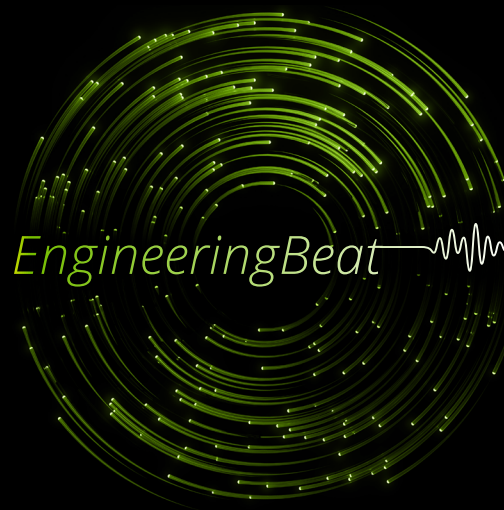# Deloitte.

EngineeringBeat: Powering mainframe modernization

Overcoming the challenges for retailers and consumer product organizations

The modernization imperitive

Retailers and consumer products (RCP) organizations are increasingly challenged by disruptive new competitors, fragmented supply chains, and ever-growing consumer expectations. To remain competitive, it's crucial for them to adopt advanced technology, simplify operations, and deliver enhanced customer experiences. Mainframe modernization—migrating legacy systems, applications, and data to more advanced platforms like cloud—can help.

Modernized IT infrastructures provide access to advanced technologies, such as artificial intelligence (AI), machine learning (ML), and the Internet of Things (IoT), that drive innovation and long-term success. With modernized systems, RCP organizations can create seamless omnichannel experiences, strengthen customer loyalty, and use advanced analytics to deliver personalized customer interactions at scale.

Further, cloud-based ecosystems more effectively support AI and ML, enabling real-time insights that fuel data-driven decision-making. Savvy RCP organizations already realize the critical need for modernization because they know from research that 65% of consumers prefer more personalized experiences.[1] Further, to stay competitive, 62% of consumer products companies are investing in AI and machine learning. According to Gartner®, "ninety-one percent of retail IT leaders are prioritizing AI as the top technology to implement by 2026."*

Modernization challenges and strategies to meet them

Modernization can be a complex, challenging undertaking. The right strategies, coupled with effective execution, can help overcome the challenges and drive long-term growth and success.

1 Systems are complex. Reduce complexity with industry clouds and a sound business case.

RCP companies often rely on fragmented, highly customized legacy systems for processes like inventory management, point of sale (POS), and supply chain tracking. These applications can struggle to keep up with modern demands such as real-time updates and seamless and adaptive customer experiences. However, modernizing these outdated systems while maintaining core functionality can pose a significant challenge, including core business disruption.

To overcome this, RCP organizations can employ industry-cloud solutions to tailor capabilities and gradually integrate legacy systems with modern infrastructures. It's also crucial to build a sound business case that combines a technical analysis with an understanding of priorities and business drivers. These efforts should determine the strategic business potential of applications, as well as any technical debt they carry, to plan the disposition for each application (i.e., retire, replace, rearchitect, rewrite, or refactor). The outcome should be a practical, workable modernization strategy, roadmap, and business case.

> RCP organizations can also leverage fully automated and AI-enhanced tools to automate migration and ensure data consistency across channels and supply chains.

2 Security and compliance are paramount. Enhance them with AI.

Retailers and consumer products organizations are awash in highly sensitive consumer data including personal information, payment details, and loyalty program information—all of which must be properly secured during the migration process. Data breaches can lead to reputational damage and regulatory fines under laws such as General Data Protection Regulation and Payment Card Industry Data Security Standard.

To mitigate this challenge, it's crucial for RCP organizations to audit their current and proposed security posture to ensure that both legacy and cloud systems continue to produce identical output and meet data protection standards. Leveraging advanced encryption and automated comparison tools can help secure consumer data during migration by monitoring retail-specific systems like POS platforms to maintain the necessary vigilance throughout the modernization process. Additionally, AI-enabled threat detection and continuous compliance monitoring tool platforms can help keep data breaches at bay and maintain the organization's overall brand position and reputation.

3 The fear of disruption is real. Calm it with a prioritized, phased approach.

Mainframe modernization can disrupt retail operations such as supply chain management and e-commerce platforms, which can decrease sales and customer satisfaction. Even brief disruptions to POS or online systems, for example, can result in lost revenue and adverse customer experiences, especially during peak cycles.

To reduce disruption, it's essential to take a prioritized, phased approach, considering an organization's specific needs, return on investment (ROI) goals, systems criticality, and key stakeholders' input. Organizations can leverage automated and GenAI-enabled tools to understand legacy systems and help build a migration plan that accounts for different criticalities and business functions—such as inventory and supply chain management—while minimizing disruptions. Cloud-based tools and platforms can support migration capabilities, while fully automated and AI-enhanced tools can execute the migration and help detect—and recommend mitigation strategies for—potential disruptions.

4 Culture and skills issues can be thorny. Smooth them with education and automation.

As workers who are experienced with legacy systems retire, enormous institutional-systems knowledge goes with them. Couple that with both internal and market-based shortages of talent skilled in industry-specific digital technologies, and it creates a talent gap that can increase costs and slow modernization efforts.

To address the gap, RCP organizations can start by investing in training programs to upskill the existing workforce in modern technologies, with an eye toward imparting both technology and RCP-specific knowledge. Organizations should also consider enhancing their recruitment strategies to attract tech-savvy talent through implementing formal programs that rotate and develop the workforce across businesses and functions.

It is also critical to ensure knowledge transfer between workers who carry deep mainframe knowledge and new talent. While retail and consumer products companies employ these talent strategies, automated solutions and processes are also playing an increasing role in transformations, helping expedite fluency in RCP-specific dynamics and solutions that can help to ease the transition process. Modern technology can also help employees become more efficient—especially in areas like last-mile delivery and route optimization.

Mainframe modernization in action

Unlocking operational excellence: A global retailer's modernization journey

A leading global retail company, aiming to boost operational efficiency and maintain its competitive edge, undertook a comprehensive review of its legacy systems, with the goal of consolidating platforms and extending usability across the ecosystem—especially for inventory and supply chain components. Addressing data lineage was also a crucial need.

While exploring both custom and common enterprise packaged solutions, its first step was to prioritize rationalizing and standardizing its systems to secure incremental benefits throughout the journey. During the process, one key focus area emerged: a system with virtually unparalleled business capabilities—notably, its unique "anywhere to anywhere" functionality—a feature absent in other brands' systems.

Deloitte collaborated with the company to conduct a comprehensive discovery and business case analysis. This involved evaluating various modernization scenarios, considering factors such as total cost of ownership, timeframes, and specific technological, industry, and organizational requirements. The results equipped the organization with the necessary insights to choose the most suitable modernization path and facilitated alignment between business and IT stakeholders. Additionally, the assessment indicated that, irrespective of the chosen path, accelerators could be utilized to expedite and mitigate risks associated with the mainframe modernization effort.

The modernization payoff

Bottom line? Mainframe modernization can offer significant benefits. It helps RCP organizations change the way they do business—all while supporting integration with emerging technologies to drive business optimization. Specifically, organizations can gain:

Enhanced customer experience: Advanced analytics to enable real-time analysis of customer behavior—creating personalized shopping experiences that build long-term loyalty by ensuring that customers feel understood and valued.

Seamless omnichannel strategies: Consistent interactions across online, in-store, and mobile channels create a cohesive customer journey—reinforcing brand loyalty and boosting retention through more integrated experiences.

Optimized costs and efficiency: Cloud and automation streamline processes, improving productivity, resource allocation, and response times—which can result in lower costs and enhanced operational efficiency.

Agility, scalability, and security: Modernized IT infrastructures enable RCP companies to better adapt to market shifts, flexibly scale operations, and meet evolving security and compliance requirements—all of which helps build and maintain consumer trust.

Faster innovation and talent attraction: Leveraging technologies like AI, ML, and IoT accelerates new business models, product launches, and market response, while modern platforms help attract the critical talent that's needed to maintain competitiveness.

Why modernize?
You can't afford not to.

Mainframe modernization isn't just a technical upgrade—it's a strategic business imperative for RCP companies. By tackling disruptions head-on, enhancing customer and omnichannel experiences, and boosting operational efficiency, modernization equips businesses with the tools they need to thrive in today's complex digital landscape. But the potential benefits don't stop at improvements. Modernization lays the groundwork for future innovation and growth, ensuring your enterprise remains resilient and competitive. The time to modernize is now. The ROI? A more innovative, successful, and growth-oriented enterprise, ready to seize long-term success.

*Gartner Insights, Unlock insight for retail digital transformation with the 2024 Gartner CIO Agenda, https://www.gartner.com/en/industries/retail-digital-transformation

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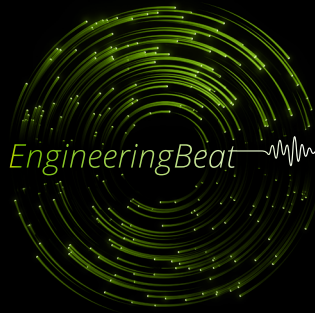
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Want to know the latest in mainframe modernization, cloud, or engineering? We're on the beat, covering sector-specific trends and hands-on strategies to help you stay up-to-the-minute. Spend just a few moments—a beat—and gain actionable insights to move your business forward.

Endnotes

1. Salesforce, "Personalization, data security, and speed drive customer loyalty amid uncertainty," January 19 2023. https://www.salesforce.com/news/stories/customer-spending/
2. Deloitte, "EngineeringBeat: GenAI and cloud for consumer products," accessed October 2024. https://www2.deloitte.com/us/en/pages/consulting/articles/engineeringbeat/ai-consumer-products-industry.html

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