TRANSFORMING LEGACY SYSTEMS:
What Retailers Need to Know to Pick the Right Path

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In a marketplace that can accurately be described as hypercompetitive, retailers are relying more than ever on their information technology solutions to deal with the one-two punch of fast-changing business conditions and rapidly rising customer expectations. Yet for many retailers, their IT solutions may actually be part of the problem; their own legacy architectures are dulling their competitive edge rather than sharpening it. Even when these reliable legacy systems continue to perform the functions they were designed for, their limited flexibility and scalability leave these retailers ill-equipped to meet business needs today—and unable to gain business benefits in the future.

A further hindrance to retailers’ forward movement is that maintaining legacy systems becomes an increasingly expensive proposition as these systems age. The cost is not only financial: when IT departments must maintain tools, skill sets and personnel to manage aging systems, legacy technologies soak up time, manpower and expertise that could be used to create newer, nimbler, value-added solutions—solutions that could have a positive impact on the customer experience as well as on the retailer’s bottom line.

For these reasons, transforming legacy systems is becoming an urgent priority for many retail organizations. However, retailers also realize that legacy transformation can be a daunting challenge, affecting not only their IT departments but virtually all aspects of their business—from store operations and merchandise planning to relationships with both suppliers and customers. So while a legacy transformation may seem to be primarily technology-driven, the most successful projects are actually driven by business needs, and align with the retailer’s business goals.

“Retail CIOs are looking at how they can help their organizations be more agile—to make decisions faster and seize opportunities,” says Jeff Roster, VP, Retail at Gartner. “They are asking themselves ‘How can we drive a real-time enterprise vision?’”

Roster also cited the 15th Annual RIS News/Gartner Retail Technology Study, which surveyed retail CIOs on their major challenges in the next three years. The top three areas of concern were store-level IT investment (58%); capital constraints (56%); and real-time visibility throughout the organization (52%).

**COMPETITION MOTIVATES TRANSFORMATIONS**

Business issues are among the key factors motivating the increasing number of legacy transformation projects in retail, according to Rob Garf, Research Director, Retail for AMR Research. “The overall driver is a hypercompetitive business environment; retailers see transformations of their legacy environment as helping them compete in this environment,” says Garf.

Garf identified three key business capability areas that legacy transformations can address. The first is basic technological flexibility, when an existing system or application simply can’t fulfill a business requirement. Garf notes that retailers are looking for IT that fosters change: “Rather than acting as a hindrance for change, retailers want their technology itself to act as a platform for transformation.”

A second, urgent need is for more usable software, meaning “software that’s intuitive and easy to use by the business owner,” notes Garf. Recent technology advances have produced a wide range of applications with common, easy-to-learn interfaces, but with “a ton of sophistication hidden ‘behind the curtain,’” notes Garf.

Moving to these newer, more user-friendly applications is important in the corporate headquarters, where they can support more analytically driven planning processes, but they are even more crucial in the store environment, “where turnover can be more than 100 percent annually,” notes Garf. Anything retailers can do to cut the training times and their associated costs for store personnel has the potential to improve operations and even to increase top-line sales.

Finally, legacy transformations are essential for meeting retailers’ desire for more efficient access to information and business intelligence. “Legacy systems today typically require a staff to build a report in order for executives or operational employees to get at the information they need to do their jobs,” says
Garf. “There’s a desire to leverage the rich transactional information that already exists in multiple systems, by consolidating it, cleansing it, rationalizing it, and making it available to decision-makers in a timely fashion.”

**SEEKING SUPPORT FOR REAL-TIME VISIBILITY**

For retailers, there’s an increased focus on making this valuable information available in the store itself, either by providing it to store associates or directly to customers via kiosks and other self-service devices. That means creating an IT platform that supports real-time visibility throughout the enterprise, and throughout the store.

“Improving employee productivity is a top driver for retailers, and to really make that work today requires a real-time enterprise,” says Gartner’s Roster. “Retailers need to give their associates access to information, and they further need to keep them on the sales floor and out of the back room. In many cases that means providing wireless devices on the sales floor that can give associates, and customers, access to information.”

**BUSINESS COMES FIRST**

While technology is obviously involved in helping retailers reach the goals identified by Gartner and AMR, successful technology transformations need to be strongly aligned with business goals and measured with business metrics. “Business issues have to inform technology strategies,” says Michael Picard, Vertical Services Lead for the Advanced Solutions Group of Cognizant. “All transformations need to have a solid idea of the

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**Portfolio Analysis Maps IT ‘Hot Spots’**

Before retailers can determine where they want to go, they need to know where they are at present. That’s why one of Cognizant’s first steps in a legacy transformation project is to perform a portfolio analysis on a retailer’s existing IT structure. This provides retailers with a much more detailed picture of their tools and current capabilities.

While legacy systems may be working well, many are not well-documented. Because many systems grew in response to specific business needs that may no longer be relevant, retailers are often unaware of existing applications that they no longer use. This adds to the inefficiency and high maintenance costs of many legacy systems, according to Robert Barrett, Director, Retail Practice for Cognizant.

Portfolio analysis is a thorough procedure. “We collect approximately 125 quantitative parameters, relating to how the system is architected, how many interfaces it has, the type of technology that’s used and how complex the code is,” says Kaushik Bhaumik, VP and Global Practice Leader for Cognizant’s Business Technology Consulting Group. “Then we can quantify the system based on function points—what the applications actually do. From this data collection and our upfront analysis, we’re able to arrive at what the company’s ‘hot spots’ are.

“If a company is undergoing a legacy transformation, they want to know where and why it makes the most sense to transform,” adds Bhaumik. “Is it because a system can’t scale with business needs? Is it because the system lacks appropriate functionality? Is it because there aren’t the skill sets needed to support it? Once those ‘hot spots’ are determined, we can help show a path to migrate to a future state technology.”

Such mapping involves not only specific applications or operational systems but the entire approach to the transformation process, according to Bhaumik. “There are always multiple pathways from where people are to where they want to go,” he says. “A retailer could choose an option that has more investment up front and less later, or that would stagger the investment. Each path will have a different investment profile, a payback profile, and a technology risk implementation profile. We model all the various options.”
value that the transformation will bring to the organization. Those business values could be increasing revenues, reducing cycle times, reducing returns or improving inventory turns. Whatever they are for each company, the company has to align these business objectives with their technology objectives.

“First steps are crucial steps,” adds Picard, identifying key elements of successful transformation plans:

• Gaining support from the organization’s business leaders (the CIO and other top executives).
• Gaining “buy-in” from the internal IT staff.
• Establishing a comprehensive, end-to-end plan, with agreed-upon metrics and standards for the project.
• Getting a portfolio analysis of the current IT architecture and its applications.

Another important determining factor in a transformation’s success is creating a plan that’s customized to the individual retailer’s situation. Just as the precise combination of business goals will be different for each company, the existing IT architecture is often unique to each retail company, in large part because many legacy architectures grew “organically.”

While legacy systems may be working well, many are not well-documented. “Retailers often don’t know all that their legacy systems do, and they don’t know what parts of the legacy applications are not being used, so these applications are often highly inefficient and definitely very expensive to maintain,” notes Robert Barrett, Director, Retail Practice for Cognizant.

Several factors are making legacy transformations more attractive to retailers. The cost of maintaining legacy infrastructures is rising, while costs

CASE STUDY | RADIOSHACK

Cognizant Helps Chart Legacy Migrations for RadioShack

As early as the late 1990s, RadioShack made a strategic decision to move away from its existing legacy mainframe architecture, with an eye to using more packaged applications that would provide the consumer electronics retailer with greater flexibility, a faster time to market and a platform for further changes.

But as anyone who has been involved in implementing an overarching strategic vision knows, there are always multiple paths available to reaching a goal. On several projects, RadioShack’s executives received assistance from Cognizant in deciding on optimal migration paths for a range of applications, as well as providing technology expertise and manpower to execute the projects.

“We’ve built a strong partnership with Cognizant over the past six years,” says Don Vietti, RadioShack’s former CIO. “They have the ability to ramp up quickly to meet the demands of our business. This gives us the ability to draw from a wide variety of technical skills, from legacy to the latest in development platforms.”

An ongoing mainframe cost reduction project that involves moving RadioShack’s operational data store from the mainframe to a distributed platform has been driven by many business factors, including the need for a faster time to market. “For internally developed custom applications, the time to market was too long—years as opposed to months,” says Sam Whitling, Senior Director, Enterprise Data Management at RadioShack. “And while cost was a relatively minor piece of the whole picture, it does cost money to support legacy applications, and most of ours were on the mainframe.”

Among Cognizant’s contributions were initial analyses for the planning process. “Cognizant’s previous migration knowledge was helpful here, and they were able to add resource people who understood mainframes,” said Whitling. “Their ability to quickly analyze job streams, map applications and

“We were having a hard time getting staff to work on the older mainframe technology.”

— Christopher Hall, Director of Supply Chain Systems, RadioShack
data access was important."

Cognizant also provided detailed “cookbooks” for specific porting processes. These helped RadioShack speed and simplify migration processes by grouping common tasks closely together, achieving better throughput overall.

The project has been under way for approximately two years, and RadioShack has already migrated its operational data store and historical sales ticket data—approximately 80 percent of its total mainframe data volume—as well as some applications off of the mainframe. “There’s some redundancy still in the data setup, but now we can decide when it’s most advantageous for RadioShack to move a legacy application from the mainframe to the new environment,” says Whitling.

“We believe we’ve postponed any additional investments in the mainframe for the past 1.5 to two years, and we’ve been successful in managing our resources to handle our increased business. Now we can do development on a distributed platform as opposed to the mainframe.”

— Sam Whitling, Senior Director, Enterprise Data Management, RadioShack

a hard time getting staff to work on the older mainframe technology,” says Christopher Hall, Director of Supply Chain Systems for RadioShack. “Also, we were looking to upgrade our merchandising foundation data, and gain greater flexibility and supportability. We were also looking for some ROI in better management of inventory dollars.”

Cognizant provided expertise on the packaged application, and supplemented RadioShack’s manpower needs during the 18-month deployment process. “Using Cognizant and a packaged application allowed us to have a small core team for support,” notes Hall. “In the previous ‘custom’ world, we had to hire and retain staff that knew our specific, proprietary custom applications. Now, as projects come along, we can scale up by finding people at Cognizant who have packaged application expertise and use them, and then ramp down when the project is complete.”

The packaged application has provided RadioShack with tighter control and greater visibility in the financial tracking of its inventory, especially in the area of price protection with its suppliers. “Also, we couldn’t have done some of the projects that have come along since then in as timely a fashion if we weren’t on this flexible a platform,” says Hall. “It’s increased our agility to respond to changing business needs.”

RadioShack also moved what had been a custom purchase order management system to a packaged application from Retek. “We were having
for more flexible IT alternatives, such as client/server and Web-based applications, are coming down. Packaged applications for retail have evolved dramatically along with the newer infrastructures and architectural options, so these packages are much more feature-rich than those previously available.

This combination—of extremely varied existing IT architectures and a vast array of choices for future architectures—calls out for a customized approach to each legacy transformation, such as those provided by transformation experts like Cognizant. Cognizant can help retailers choose the right path for their own legacy transformation, guided by business needs while taking into account individualized technology architectures.

MAPPING OPTIMAL MIGRATION PATHS

Cognizant’s approach helps retailers both by addressing fears of change and by providing a clearer picture of different migration paths. Cognizant acknowledges that change is “terrifying” not only because of the retail industry’s thin profit margins but also because the outcomes of large projects are often not visible at the outset. “One of the biggest ‘pain points’ we’ve encountered is clients saying that whenever they start a new project, they don’t know what they are going to end up with,” says Kaushik Bhaumik, VP and Global Practice Leader for Cognizant’s Business Technology Consulting Group.

In response to these concerns, this group began collecting real-world data from the legacy transformation projects Cognizant worked on, in order to create a more predictable model for new clients embarking on such programs.

As part of this metrics base assessment, Cognizant “can profile factors such as the technical risk, the cost and the ROI, as well as payback for different options, and lay them out for clients to see,” notes Bhaumik. “These models are based on our actual history of doing such projects, similar to the way an insurance actuary’s numbers are based on real events in people’s lives.”

Taking a more holistic approach to transformation projects—one that takes into account the need for change management—can improve a project’s chances for success. “Gartner knows from ongoing studies, in fact from its entire history, that a fair amount of major projects fail,” notes Roster. “But the reason many of these projects fail is due to lack of attention to the human component. If you’re looking at changing processes as well as technology, you need to look at change management for the people involved as well.”

ADDRESSING THE FEAR OF CHANGE

While there are strong motivating factors supporting legacy transformations, there are often equally strong arguments for staying with existing systems. Retailers often believe that staying with their existing legacy systems is the lowest-cost, and therefore the most prudent, option—especially if those legacy systems are still performing the functions they were designed for.

This may encourage an “If it ain’t broke, don’t fix it,” attitude, even as retailers acknowledge their current systems’ shortcomings. “It’s important to remember that, for the most part, legacy systems work,” notes Robert Barrett, Director, Retail Practice at Cognizant. “A CIO may say that it doesn’t work as well as they want it to, and that it’s not as flexible as they might like, but the alternative—change—can be terrifying.”

The fear of change, however, may be masking a bigger risk. “Retailers may believe they’re in a state of low risk if their legacy applications still work, but think about the retail environment and the changes it’s been through in the past five to 10 years,” says Barrett. The explosive growth of multi-channel commerce, better-informed consumers, the blurring of traditional retail channels, the acceptance of self-service and the ramped-up role of RFID are just a few markers of the industry’s seismic changes in the past decade.

“So yes, a legacy system probably works, but does it support the more innovative activities a retailer needs to keep up
“Rather than acting as a hindrance for change, retailers want their technology itself to act as a platform for transformation.”
— Rob Garf, Research Director, Retail, AMR Research

Cognizant’s approach to legacy transformations takes into account the need for change management. “The metrics base assessment, which is the framework and methodology for portfolio analysis, is the cornerstone of what differentiates Cognizant,” says Ron Glickman, VP, Retail and Hospitality. “In addition, we have the best thinking available on how to help clients do the transition. There’s also our commitment to change management, so that we can set expectations, both within the business itself and with external stakeholders. There are a number of things we can do from a services point of view to help customers be successful.”

CONCLUSION
“Both business and IT leaders must take a 360-degree view of their business requirements, as well as their current state of people, processes and technology,” says Glickman. “They also need to determine the future state that they desire and what they want to get out of it. Then they need to put together a transition plan that goes at the pace of change that their business can absorb. Too often these changes are addressed solely from a technology perspective, without this broader context, and that can cause a lot of trouble. Looking at them from a holistic perspective sets expectations properly, and allows the company to meet them.”
Generating and Delivering Retail Power

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Whether you desire an extensive overhaul of IT across your entire retail value chain or solutions for specific areas such as POS/store operations, revenue optimization, supply chain management and RFID, we leverage our expertise to accelerate your business results and maximize your return on investment.

Cognizant consultants have years of global expertise designing IT solutions in the retail space, including significant package implementation experience with Retek, JDA, SAP and PeopleSoft. And our active involvement with industry forums such as UCCnet, ARTS, NRF and Microsoft RFID Council ensures we remain at the forefront in the development of retail solutions.

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“"We have a significant number of legacy systems in our IT organization that are critical to running our business. We started a large transformation effort to enable these systems to scale to our business needs. We asked Cognizant to help us with this effort. Cognizant brought a tool driven methodology that helped us quickly identify, analyze and transform our legacy systems. With Cognizant’s help we were able to complete this effort on time and meet the business need. Cognizant was professional in their approach; they were very flexible and adaptable in supporting the needs of the project. The project would have been difficult to complete without them.”

— Program Manager, leading food retailer

Ten of the Top 30 US retailers are current Cognizant clients

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