are four other items she regularly buys. Deborah decides these deals are too good to pass up and decides to stop at the Vision 2010 store on the way home.

As Deborah enters the store, she passes through a gate with a computer sensor that scans her "loyalty card" and notifies the store manager that Deborah Chen has arrived. She grabs a shopping cart and swipes her loyalty card across the infrared light on the cart's personal shopping assistant (PSA), an electronic device complete with screen and keypad that simplifies shopping. The PSA instantly provides her with a review of her last five shopping lists. Deborah picks the list that comes closest to matching today's trip, deletes a few items, and adds the sale items she came to buy—all on the PSA.

The PSA charts the most efficient path through the store, suggesting that Deborah go to the fresh fruits and vegetables section first. There she meets the store manager, who greets her by name and suggests that she visit the store's new toy department. Deborah agrees and logs it

into her PSA. She then selects a bunch of bananas and puts them on the intelligent scale, which instantly identifies the item and prints out a price tag. As Deborah passes the bakery a promotion is sent to her PSA describing a special on croissants. As a treat for her two older children, she buys some.

As Deborah passes the shampoo section a monitor mounted on the shelf is activated and begins showing a video of a new conditioner for kids. Deborah watches the 20-second promotion and is intrigued. But she wonders if the conditioner is safe for kids with sensitive scalps. So Deborah scans the bottle on her PSA and pushes the button for "more product information." The PSA delivers a one-minute video about the product, providing in-depth information about its ingredients. Deborah decides to buy the conditioner, and the item is automatically scanned into her cart as she passes it over her PSA's infrared scanner.

Deborah remembers that her eight-year-old daughter needs a new sweater, so she heads to the clothing section. There, she selects a blue sweater and puts it into the cart. As the sweater is scanned the PSA activates a video showing various slacks that complement the sweater. Deborah likes one of the combinations and decides also to purchase new slacks.

After visiting the toy department and buying a few more products, Deborah's PSA guides her to the last item on her personal shopping list—baby formula, the item that had originally prompted her to come to the store. She takes three packages. The formula is checked off the automated list and Deborah is ready to leave.

Deborah heads for the checkout lane. When she passes through the lane a device scans the entire contents of her cart and interacts with her PSA to validate all the purchases, charge them to Deborah's credit card, and update her loyalty account. Because the full-cart scan eliminates theft, no cashier is required, though customers will likely pause long enough to bag the items. Deborah exits the store and is on her way home.

CUSTOMERS

Customers benefit from the new solutions found in the Vision 2010 store in the following ways:

- Personal messaging alerts customers that the store is promoting items they normally buy, saving them money.
- The PSA helps customers to quickly develop a personal shopping list, and to efficiently navigate the store to buy all the items, saving them time.
- Automated sensors throughout the store help customers take advantage of special promotions, saving them money.
- Checkout is fast and easy because all the items in the customer's shopping cart have already been scanned and tabulated, saving them time.

RETAILERS

Retailers benefit from the new solutions in the following ways:

- Offering targeted promotions to customers at the moment they are ready to buy results in increased sales and increases the efficiency of vendor promotional allowances.
- More complete customer data allows retailers to better segment customers, enabling them to customize offers for their most profitable customers.
- Helping customers have an efficient and pleasant shopping experience makes them more likely to return, resulting in more loyal customers. Having a large and growing loyal customer base saves the retailer money—it is more expensive to attract new customers than it is to keep existing customers satisfied.
- Alerting the store manager when loyal customers arrive in the store allows the manager to greet them, giving the customer a more personal shopping experience. It also gives the manager an opportunity to make targeted shopping suggestions.
- Providing customers with real-time access to product information, whether it is clothing purchase tips or the ingredients of a product, increases the chances the customer will buy the item.
- Digitally recording transactions, which are automatically checked and cleared at the checkout, reduces theft.
- Total inventory visibility enables the retailer to maximize sales by avoiding stock outs.

More Productive Employees

Cooper Woods is a customer service associate at the Vision 2010 store. As Cooper arrives at work and enters the back door of the store his badge is automatically scanned, registering his time and attendance. Once he gets to the employee lounge, Cooper activates his personal digital assistant (PDA) and logs into his personal employee portal. Today, Cooper needs to request time off for a vacation, so he quickly tabs to the vacation module and enters his information. His request is sent directly to the store manager's PDA for quick approval.

Cooper notices an alert displayed on his personal digital assistant (PDA) concerning a recall baby aspirin. He activates the information tab and is shown a short video describing the recall. When Cooper activates his task list for the day, the aspirin recall is at the top of the list, so he pushes the "recall" tab and is provided with a step-by-step guide to follow. Cooper leaves the lounge and proceeds to the aspirin section, where he notices that the electronic shelf label for the baby aspirin already displays a note saying "Not for Sale." As Cooper removes the aspirin, the radio frequency identification (RFID) tags automatically remove the items from the shelf inventory. When Cooper takes the recalled items to a secure area in the backroom, they are automatically logged into backroom inventory by another set of RFID scanners.

Back on the store floor, Cooper gets a call on his PDA, which is also an IP wireless phone. The store manager wants him to go to the electronics section to assist a customer. There, Cooper meets Michael Thomas, who wants help comparing television sets from two different vendors. By scanning each television's RFID chip with his PDA, Cooper is able to display a video on his PDA that explains each product. Based on this information, Michael makes his selection, but the model he wants is not on the shelf. Cooper checks his PDA and finds the model in the backroom, so he retrieves one and puts it into Michael's shopping cart.

After helping Michael, Cooper has one more task to finish before his morning break. He has to complete a 30-minute training course on handling meat spoilage. He returns to the lounge and activates his PDA to start the training video. When the video is finished, a short

test is administered online and the results are sent to his manager and to the department that maintains the company's food-handling-compliance records. Now it is time for his coffee break.

EMPLOYEES

Employees benefit in the following ways:

- RFID-enabled products let employees spend more time on higher-value tasks such as helping customers with purchase decisions and less time on low-value tasks such as peeling price labels, resulting in higher satisfaction for employees.
- Personal Web portals allow employees to take more control over their work environments, saving time and making employees more satisfied with their jobs.
- Automating and personalizing training makes it more likely that employees will receive training, resulting in more knowledgeable and highly skilled employees.

RETAILERS

Retailers benefit in the following ways:

- Providing employees with product information where and when they need it results in higher employee productivity, satisfied customers, and increased sales.
- Creating automated, proactive task lists that are synchronized with inventory and other alerts allows employees to anticipate problems before they occur.
- Automated daily task lists make employees more productive.
- Having RFID-enabled items automates many of the mundane tasks that employees once had to perform, increasing employee productivity and job satisfaction.
- Automated training keeps employees committed and engaged, resulting in lower employee turnover, reduced costs, and better-trained employees.

More Efficient Suppliers

Marcial Meza has nearly completed all his morning store deliveries when an alert is broadcast to his PDA. The automated inventory system at the Vision 2010 store has detected that the supply of orange and grape soda is running low, because of a sudden increase in sales. To avoid running out of the soda and losing potential sales, these items need to be replenished today. After finishing the rest of his morning deliveries, Marcial drives his truck to the Vision 2010 store dock. Before getting out of the truck, Marcial checks the entire inventory of soda at the store using his wireless PDA. The PDA provides real-time updates showing how much soda is in the backroom, and how much is out on the shelves.

The inventory report shows that not only does the store need 12 cases of orange and 10 cases of grape soda, but that the inventory of cola is also three cases low. Marcial goes to the back of his truck to retrieve the soda. As he removes the cases from his truck, they are automatically RFID-scanned and taken off his inventory. When Marcial enters the backroom of the store, all the cases are automatically recorded into the store's backroom inventory, again using RFID scanners.

Marcial leaves most of the soda in the backroom, and takes four cases of orange and four cases of grape soda out to the store floor to put on the shelves. As he does this, the eight cases of soda are automatically logged out of backroom inventory and logged into store inventory. When Marcial gets to the soda section and begins putting the soda on the shelf, the location of each item is automatically logged into the system as it passes by the electronic reader at the edge of the shelf. In what seems like no time, Marcial is done and off to his next delivery.

SUPPLIERS

Suppliers benefit in the following ways:

- No invoices or delivery reports need to be written and signed, resulting in greater accuracy and higher productivity. Disputes with retailers over deliveries and invoices fall sharply, resulting in improved relations between suppliers and retailers.
- There is no waiting for deliveries to be checked by store employees, saving time.
- Store inventories are automatically updated using RFID tracking, saving time.
- Store deliveries take less time, resulting in higher productivity. As a result, drivers can service more stores during the day.

RETAILERS

Retailers benefit in the following ways:

- Store items rarely become out of stock, resulting in higher sales and more satisfied customers.
- Inventory levels can be reduced because control over the supply chain is much greater, resulting in cost savings.
- Store employees spend less time in the backroom and more time on the floor helping customers, resulting in increased productivity and more satisfied customers.

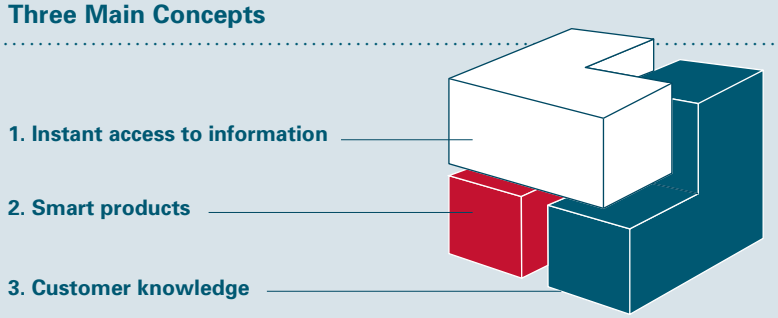
The Vision 2010 Store Comprises Three Main Concepts

The Vision 2010 store described in the previous section incorporates many new and innovative IT-based solutions. These solutions help enable three concepts, described in this part of this book, that distinguish the store of the future from the store of today: instant access to information, smart products, and customer knowledge.

These concepts are crucial differentiators that make the 2010 store unique and truly focused on enhancing stakeholder value. The next part of this book (Part Two) directs the retailer to create plans that align its initiatives with these concepts. The alignment helps the retailer see the future of retailing holistically, and not as a sequence of unconnected events or initiatives.

FIGURE No 1

Three Main Concepts



Instant Access to Information

Many of the innovative solutions described in the Vision 2010 store require instant access to information. An instant message was sent to the store manager's PDA when Deborah Chen entered the store and passed through the entry gate with her loyalty card. When Cooper Woods selected the "recall" tab on his employee portal, the information about how to recall the baby aspirin was instantly provided to him. And when Marcial Meza arrived at the store and requested an update of the store's soda inventory, it was instantly provided to his PDA. For the store environment, three capabilities are required to provide instant access to information—high-speed connectivity, mobility, and rich media.

RETAILERS SUCH AS WAL-MART STORES, TESCO, J SAINSBURY, AND THE HOME DEPOT ARE AGGRESSIVELY MOVING FORWARD WITH PLANS TO UPGRADE THEIR EXISTING NETWORK INFRASTRUCTURES TO INTELLIGENT NETWORKS.

High-speed connectivity to a store and between stores is required for most of the new solutions that retailers will create. Today, most retailers have only dial-up, or 56-kilobit connection speeds to their stores. Retailers should have a migration plan to move to 1 megabit or more, which will enable the real-time nature of today's retail marketplace. Retailers such as Wal-Mart Stores, Tesco, J Sainsbury, and The Home Depot are aggressively moving forward with plans to upgrade their existing network infrastructures to intelligent networks. The upgrades will allow these retailers to provide streaming video for e-learning and for shelf-edge promotions; to support real-time inventory decision making; and to provide a customized shopping experience to customers. They will also help retailers reduce the amount of paper they use. Tesco, for example, plans to eliminate 80 percent of the 50,000 pages of paper it sends to its U.K. stores each week.[1] This will speed decision making and cut costs.

Creating a **wireless mobile infrastructure** is an equally important part of providing instant access to information. Mobility allows customers, employees, and suppliers to get information where and when they

need it—at home, on the road, or in the store—saving time and increasing the value of the information. Mobility allows employees to spend more time on the sales floor, where they can provide customer service and help make a sale. It allows retailers to help employees be more productive by giving them more direction during the day. And mobility helps customers get the information they want about a product at the right time and place. Zara, the popular Spanish apparel retailer, provides store employees with PDAs so that they can enter custom orders for shoppers who want items that are not at the store. Transmitting the order in real time directly from the sales floor to the manufacturing plant cuts the time it takes to produce custom orders from 10 days to two days. Providing customized service keeps Zara from losing a sale—or even worse, losing a customer.[2]

MOBILITY ALLOWS CUSTOMERS, EMPLOYEES, AND SUPPLIERS TO GET INFORMATION WHERE AND WHEN THEY NEED IT—AT HOME, ON THE ROAD, OR IN THE STORE—SAVING TIME AND INCREASING THE VALUE OF THE INFORMATION.

The third capability required to provide instant access to information is **rich media.** Instead of providing simple text messages, the store of the future must offer rich video and audio. Studies have shown that shoppers spend more when rich media is used for promotion. Rich media also creates a more compelling and interactive shopping environment. Dixons Group, the largest electronics retailer in Europe, is piloting promotional videos, which are financed by manufacturers, in its stores. The manufacturer pays for the development, distribution, and airing of the videos, using Dixons as a medium for promotions. When the videos are aired in the store, sales of the items have the potential to rise 5 to 10 percent.[3]

Smart Products

By the year 2010, **RFID tags** will be attached to most consumer products, turning ordinary items into smart products, the second main concept of the store of the future. The RFID tag and inventory management applications that provide visibility to products throughout the supply chain are the essential solutions supporting the Vision 2010 store.

The supporting technology infrastructure thus needs to support the retailer's vision for how customers, employees, and suppliers will use this product information. When Deborah Chen scanned the sweater, the RFID tag identified it. When the baby aspirin was recalled, an alert went out to the exact shelf where the aspirin was located, thanks to the RFID tag on the aspirin, and a note was electronically displayed saying "Not For Sale." And when Marcial Meza brought his cases of soda into the store, the RFID tags on the cases immediately logged the soda into the store inventory.

At the core of smart products is RFID technology—low-power microchips that store volumes of information. A tiny built-in transceiver transmits the information on the tag over the airways to other devices. As more and more companies use RFID tags, the cost of making the tags will drop from 25 cents to five cents each, making them as disposable as ordinary packaging. Over the next five to seven years, RFID tags will become the preferred product identification device, more common than the UPC barcode now found on almost all consumer products.

Wal-Mart Stores announced that its top suppliers must have RFID tags placed on cases and pallets by 2005.[4] Because Wal-Mart Stores buys more consumer products than any other retailer, this mandate is having a ripple effect throughout the supply chain, causing suppliers and retailers to use RFID tags more frequently and sooner than expected.

Marks & Spencer, the leading British retailer, uses RFID tags to monitor the expiration dates of its prepared foods.[5] The tags allow employees to discount items when they are near the expiration date, and remove items before expiration occurs. The new system also helps employees and suppliers replenish items as they expire and avoid stock-outs. The program helped Marks & Spencer reduce stock-outs on popular items. Supply chain experts predict that widespread use of RFID tags will cause total supply chain inventory costs to plummet 25 to 40 percent.

RFID chips not only help retailers manage inventory, but they also help to increase sales. When shoppers enter the changing room at Prada's New York City store, the RFID tag on the clothing is scanned at the doorway. The scan activates a video screen in the changing room

that displays other clothing and accessories that are complementary to the item the customer chooses. This feature resulted in an increase in complementary sales at the Prada store.

Customer Knowledge

Creating the store of the future requires retailers to have intimate knowledge of their customers, the third main concept. In the Vision 2010 store, customer knowledge played a critical role in many of the solutions. Customer knowledge was used to direct certain promotions to Deborah Chen, which ended up influencing her to make a shopping trip to buy baby formula. Customer knowledge continued during much of Deborah's shopping trip, from the time she walked through the front door and an alert was sent to the store manager, to the moment she walked through the checkout lane and her credit card was automatically charged.

METRO's Future Store[6]

Düsseldorf –based METRO Group, one of the world's largest retailers, provides a real-life example of the Vision 2010 store. Cisco is a Gold sponsor of the METRO Future Store.

Rather than running individual pilots in various stores as most retailers do today, METRO decided to pack all its ideas into one location, turning an ordinary grocery store in Rheinberg, Germany, into not only a living lab, but a fully functioning retail outlet.

The Future Store has PSAs, RFID-enabled products, self-scanning, wireless electronic shelf labels, wireless electronic promotion panels, information kiosks, shopper-activated video displays, and IP phones. With RFID tags attached to products from Gillette razors to music CDs, METRO tracks these items as

CUSTOMER KNOWLEDGE ENABLES RETAILERS TO CUSTOMIZE PRODUCTS, PRICES AND SERVICES FOR HIGHER PROFITS AND CUSTOMER LOYALTY.

Retailers want to customize the shopping experience for each customer, but customization can only occur if the retailer obtains a true picture of a customer's buying preferences and habits. Using that knowledge, retailers can continually hone the mix of products, prices, and services that the store offers, resulting in better sell-through and better margins. The retailer's ultimate goal is to create a lifetime relationship with the customer.

Safeway developed a frequent shopper program that not only provides loyal customers with customized promotions, discounts, and information, but also provides Safeway with valuable buyer information about its best customers, which helps Safeway create its merchandising strategy. Safeway now links shopper names with product purchase information, which allows the company to focus its promotions to the right customer and to carry the right products.

they move from the backroom to the shelves and into shopping carts, and it notifies employees of related tasks they need to complete.

Shoppers have embraced the new technology and actually want more. According to a recent study, 80 percent of the store's customers have tried at least one of the new technologies, and more than 90 percent gave the technologies a favorable rating.[7] The most popular devices are the intelligent fruit and vegetable scale, the PSA Web pad located on the shopping carts, and the product information kiosks in the wine and music CD areas. The most popular results for the store are a 25-percent increase in the number of shoppers and a 15-percent increase in overall revenues.

02.
A Roadmap to the Future

STEP 1.
Define a vision of what the store will look like in three to five years.

STEP 2.
Develop a list of initiatives that implement the vision.

STEP 3.
Prioritize the initiatives based on their importance to the business and the ease of implementing them.

STEP 4.
Organize the initiatives into a portfolio of IT projects, and map the projects against each of the three main concepts.

STEP 5.
Create an IT infrastructure that supports the store of the future.

02.
A Roadmap to the Future

We developed a five-step roadmap to help you create your own store of the future. The roadmap is the result of years of work between Cisco and numerous retailers. It starts with a retailer developing its own vision of what its future store will look like and ends with a concrete plan for implementing new IT-based solutions. Creating this roadmap is not a one-time event. Retailers should repeat the five-step process every year, ensuring that the company's plans and initiatives are consistent with ongoing changes in the retail environment.

To make this roadmap easier to understand, we have created a mythical company called Fun Town, which we will follow as it progresses through each of the five steps. Fun Town is a large consumer electronics retailer that currently offers a wide selection of products; competitive prices, though not the lowest; and good service, though not the best.

At each step in the roadmap your IT team has a different but related set of tasks. It is important that these tasks be done in parallel with each of the main steps.

STEP 1.

Define a vision of what the store will look like in three to five years.

Start by developing a vision of what one of your actual stores will look like in three to five years. The vision should be simple, consisting of only a few sentences at most. It should focus on the areas that define the value proposition that the store will offer its customers. The details of how the vision will be implemented will come later.

The reason we chose a three-to-five-year horizon is because anything less than that period is too short, usually resulting in small tactical programs that have little impact. Anything more than three to five years is too long, often resulting in programs that are overly ambitious, expensive, and difficult to complete.

The reason to focus the vision on the store, rather than on other parts of the business such as the supply chain, is because the store is the primary location for customer interaction. What happens in the store will affect other business functions, but the vision should focus on the store itself.

FUN TOWN EXAMPLE

To better understand our definition of a three-to-five-year vision, here is what Fun Town developed. The management decided that it wanted to create a store that is the best in the world at helping customers select and purchase the right consumer electronics products for their individual needs. The management also decided that Fun Town will offer this superior level of service to customers regardless of where they shop, whether it is at a store, on the phone, or on the Web.

WHAT I.T. IS DOING

Begin to define standards for the development, purchase, and implementation of new technologies. Standards help to decrease the cost and speed the implementation of new technologies. These technology standards must be revisited, improved upon, and updated regularly as technology, business demands, and cost structures change.

STEP 2.

Develop a list of initiatives that implement the vision.

Develop a list of initiatives that help implement the three-to-five-year vision. Each initiative comprises new business processes and technologies that together change the way customers shop, employees work, and vendors collaborate throughout the supply chain.

The best way to develop initiatives is to hold a brainstorming session that involves all the different business functions, including merchandising, logistics, store operations, human resources, and IT. Having all these groups in one room results in the most diverse and creative ideas. The logistics group, for example, is likely to come up with ideas that the merchandising group would never think of by itself.

Because there are many different ways of implementing the vision, there will be multiple initiatives. Some initiatives might overlap one another, and some may even have competing ways of delivering the same results. This is also the time when existing initiatives, both planned and underway, get added to the list. Deciding which initiatives to implement and which ones to discard will occur in the next step.

GUIDELINES

To help ensure that all possible initiatives are considered, retailers should follow these guidelines:

- Be creative. Have an open brainstorming session during which no idea is ridiculed.
- Do not limit the discussion to technologies that are familiar. The IT team will focus on the technology that is needed.
- Put aside all current initiatives during the brainstorming session; they will be added later. This is the chance to develop new initiatives.

FUN TOWN EXAMPLE

Our Fun Town retailer came up with a dozen initiatives. One initiative created a virtual expert that a customer could always talk with. Because it would be too expensive to have a live personal expert on every product physically present in each store at all times, a virtual expert was proposed. The virtual expert would be a real person, but would be linked to the customer using information technology. A second initiative made sure that in-store customers could always take home the items they wanted to purchase. That initiative required working with suppliers to develop a more tightly integrated supply chain, one that ensured that every store always had every item in stock.

WHAT I.T. IS DOING

The IT team is given the task of translating each initiative into a list of specific IT projects that are needed to implement the initiative. The team then compares the project list with the company's existing IT infrastructure to understand what new technologies are required to implement each initiative.

STEP 3.

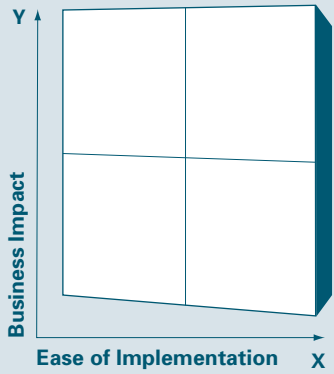
Prioritize the initiatives based on their importance to the business and the ease of implementing them.

Now that you have compiled a list of initiatives, prioritize them. Senior management from all parts of the company must be involved in making these decisions. This helps to ensure that the right holistic decisions are made and that everyone in the organization understands why the decisions were made. It also helps to remove projects that do not fulfill any of the visions.

Cisco uses a 2x2 matrix to prioritize initiatives. The vertical axis in the 2x2 matrix is the impact that the initiative will have on fulfilling the vision, from low to high. The horizontal axis is the ease of implementing the initiative, from difficult to easy. Every initiative is plotted on the 2x2 matrix. Initiatives that fall in the upper right quadrant are the top priorities, and those that fall in the lower left quadrant are the low priorities.

2 x 2 MATRIX

Project Prioritization Matrix



Cisco uses a 2x2 matrix to prioritize initiatives. The X axis is the impact the initiative will have on fulfilling the vision, from low to high. The Y axis is the ease of implementing the initiative, from difficult to easy. Plot each initiative on the matrix. Initiatives that fall in the upper right quadrant are the top priorities.

FUN TOWN EXAMPLE

Fun Town compiled a long list of initiatives that supported its vision. After plotting all of them on the 2x2 matrix, the company determined that constructing the virtual expert initiative should be its top priority.

WHAT I.T. IS DOING

The IT team begins to develop a technology plan—one that prioritizes IT investments so they deliver a consistent stream of value to the business. This plan helps ensure that the IT infrastructure is ready to support the new initiatives.

STEP 4.

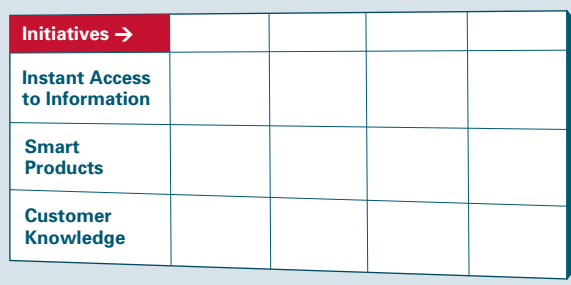
Organize the initiatives into a portfolio of IT projects, and map the projects against each of the three main concepts.

This step helps to ensure that the initiatives (and the IT projects that comprise the initiatives) take full advantage of the three concepts detailed in Part One of this book. These three concepts—instant access to information, smart products, and customer knowledge—distinguish the store of tomorrow from the store of today.

First, assemble a portfolio of the different IT projects that are needed to implement each initiative. The IT team already did much of this work during Step 2, when it was given the task of translating each initiative into a list of specific IT projects needed to implement the initiative. The IT team should now meet with the rest of the management team to review the project list and make sure it is complete.

The best way to understand how these projects align with each of the three main concepts is to develop a visual matrix. Across the top of the matrix list each of the initiatives. Down the left side of the matrix list each of the three main concepts—instant access to information,

VISUAL MATRIX



smart products, and customer knowledge. Proceed to fill in the matrix by putting the appropriate IT project in the appropriate box.

This matrix provides management with a holistic view of initiatives, projects, and concepts. It allows management to see, at a glance, all the initiatives that use instant access to information, smart products, and customer knowledge. Looking at all the initiatives and IT projects at once helps management confirm that the company is giving sufficient attention to each of the three main concepts. It also helps management better understand which IT projects are most important.

FUN TOWN EXAMPLE

Fun Town's matrix listed the virtual expert as one of the initiatives along the top. In the box adjacent to instant access to information, it listed an IT project that would provide a high-speed WAN interconnecting stores and headquarters. In the box for smart products, it listed an IT project that would use RFID tags to provide the virtual experts with complete information on all the products (price, specifications, and location, for example). And in the box for customer knowledge, it listed an IT project that would give the virtual expert access to customer relationship management (CRM) systems and the ability to share that information with other applications. Fun Town did the same exercise with all its initiatives.

After Fun Town management completed Step 4, it became clear that a top priority for the company was constructing a high-speed intelligent network connecting all the company's primary operations, including headquarters, stores, call centers, and Web hosting sites. Not only was this network an essential part of creating the virtual expert, but it was also a critical component of many other important initiatives.

STEP 5.

Create an IT infrastructure that supports the store of the future.

Now that the vision has been established, the initiatives prioritized, and the IT projects aligned with the three main concepts, it is time to start implementing the roadmap. Step 5 is a long and often technical process, one that most retailers abdicate to the IT team. This is a mistake—the IT team and the business functions should continue to work closely as the IT infrastructure is developed and the initiatives are rolled out.

During the implementation phase, you will be faced with ongoing choices about alternative technology investments. Incorrect choices can result in significant cost increases and project delays. The following considerations can help retailers make the right choices.

Adhere to industry standards.

The IT team has set standards for the development, purchase, and implementation of new technologies, which must now be adhered to. Technology standards decrease the cost and speed up the implementation of new solutions. But like business processes, IT standards must be revisited and updated regularly as technology, business demands, and cost structures change.

Adhering to standards is both a technical and a business requirement. When the business functions are reviewing, selecting, and implementing new solutions, follow these same standards whenever possible. Before embarking on a project that does not adhere to standards, make sure that no suitable alternative exists, even if it means reduced functionality.

Use the model IT infrastructure as a guide.

Use the IT infrastructure outlined in Part Three of this book as a guide when implementing new IT technologies and projects.

Understand the value of new technology investments.

Many business executives have a difficult time determining which technology investments are necessary and which are not. It is easy to understand point-of-sale or demand-forecasting applications because of the clear value they offer. There are other technologies where the return is not as clear, but that does not make them any less important. Enabling technologies and intelligent network technologies are these kinds of investments.

4 QUESTIONS

Ask these four questions when determining which IT projects to undertake:

1. Is it essential for the implementation of the business project?
2. Does it significantly accelerate the time to market of the business initiative?
3. Does it significantly decrease the total cost of ownership for the selected solution?
4. Does it significantly increase the value of the solution without delaying the implementation?

03.

Preparing the Business and the IT Infrastructure for the Future

Business and Organizational Prerequisites

1. Top executives should actively lead the transformation.
2. Plan transformations holistically.
3. Ruthlessly execute transformations.
4. Align IT initiatives with business strategy.
5. Involve business functions in the creation of new IT solutions.
6. The CIO should report to the CEO.
7. IT organizations must play a strategic role.
8. Create new governance and funding models.
9. Prioritize performance metrics.

Creating a New IT Infrastructure

1. Foundation Technologies
2. Requisite Systems and Information Repositories
3. Enabling Technologies
4. Networked Applications

03.

Preparing the Business and the IT Infrastructure for the Future

Business and Organizational Prerequisites

Creating successful IT-based retail solutions requires more than devising a great technology plan. It also requires putting in place complementary business and organizational fundamentals. Retailers as diverse as METRO Group, Wal Mart, Hot Topic, and Lowe's have taken steps to create a corporate culture and an organizational structure that lends itself to IT-driven innovation. All too often, technology initiatives fail because companies do not pay enough attention to nontechnological factors. Nine crucial business and organizational changes are described in this chapter. These changes must be in place before the full benefit of new IT-driven solutions can be realized.

1. Top executives should actively lead the transformation.

METRO operates the Future Store, one of the most technologically advanced stores in the world. One reason for the Future Store's success is that METRO's board of directors was intimately involved in the project from the beginning. Creating the Future Store was a risky endeavor, requiring the cooperation of many different groups within the company. Each member of the board was assigned the task of working directly with one of these groups. The board members spoke directly to their groups, describing each group's role in creating the Future Store. The board members remained involved throughout the entire project, providing their groups with regular updates on the project. Significant transformation efforts within a company should be led by the retailer's top executives.

2. Plan transformations holistically.

Hot Topic is one of the fastest-growing teenage apparel retailers in the world. One of the reasons for its success is that Hot Topic develops holistic plans that take into account all aspects of the retail environment. When Hot Topic wanted to upgrade its voice and data infrastructure, it took a unique approach. Instead of looking at each feature of the new infrastructure independently, it factored in all the needs of its stores and customers.

As a result, the three-year return on investment (ROI) for the plan was much more attractive than it would have been if each feature were examined independently. Most retailers take a different approach when implementing new tools and technologies. Instead of a holistic plan, many retailers develop tactical plans for individual technologies, but these tactical plans do not gain the full potential of the technologies or provide a suitable ROI. To gain the best results, retailers should develop holistic plans.

3. Ruthlessly execute transformations.

Wal-Mart Stores is renowned for the ruthless execution of its business plans. Nowhere is this more evident than in the way the company has promoted the adoption of RFID tags. Wal-Mart Stores announced that by 2005, its top 100 suppliers would have to put RFID tags on all the cases and pallets they deliver to Wal-Mart Stores. The tags will help Wal-Mart Stores track the goods throughout the entire supply chain. Once Wal-Mart Stores introduces a new technology, such as RFID, it absolutely commits to making the change and to getting its entire supplier community to adopt the change. Retailers that implement new solutions with a complete commitment in every aspect of the process have a better chance of success.

4. Align IT initiatives with business strategy.

Rock music and videos play a significant role in shaping the customer's experience at Hard Rock Café.[8] Because of this, management decided that one of its strategic priorities was to develop a system that centralized the control and distribution of all the music and video that is played at its stores, restaurants, and other venues. By aligning IT initiatives with the company's business strategy, Hard Rock Café made development of the content delivery system a priority. Distributing music and video from headquarters to the various venues eliminates the need for copying and mailing CDs, reducing the costs of content distribution. It also allows management to create a consistent atmosphere of music and ambience across all its locations. To maximize returns, IT initiatives should be aligned with the business strategy.

5. Involve business functions in the creation of new IT solutions.

When U.S. grocer Albertsons re-engineered its recruiting process and rolled out a new Web-based recruiting application, the human resources, store operations, and IT teams worked together to ensure that these efforts were successful. The most successful technology-enabled transformations are led by the business people with the technology team serving as an advisor and enabling partner. If the people using the system do not have a sense of ownership of the new tools the adoption rate is often slower and more expensive, and the ROI associated with the effort is often at risk or substantially delayed. Involving business functions in the selection, development, and deployment of new solutions helps ensure their success.

6. The CIO should report to the CEO.

At The Lowe's Companies Inc, the CIO is a key member of the senior management team, helping the firm align technology with strategic business goals. To make sure that IT plays this important role at Lowe's, the CIO reports directly to the CEO. Many retailers manage IT as an overhead cost, not as a strategic driver of the business. At these companies, the CIO often reports to the CFO, making cost control not only the perceived goal of IT, but all too often the reality. To help

make IT a catalyst for creating a more nimble organization, CIOs must focus on innovation. To ensure that CIOs are helping to drive business strategy, it is important that the CIO report to the CEO, or to the executive in charge of operations.

7. IT organizations must play a strategic role.

At Hannaford Bros. the entire IT department is a catalyst for reengineering the company—former programmers are now business process consultants, for example. This expanded role helps bridge the gap between business owners and their respective IT colleagues, and helps both deliver better solutions. No group is better positioned to understand how technology can be used to gain competitive advantage in the retail market than the IT group. Far too often, IT departments focus almost exclusively on maintaining and supporting existing systems. IT must spend more time helping the company meet its strategic goals, as well as maintaining the tactical ones.

8. Create new governance and funding models.

When METRO decided to create its Future Store, management realized that it needed to develop new governance and funding models for the project. Because Future Store was a strategic corporate initiative, the project was centrally funded and supported by the entire company. Centralized funding helped reduce intradepartmental conflicts that would otherwise have slowed the progress of the new store. Many retailers try to transform themselves with large investments in technology, yet fail to reap the benefits. New IT-based solutions require new governance and funding models that support the solutions.

9. Prioritize performance metrics.

Wal-Mart Stores measures many different aspects of its operations, but it focuses much of its efforts on the few metrics that are critical to its differentiation in the market. One of these metrics is everyday low prices. Many retailers make the mistake of trying to pay attention to too many different metrics. The most successful companies prioritize their metrics and focus their efforts on creating the behaviors and business processes that will improve those metrics. Each retailer has a different set of top metrics, depending on its business strategy. What is important is to focus the measurements that differentiate your value proposition to your customers.

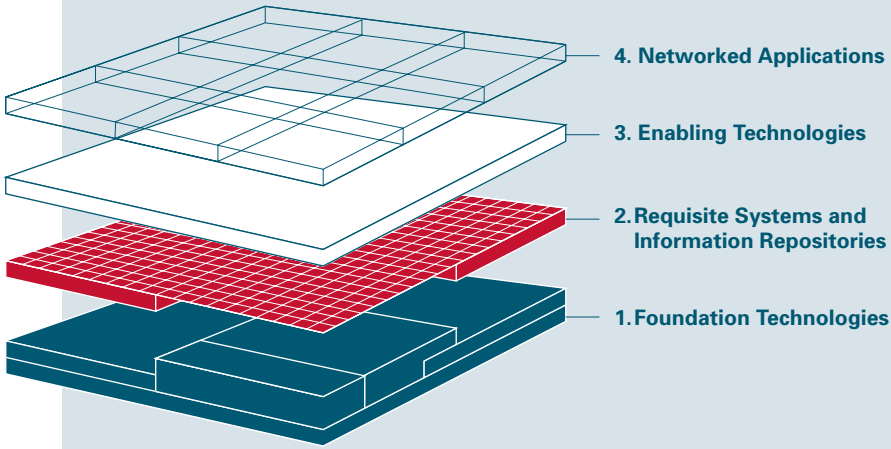
Creating a New IT Infrastructure

To achieve the rich capabilities and customer-focused environment depicted in the Vision 2010 store, retailers must develop the right IT infrastructure to create the store of the future, an infrastructure that supports the three main concepts—instant access to information, smart products, and customer knowledge. The model described below displays the IT infrastructure that a retailer must begin constructing today. The good news is that all retailers have some parts of this infrastructure already in place. The bad news is that for most retailers, much remains to be done. This model is a solid guide for retailers to use as they build their IT infrastructures.

The IT infrastructure model that retailers should begin constructing consists of four layers (Figure 1).

FIGURE No 3

The IT Infrastructure Model for the Vision 2010 Store



1. **Foundation Technologies**
   Integration (XML, application servers), Content management, Intelligent network (wireless, LAN, WAN, security), Entitlement and user access
2. **Requisite Systems and Information Repositories**
   Warehouse management, Traffic management, Planogram, Pricing, Catalog, Advertising, Loyalty, Item content repository, Financial, Human relations
3. **Enabling Technologies**
   Business rules engine, Workflow, Knowledge management
4. **Networked Applications**
   Replenishment, Item management, Vendor management, Ad and catalog management, Price management, Point of sale (POS), Distribution, Fulfillment, Receiving

1. Foundation Technologies

Foundation technologies are the building blocks upon which the entire IT infrastructure is created. They are an integral part of the store of the future. Without them it is difficult, if not impossible, to begin creating most of the new IT-based solutions described in the Vision 2010 store. Putting these technologies in place throughout the entire organization must be a top priority for every retailer. This task is made easier, because these are mature technologies that can be readily purchased.

CATEGORIES

Foundation technologies fall into four categories:

- Integration technologies
- Content management technologies
- Entitlement and user access technologies
- Intelligent network technologies

Integration technologies allow organizations to link different applications or business processes. In the Vision 2010 store, integration helps the store retrieve, transfer, and translate information from many different applications to create an integrated shopping experience for Deborah Chen—from making point-of-sale data available to applications that put together a suggested path for her to follow through the store, to collecting vendor delivery data and translating it for use by in-store inventory applications and corporate merchandising systems. Several types of software can be categorized as integration technology. Some of the software is mature, such as application server software, while other types are still in the early phases of deployment, such as Extensible Markup Language (XML) tools and Web messaging.

Content management technologies are software tools that allow organizations to publish and manage many types of digital content. It might be an e-learning document for store employees, such as the step-by-step guide to recalling baby aspirin that Cooper Woods had to follow. Or it could be an informational video for customers, such as the one-minute video that Deborah Chen watched that described the new hair conditioner. The content management tools allow the author and publisher to create and collect content, edit and update content, organize and tag content, and make the content available to authorized users.

Entitlement and user access technologies provide the basic security for an organization's IT infrastructure—the ability to identify users and to define their access to applications and information. These technologies help to ensure that when Marcial Meza uses his PDA to check the store inventory, he cannot access or change other vital information and applications on the store's intelligent network, such as the sales and pricing of competitive soda products. Entitlement and user access technologies play a critical role in helping retailers extend their business processes outside the boundaries of the traditional enterprise into their customers', partners', and suppliers' decision and business systems.

Intelligent network technologies provide organizations with the ability to move and manage digital content across distances, whether the intelligent networks are wired or wireless, or within a store or between stores. When Cooper Woods used his PDA to send his vacation request to the store manager, the message was sent across a wireless in-store intelligent network. And when Deborah Chen swiped her sweater over her PSA, a video was sent from a server to the monitor showing her a selection of complementary slacks. Network technologies of the past have evolved into today's intelligent networks, which support not only data, but also voice and video. The intelligent network has security features that provide the first line of defense against electronic attacks on the enterprise. The technologies required to support video content distribution and advanced security solutions now reside in field-deployable appliances that can be centrally managed. Future intelligent network capabilities will provide advanced services for managing RFID technologies and related information services.

2. Requisite Systems and Information Repositories

Requisite systems are the enterprise applications and databases that every large retailer has in place to help run the day-to-day business. It is the human resources application and database that kept track of how many vacation days Cooper Woods had earned and used. It is the customer loyalty application and database that kept track of Deborah Chen—where she lived, how to contact her, what she bought, and how often she shopped. Requisite systems include applications and databases such as merchandising, supply chain management, human resources, warehouse management, and finance.

Requisite systems automate one segment of a business, such as inventory management or promotions. They are not good at automating tasks or processes that cross business segments, such as automatically triggering promotions when a particular product is not moving out of inventory fast enough. Automating those tasks requires other types of technologies, such as integration technologies and enabling technologies.

CRITERIA

Most retailers already have some requisite systems in place, but some may not be capable of supporting their store in the future. Requisite systems that do not meet the following criteria must be replaced:

- Support industry-standard integration tools and enabling technologies
- Deliver real-time information and support real-time business processes
- Support open standards
- Support data requirements for new business processes enabled by RFID?
- Are scalable so that as the business grows, the applications can grow with it?

There are new requisite systems that retailers should explore. One type is optimization solutions that provide intelligence to support complex decisions. Applications in this category include price optimization, markdown optimization, and labor optimization. Optimization applications help retailers increase profit margins and lower operating costs. Another type of application that is new to retailers is the item management solution that allows one system to be the "system of record" and helps manage all items types and product descriptions.

In the past, retailers relied on merchandising applications to manage stock keeping unit (SKU) information. As retailers added Internet shopping and catalog sales, most created or purchased solutions to support these retail channels that included a separate item management application to deal with descriptions and pictures of the items. These new applications often used a different item database from the one the retailer was using, creating the potential for inconsistent information, pricing errors, and customer confusion.

3. Enabling Technologies

The next layer in the IT infrastructure contains enabling technologies—the workhorses of automation, creativity, and productivity. There are three types of enabling technologies software—workflow, knowledge management, and business rules engine. These tools are maturing into application suites called business process management (BPM) solutions. Together, they allow retailers to create new types of applications and business processes that cross traditional functional boundaries and enterprise applications.

AS THE KNOWLEDGE MANAGEMENT, WORKFLOW, AND BUSINESS RULES ENGINE SOFTWARE MATURES AND STABILIZES, RETAILERS THAT INVEST NOW WILL HAVE A COMPETITIVE ADVANTAGE.

Here is an example of how enabling technologies work together. In order for Deborah Chen to receive a message alerting her that the Vision 2010 store was promoting her favorite baby formula, a complex series of actions was set in motion. When the merchandising application was notified that the baby formula was going on sale, the business rules engine triggered an alert that a message should be sent to Deborah. The workflow delivered the trigger to a messaging application and the message was sent to Deborah. When Deborah responded, the workflow alerted a customer service agent for possible follow-up. In the background, knowledge management collected Deborah's responses and transactions, analyzed them, and suggested changes that would increase the chances she would respond to the message and buy the product.

Workflow software helps to ensure that tasks, notifications, and alarms are delivered to the person or system responsible for taking action. With workflow software, retailers can establish global processes, track events, assign priorities, and notify people of the status of the task.

Knowledge management software allows retailers to analyze and organize complex information such as customer purchases, promotional activities, and employee productivity.

Business rules engine software acts as an enterprise-wide watchdog, enforcing uniform business processes across all applications. The rules act as triggers. The trigger can be as simple as notifying a store manager when an employee reaches a sales goal, or as complex as initiating the creation of a purchase order when inventory levels fall below a certain level.

Many requisite applications that retailers already own have some of these same capabilities, such as workflow and business rules engines. However, these capabilities only work within the boundaries of the application or suite of applications if they are from the same software vendor. New enabling technologies software that cuts across all applications and databases is coming to market. This software allows retailers to create complex networked applications, the kind discussed in the next section.

All retailers should invest in new enabling technologies software now, and begin pilot projects to better understand how the software can be integrated into business processes and IT infrastructure. As the knowledge management, workflow, and business rules engine software matures and stabilizes, retailers that invest now will have a competitive advantage.

4. Networked Applications

Networked applications are a new class of applications that cross traditional business functions, allowing retailers to perform tasks that were nearly impossible in the past. Some networked applications are custom solutions, created by individual retailers that use workflow, business rules engine, and knowledge management software. Off-the-shelf networked applications can also be purchased from software vendors that have designed them for standard functions that most retailers use, such as employee task management.

In the Vision 2010 store, Marcial Meza used a networked application. It allowed Marcial to use his PDA to check the store inventory, remove cases of soda from his truck's inventory, drop off some of the cases in the store's backroom, place the remaining cases on the shelf where they were logged into shelf inventory, and generate invoices for the entire transaction. This complex transaction used several requisite systems applications as well as the supplier's and retailer's IT systems. Marcial was able to use his Internet-based PDA to perform the transactions in real time.

CHRACTERISTICS

Networked applications:

- Are based on industry standards, making it easy to integrate them with other technologies, applications, and databases
- Have a Web-based user interface, allowing them to be accessed easily wherever there is an Internet connection, and on any Internet-enabled device, including a PC, PDA, phone, or kiosk.
- Support real-time processing
- Cross traditional business functions and enterprise applications
- Provide high levels of security

The networked applications layer may be the last layer that retailers put in place, because these types of applications cannot be created until the bulk of the other three layers are put in place. Retailers should begin developing and buying networked applications whenever they are faced with replacing or purchasing new solutions. It may be years before most retailers are able to deploy a wide portfolio of these types of applications.

Conclusion

New technologies and business processes will have a dramatic effect on the future of retailing, particularly at the store where most customer interaction occurs. This book was created to help you visualize the future and prepare for it by embracing the right technologies, solutions, and processes to meet your particular challenges and strategies. This book provides you with a roadmap to start your journey as you begin creating your store of the future, today.

Start by understanding the vision of what is possible and where the retail industry is going in the not-so-distant future. We have built a five-step roadmap that you can follow to create your store:

1. Define a vision of what the store will look like in three to five years.
2. Develop a list of initiatives that implement the vision.
3. Prioritize the initiatives based on their importance to the business and the ease of implementing them.
4. Organize the initiatives into a portfolio of IT projects, and map the projects against each of the three main concepts.
5. Create an IT infrastructure that supports the store of the future.

Achieving your store of the future vision also requires ensuring you have the business and organizational practices that will support moving to this new model and that you plan your IT infrastructure now to support the future.

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