The Retail CIO of 2025

Nine in 10 retail chief information officers (CIOs) expect revenue-generating responsibilities to be part of their jobs by next year, according to a new global Forbes Insight study.

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Within 5 years, retail CIOs will be directing complex, global omnichannel strategies as next-generation technologies completely transform the retail marketplace.

Quick-on-Their-Feet Strategic Innovators Are Needed to Help Brands Succeed Amid All the Noise

Nearly half of retail CIOs expect to be CEOs by 2025.

Traditional retailers have traversed rocky roads over the last 5 years, as digitally native e-commerce firms have stolen market share from brick-and-mortar competitors. But it turns out that demanding consumers don't want to give up physical retail destinations altogether. As a result, there has been movement toward the middle, with established retailers investing heavily in online operations and e-tailers putting roots down in the physical world. To call the retail marketplace chaotic is an understatement.

Among other digital changes that modern retailers must adjust to: managing just-in-time inventory, automating the back-office and warehouse operations, using mobile devices to empower associates to better serve customers, and enabling seamless consumer self-service, such as buy-online-pick-up-in-store experiences.

Amid this disruption, the role of the retail CIO has changed dramatically—from ensuring that the lights remain on and back-office operations run smoothly to becoming the most important executive for overall business success in a transformed retail universe. Already, 79 percent of retail CIOs are primary drivers of innovation for their firms. Almost three-fourths (74 percent) currently sit on their board of directors. And as further proof they're leaving technical operational tasks behind, 60 percent of retail CIOs believe they will be responsible for overall corporate strategy in 5 years.

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To stay ahead, retail CIOs must continue to aggressively adopt emerging technologies such as artificial intelligence (AI), machine learning (ML), and Internet of Things (IoT), as well as prepare to guide their organizations through enormous cultural shifts arising from deploying these nascent technologies. A case in point: Six in 10 CIOs (61 percent) believe they will be the primary change agents for their businesses by 2025.

Retail CIOs must simultaneously champion technology change and undergo personal transformations into leaders aligned with business stakeholders and board of directors, capable of navigating through uncertain competitive and technological waters. Proof that retail CIOs are ready to embrace opportunity, almost half of CIOs (46 percent) expect to be CEOs by 2025.

These are some of the key findings of a *global Forbes Insight survey* of 100 CIOs from retailers with revenues of $1 billion or more. The research was done in partnership with VMware.

This brief explores
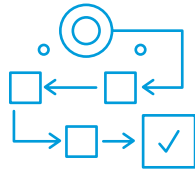
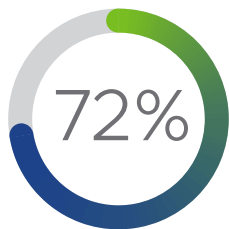|		
The expectations of and realities faced by retail CIOs, as well as key opportunities and obstacles.	**How CIOs view themselves personally, and how they feel about technology and social responsibility.**	**Ways CIOs can overcome challenges and seize opportunities to achieve both professional and personal success.**

Expecting Greater Strategic Accountability

72%

Retail CIOs who agree that their roles in directing enterprise change management will increase.

79%
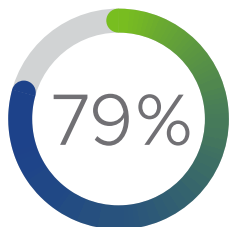
Retail CIOs who say they are the primary drivers of corporate innovation.

Retail CIOs already enjoy considerable responsibility and power. A full 84 percent of survey respondents—the highest of any industry—are key decision makers on corporate strategy, with 82 percent reporting directly to the CEO. More than three-quarters (78 percent) also say they are the primary decision makers for corporate acquisitions, highly significant in today's heated market for traditional retailers to acquire innovative online brands.

CIOs in retail businesses expect their authority to increase even further. More than half (55 percent) believe they will head profit centers within 5 years. This makes sense in an industry where margins matter. How robust or slim those margins are depends on them using technology strategically to adapt to ever-changing consumer tastes and trends.

Retail CIOs will be responsible for using big data and advanced analytics to deliver exceptional experiences with extreme personalization, determine next year's fashion trends, and enable profitable "pop-up" stores to sell items targeted toward a specific geography or season. Indeed, 68 percent of retail CIOs surveyed believe technology will drive "large" or "very large" changes in product development within their businesses.

Big data and advanced analytics already impact retail operations—from delivering shopper recommendations to preventing credit card fraud to enabling real-time inventory management. CIOs across retail expect to have increasing influence in these areas. When it comes to sales and marketing, where data is decidedly king, approximately half of retail CIOs say they will have stronger relationships with the executives leading those two important functions.

Compliance is another area retail CIOs continuously monitor. With established U.S. mandates such as Payment Card Industry (PCI) data protection standards, the European Union's GDPR privacy standard, and an ever-growing number of country-specific regulations in other parts of the world, retail CIOs must be even more vigilant about customer data protection and privacy. Not surprisingly, retail CIOs are more likely to say they have responsibility for customer data than those in other industries, with 81 percent saying they were accountable in that area. Retail CIOs are 42 percent more likely than CIOs from other industries to say that regulatory compliance is a challenge they will continue to face.

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Accelerating Innovation with Emerging Technology
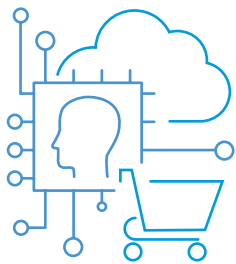
Today, AI and IoT are the top technical priorities for retail CIOs. By 2025, AI will remain on top, but ML becomes their No. 2 critical-for-business technology.

Before the e-commerce revolution, the retail industry was not generally known for early technology adoption. Today, the pace of adoption has accelerated considerably with technology now transforming virtually all aspects of retail—from acquiring customers through targeted advertising, to accepting a wide range of digital payments, to making pricing decisions based on just-in-time data about consumers' buying behaviors, to tracking consumers' choices no matter what channel they use to shop: physical, online, or mobile. Largely because of the meteoric rise of Amazon as well as other e-commerce pioneers, current retail CIOs are pushing for investment in leading-edge technologies such as AI, ML, and IoT to stay relevant and gain advantage.

For retail CIOs, today's top emerging tech priority for development over the next 5 years is AI—given the huge volumes of demographic and transactional data that merchants are collecting, storing, and attempting to analyze. IoT is the second-highest tech priority today.

The combination of AI and IoT will be a powerful one for retailers. For example, retailers can pinpoint consumers' precise geographic locations via their smartphones, and serve up special price discounts or advertisements when they are close to or shopping within physical stores. Retailers can also gain tremendous insights by analyzing customers' online browsing and overall purchasing behaviors—both online and in brick-and-mortar stores—to determine when customers are window shopping, making price comparisons, or are ready to purchase. Back-office and warehouse operations are rapidly being automated. And of course, these technologies will enable extreme personalization to get consumers the right product offers at the right price at the right time—a win-win for both retailers and customers.

Looking ahead to 2025, AI stays on top, but ML moves into second place of importance over IoT, with 64 percent of retail CIOs surveyed expecting AI to be either "very important" or "critical" to their businesses at that time, and 60 percent expecting the same of ML in their 2025 projections. AI and ML also won the top spots as the most challenging technologies to deploy.

By prioritizing ML, retail CIOs are recognizing they need to leverage the immense amounts of data their businesses are accumulating. ML will help their companies churn through this data, identify patterns and trends, and gain insights not otherwise visible to human eyes because of the huge volumes of data involved. These insights are expected to bolster both bottom-line and top-line initiatives.

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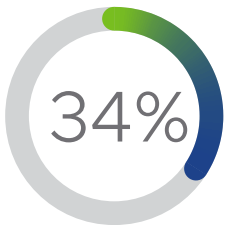
Overcoming Challenges

Successfully implementing any innovative technology requires the right combination of people, process, and technology. The chief obstacle for retail CIOs will be finding people with sufficient expertise and hands-on knowledge. Almost one in three (29 percent) retail CIOs surveyed expect that implementing AI will be the most challenging of all technologies to roll out for this reason. Almost as many (27 percent) identified ML as most difficult.

Retail CIOs will find they have to grow their own expertise, hire third parties to aid them in their innovation efforts, or both. At the same time, they will need to champion the cultural shift to come.

IoT, AI, ML, and other technologies are poised to significantly change the way retail employees and managers work and interact—with each other and with consumers. Both old and new jobs will involve working more with intelligent systems to complete tasks. For example, robotics—both software robots ("bots") and mechanical ones—are transforming the way inventory and warehousing work. This will require training, collaboration, handholding—and patience.

The CIO 2025 survey showed that in retail organizations, CIOs believe that integrating with multiple systems is the single most important aspect of managing a successful technology implementation. This makes sense given the many disparate technology silos that exist within retailers' IT ecosystems—from standalone point-of-sale (POS) systems to recommendation engines to fraud detection systems to critical back-office systems like employee scheduling.

Retail CIOs also believe their success will be tied to engaging with knowledgeable and trustworthy third-party technology partners. Currently, no off-the-shelf AI, ML, or IoT applications exist. Each system must be custom built to meet the specific needs of a particular retail organization. Partners that offer quality solutions and possess deep technical expertise will be important.

By working and collaborating with trusted partners, retailers can explore the potential—and limitations—of leading-edge innovations and come out the other side of digital transformation with high-ROI solutions. More than one-third of retail CIOs (34 percent) surveyed believe that working closely with technology partners and using partners' professional services are the biggest determinants of a technology project's success.

IoT, AI, and ML are poised to significantly change the way retail employees and managers work and interact—with each other and with consumers.

34%

More than one-third of retail CIOs believe that strong partner relationships and using partners' professional services are the most important drivers of technological success.

Converting IT from
Cost Center to Profit Center

Cost savings has long been the number-one driver of IT innovation. But that's changing. Across industries, today's CIOs are focusing more on revenue-generating opportunities, as technology is increasingly viewed as a key driver of business growth rather than just a way to squeeze inefficiencies out of operations. Within one year, 89 percent of retail CIOs believe they will have revenue-generating responsibilities in addition to their traditional IT ones—about par with their counterparts in other industries.

For example, retailers can boost existing customer lifetime value by customizing offers based on past behaviors. They can improve loyalty and minimize customer churn by building chatbot-based customer service systems that allow consumers to quickly get answers to common questions and concerns. Additionally, retailers have immensely rich stores of demographic and customer-purchasing data, which they can use to track consumer trends and analyze to predict future buying behaviors.

89%
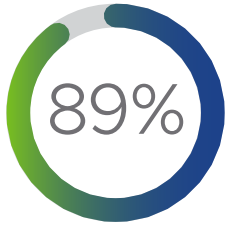
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Maintaining the Role of Cyber-Dragon Slayer

Defending their retail organizations against cybercriminals is a never-ending job. CIOs in all industries continue to invest millions in cyber defenses, but ongoing losses from breaches far outpace their spending. Most retail CIOs surveyed say they can't keep up. Radical changes in tactics and tools are needed.

More than 8 in 10 retail CIOs (86 percent) believe the Internet requires a cybersecurity overhaul. And more than one-third (34 percent) of retail CIOs believe that cybercrime has the capability to actually shut down the Internet.

Although this sounds ominous, technology can also be used for good—to help secure the privacy and security of sensitive systems and customer data, by using such modern strategies as intrinsic security.

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Acting as a Moral Compass for the Enterprise

Recent disclosures about personal data and information being used improperly across commerce, government, and social realms have the potential to sour consumers on technology.

CIOs across industries are acutely aware of this situation, and feel social and moral obligations to respond. Only 10 percent of retail CIOs surveyed view themselves as solely responsible to support the profitability of their organizations. An overwhelming majority of retail CIOs (72 percent) believe they should avoid using technology that does harm. Yet a higher percentage (73 percent) believe they should do more—that they should harness technology for social good.

Retail CIOs are adamant about a number of specific social concerns. They believe CIOs will be pivotal in helping their organizations succeed in navigating socio-economic issues over the next 5 years, including ensuring privacy for individuals (62 percent) and easing the digital divide in young peoples' educations (61 percent).

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The Retail CIO of 2025

To become a retail CIO of 2025 requires being agile, adaptive, and responsive to a swiftly moving—and increasingly global—digitally sophisticated market. These executives must master the deployment and management of emerging technologies to identify new business opportunities, drive costs down through internal efficiencies, find innovative ways to differentiate themselves from other retailers—both online and brick-and-mortar—and be more accountable for generating new revenue streams. They also must continue to thwart cyberattacks while protecting the privacy and security of customers' transaction and financial data—all while helping drive corporate social responsibility.

They will not be alone. A cooperative workforce together with reliable, expert partners will help them transform their products, services, and channels on their ongoing digital transformation journeys.

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