



BUILDING CONVENIENCE RETAIL SUCCESS THROUGH TECHNOLOGY

PART ONE OF A TWO-PART STUDY

NACS

Research &
Technology

OVERVIEW

Convenience retailers are increasingly leveraging more advanced technologies to remain successful. The past few years have proven that it is pivotal for retailers to have the right technologies in place to meet increased operational challenges and escalated shopper expectations. How retailers leverage technology to boost internal efficiency and adapt to evolving customer requirements will heavily influence convenience retailers' future prosperity.

This research explores:



**Technology roadmap
influence on preparedness**



**How the allocation of technology
spend impacts retailer success**

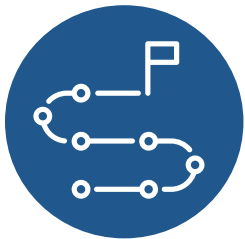


**The challenges convenience
retailers are solving with
technology**



**Future technology
adoption targets**

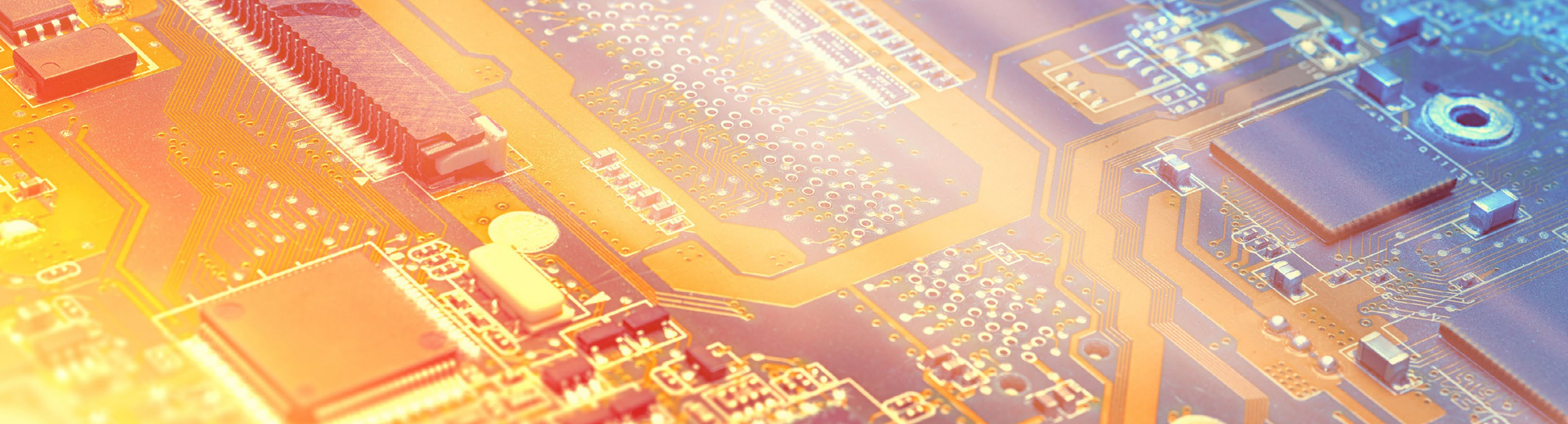
KEY FINDINGS



Nearly 1 in 5 convenience retailers do not have a formalized technology roadmap. Retailers that have a technology roadmap that plans for a minimum of 2-3 years are less likely to require reactive technology pivots in the event of a business environment shift and allocate more technology resources to customer-facing initiatives.



Only 40% of convenience retailers believe they have the right technologies in place today to meet future business and market demands. Retailers that feel they have adopted the right technologies for their business emphasized the implementation of shopper experience-related technologies.



Only one-quarter of convenience retailers dedicate the majority of their technology spend to customer-facing projects. The most advanced retailers have already adopted pivotal operational and back-office technologies, which allows for increased attention to technologies that improve the shopper experience.



API adoption and the variety of technologies being implemented are expected to increase. Convenience retailers are placing more emphasis on contactless payments, omnichannel shopping, and speed of shopping and checkout.

RECOMMENDATIONS

→ Develop a technology roadmap that plans for at least three years with scheduled reviews every six months to update the plan. Account for a variety of potential changes in shopper expectations and economic uncertainties.

→ Evolve the company's culture with respect to technology so that the following hallmarks are sought-after attributes by company leadership:

- **Maintenance of an adaptable technology roadmap**
- **An agile, test and learn environment**
- **Limited burden of legacy business processes on new technology developments**
- **Focus new technology projects on improving the shopper experience**

→ Evolve toward a balance in the technology budget that allocates at least 60% of planned spending to technology that addresses improving the shopper experience and building customer demand.

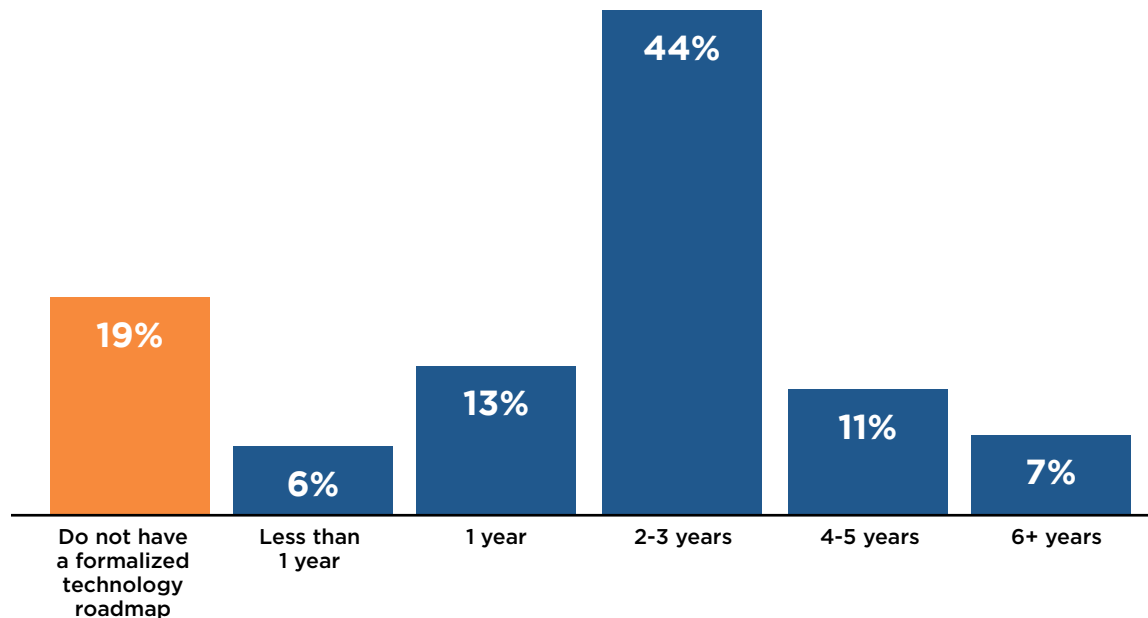
→ Implement operational technology that allows store staff to spend more time on customer-facing activities and adopt technologies that enhance shopper in-store and mobile experience.



IMPACT OF TECHNOLOGY ROADMAP PLANNING

Convenience retail technology leaders express a range of timeframes for how far into the future their technology roadmap charts a path forward. Despite the important role technology plays in the broader strategic aims for retailers and boosting profitability, some retailers are not committing the resources to a technology roadmap that addresses needs in the immediate months ahead, if at all. As shown in figure 1, nearly 1 in 5 convenience retailers do not have a technology roadmap, and an additional 19% of retailers have a roadmap for just the next 12 months or less.

FIGURE 1: **TECHNOLOGY ROADMAP PLANNING TIMEFRAME**



> Nearly 2 in 5 convenience retailers do not have a technology roadmap or have a plan that only extends for one year or less.

A hand holding a black pen is positioned over a calculator and a document with a bar chart. The background is a blurred office setting with a yellow object.

> A technology roadmap with a longer time horizon resulted in less COVID-19-influenced reactive decisions for retailers.

While the ideal timeframe for a technology roadmap depends on IT goals, current technology adoption maturity, and broader company objectives, a roadmap that plans for one year or less may not provide an adequate path for long-term successful technology adoption. Not only does a technology roadmap help illustrate the impact technology has on company objectives but it also allows for communicating technology goals and building organizational buy-in where necessary. The technology roadmap also serves an important role in tracking progress and assigning responsibility for components of the plan.

Increased complexity for technology leaders as a result of the COVID-19 pandemic amplified the need for a well-designed technology roadmap. The 38% of retailers with a short-term technology roadmap that plans for one year or less said they were more adversely impacted by COVID-19 challenges. For instance, 64% of retailers with a short-term technology roadmap believe their company adapted quickly to technology challenges caused by COVID-19. In comparison, 83% of retailers with a two-year or longer technology roadmap said they were confident their company adapted quickly to COVID-19-related obstacles.



Convenience retailers with a longer time horizon for their technology roadmap list a few key factors that contributed to their company's ability to adapt to challenges caused by COVID-19:

- **Well-established remote work capabilities (such as VPN)**
- **Contactless payment and mobile ordering already in place at the pump and in-store**
- **Disaster recovery plan already in place before COVID-19**

When asked how technology priorities changed as a result of COVID-19, companies with a longer-term roadmap had an interesting response—nothing! Unlike companies that needed to be more reactive and were forced to rapidly adopt technologies for self-checkout, set up remote work access for employees and quickly implement third-party delivery solutions, companies that had a more established roadmap did not have to scramble to adopt already-planned-for technologies. Instead, companies with an established roadmap reaped the benefits of prior planning and were able to maintain their course while evolving their roadmap for what comes next.

Convenience retail technology leaders that have a roadmap that extends for two years or more focus their technology spend differently than other retailers. Figure 2 displays the percentage of technology spend allocation between operational and customer-facing technology based on roadmap timeframe. While operations-dedicated technology spend makes up the majority of the allocation across all companies on average (56%), retailers with a longer roadmap time horizon are more likely to allocate funds to customer-facing technology.

Multiyear roadmap plans allow technology leaders to target technologies that impact the customer experience. Proactive planning across a longer time span gives retailers an opportunity to focus on technology that improves the shopper experience. Rather than dedicating more effort to store operations or back-office technology that may seem necessary to boost efficiency or reduce costs, these retailers instead focus more on technologies that impact the shopper, such as NFC payments, contactless checkout and automatic, anonymous age verification.

FIGURE 2:
**TECHNOLOGY SPEND ALLOCATION
BY ROADMAP TIMEFRAME**

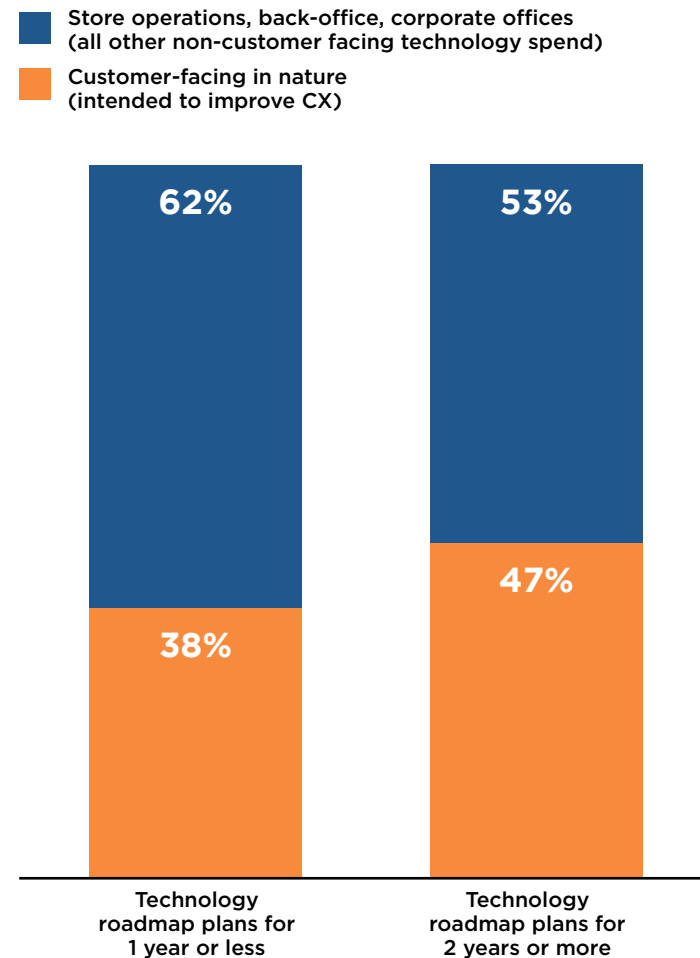











FIGURE 3: OPERATIONAL CHALLENGES SOLVED THROUGH TECHNOLOGY IN THE PAST TWO YEARS BY TECHNOLOGY ROADMAP TIMEFRAME

Operational Challenge	Technology Roadmap Plans for 1 Year or Less	Technology Roadmap Plans for 2 Years or More
 Maintaining cybersecurity/regulatory compliance	36%	66%
 Allowing store staff to spend more time on customer-facing activities	31%	59%
 Maintaining stock of in-demand products	26%	59%
 Making inventory management less manual	41%	59%
 Making store(s) “findable” by customers searching for something	18%	39%
 Auto updating price book changes vs. manual table inputs	33%	38%
 Creating a more seamless supply chain	13%	38%
 Remote updates to order-taking/selection boards	15%	25%
 None of the above	18%	5%

Additionally, the challenges that convenience retailers solved through technology in the past two years differ based on whether roadmaps are short- or long-term focused. Recently, retailers with a long-term roadmap dedicated more attention to implementing operations-related technology. Figure 3 shows the percentage of retailers that implemented technology intended to solve operational challenges in the past two years based on roadmap timeframe.

Retailers that plan for the longer-term are more aware of the operational challenges that technology could solve for and allocated attention to these areas in the past few years. As a result, these retailers are benefiting because of the previous attention they dedicated to operational technology to improve the shopper experience. A longer roadmap time horizon allowed for getting ahead of cybersecurity and regulation implementation, with two-thirds of these retailers reporting that they solved for this challenge in the past two years. Importantly, these same retailers were able to adopt technologies that free up store staff time for customer-facing activities at nearly double the rate as other retailers.



LEVERAGING TECHNOLOGY TO MEET FUTURE BUSINESS AND MARKET DEMANDS

Survey results show that only 40% of retailers believe their company has the right technologies in place today to meet future business and market demands. This indicates that most retailers know their technology stack needs improvement in order to meet the changing retail landscape. Two characteristics stand out as important influencers for whether technology leaders believe their company has the appropriate technologies in place to meet future business requirements:

- **Adaptability of the technology roadmap**
- **Minimal business process impact on technology adoption**



> **81% of retailers that have technologies in place to meet future demands believe their roadmap is adaptable to a range of market conditions.**

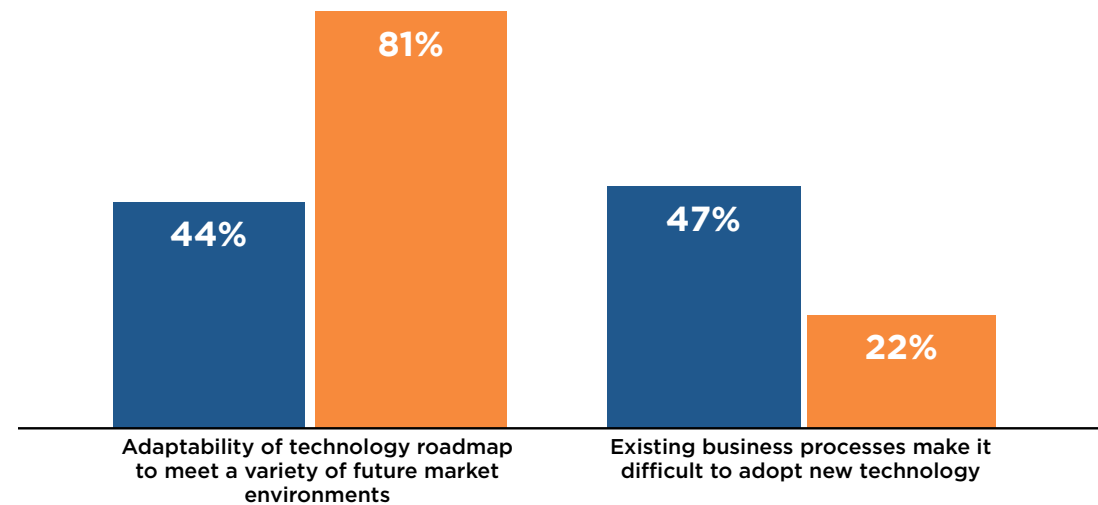
Figure 4 displays the percentage of retailers that respond positively to each statement based on whether the respondents believe they have the right technology in place to meet future business and market demands.

Technology roadmaps serve a pivotal role for enabling future success. Along with having a roadmap that plans for the long term, retailers that implement technologies that plan for multiple business scenarios believe their roadmap is more adaptable. Retailers that do not believe they have the right technologies in place are more than twice as likely to feel that their company is burdened by processes that interfere with technology adoption.

FIGURE 4: CHARACTERISTICS IMPACTED BY TECHNOLOGIES MEETING FUTURE BUSINESS AND MARKET DEMANDS

- Do not have the right technologies in place to meet future business/market demands
- Have the right technologies in place to meet future business/market demands

Percentage agreement with statement





Convenience retailers list several other factors that positively impact their company's ability to meet business and market demands through technology:

- **Agile environment**
- **Ingrained test and learn culture**
- **Not relying on a single technology vendor/provider**
- **Adapting cloud-based solutions**
- **Strong data management and analytics applications**

Challenges that retailers face when adopting technologies to meet market demands include:

- **Changing demands and not finishing one project before starting another**
- **Legacy systems and outdated IT infrastructure**



76% of technology leaders who believe they have adopted the right technologies are prepared to meet current challenges.



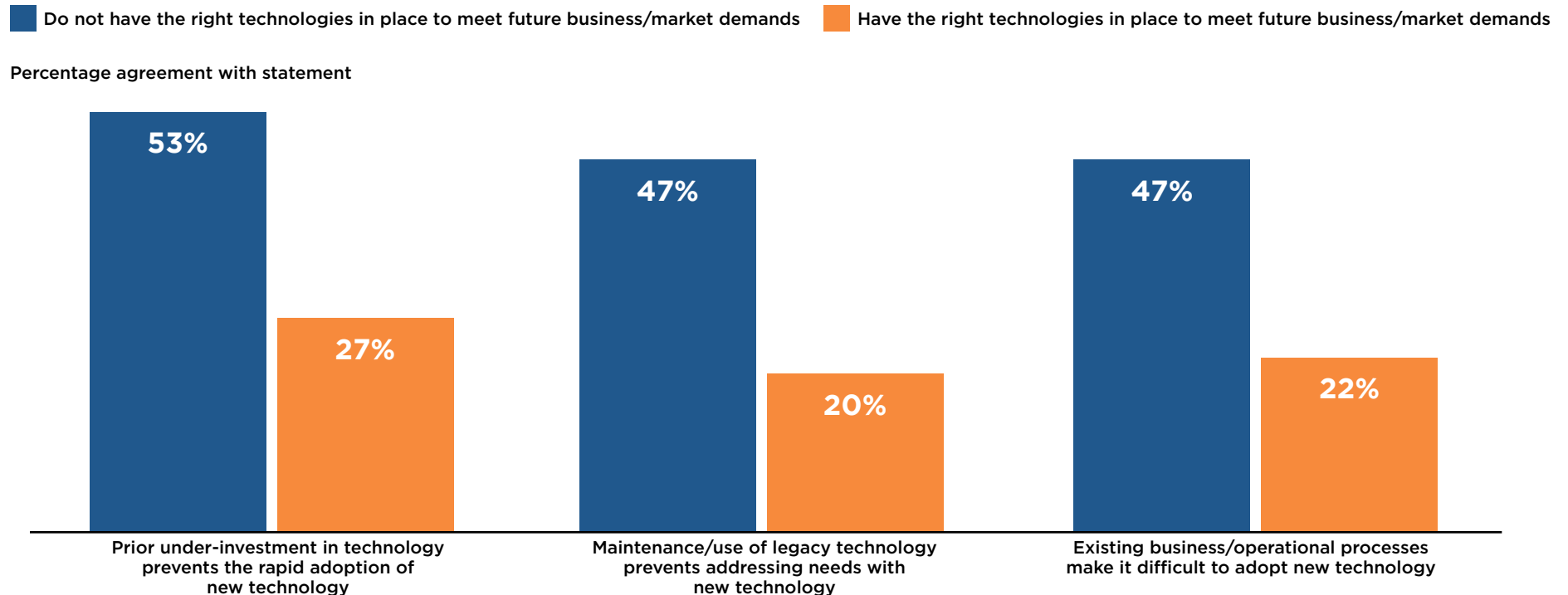
Avoiding pitfalls and creating an environment where technology adoption thrives in order to meet future demands relies on an important attribute: flexibility. The ability to adapt and create a nimble environment is key to convenience retailers' belief that their technology stack can meet future demands. The importance of adaptability was further elevated due to COVID-19. Of those surveyed, 76% of convenience retail technology

leaders that believe they adopted the right technologies reported their company was well prepared to meet COVID-19 challenges. That percentage drops to 48% among companies that said they do not have the right technologies in place to match upcoming market environments. Companies that were better positioned to adjust their technology stack were less likely to face difficulties encountered by others.

> Business processes are more of a burden for retailers less prepared to meet future demands.

Flexibility coupled with a lower burden of legacy technology and prohibitive business processes also contributes to improved ability for the technology stack to meet future business and market demands. As shown in figure 5, those companies that do not believe they have the right technologies in place are more likely to be hamstrung by prior under-investment in technology, maintenance of legacy technology, and operational processes that make it difficult to adopt new technology.

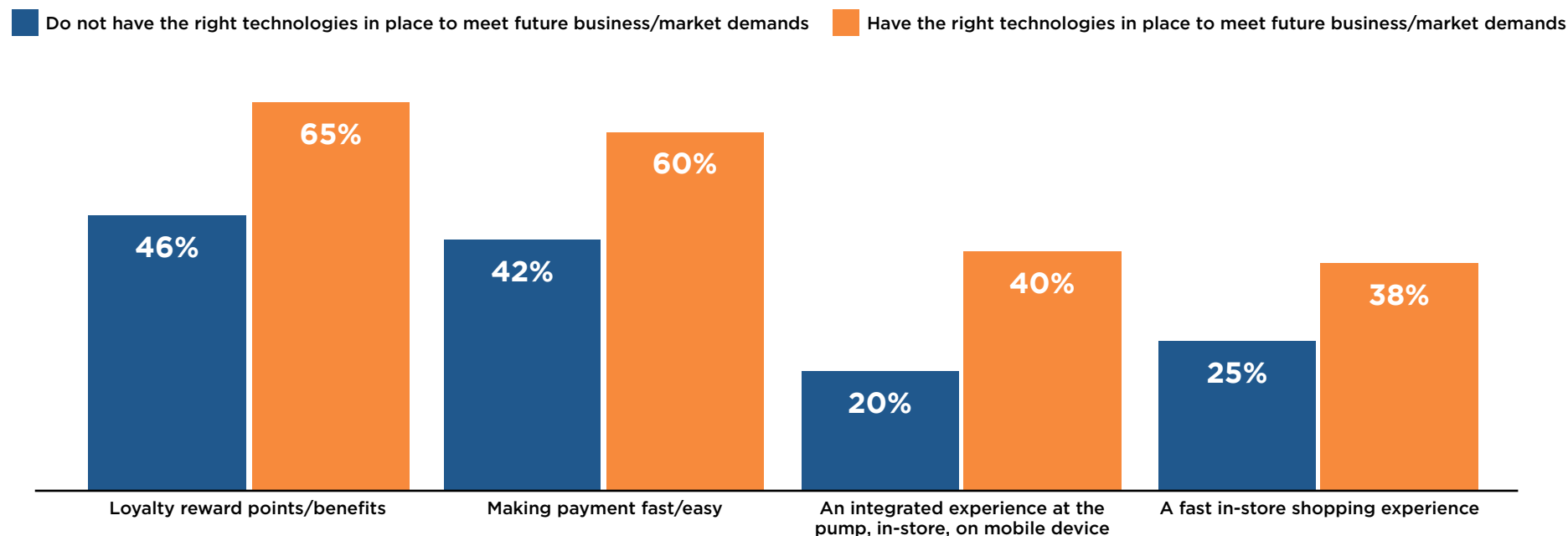
FIGURE 5: FACTORS IMPACTING THE ADOPTION OF NEW TECHNOLOGY BASED ON RETAILER ABILITY TO MEET FUTURE NEEDS



Survey results show that having the right technologies in place to meet future business and market demands requires a customer-driven focus. The adoption of new technologies by companies that believe they are well-positioned to meet future demands is increasingly customer focused. Figure 6 displays the customer challenges that companies in the best position to meet future demands have solved for in the past two years.

> Focusing on the shopper experience is more of a priority for retailers that believe they can meet future market demands.

FIGURE 6: **COMPANIES THAT IMPLEMENTED A TECHNOLOGY IN THE PAST 2 YEARS SOLVED CUSTOMER DEMAND FOR...**



More attention to technologies that boost the loyalty program's profile, developing the omnichannel experience and enhancing the shopper's in-store experience are key areas where the most prepared companies have focused attention in the past two years.

Having the right technologies in place today to meet future business and market demands hinges on the following key factors:

- **An adaptable technology roadmap**
- **An agile, test and learn culture**
- **Reduced burden of legacy technology and business processes**
- **Focusing new technology on improving the shopper experience**













CUSTOMER-FACING TECHNOLOGY SPEND

Convenience retail technology spend largely falls into one of two buckets—spend that is primarily customer-facing in nature (intended to improve the shopper experience) or spend dedicated to boosting store operations efficiency and back-office and corporate office improvements. Survey results indicate that only 44% of technology spend is customer-focused, while 56% is operations or back-office related. Furthermore, only 27% of technology leaders report dedicating 60% or more of their technology spend on customer-facing technology. Throughout this section, NACS examines the companies that allocate the majority of their technology spend to customer-related technology vs. those who do not.

Focusing spend on technology that is customer-facing correlates with a technology roadmap that can adapt to a variety of future market conditions. Of those surveyed, 49% of technology leaders who allocate less than 60% of their spend on customer-facing technology believe their technology roadmap can adapt to a variety of future market environments. However, that percentage jumps to 71% among companies that dedicate 60% or more of their technology spend to customer-facing technology. Those companies that allocate the majority of their technology spend to customer-facing initiatives are more confident in their ability to thrive in the future.

FIGURE 7: PERCENTAGE OF CONVENIENCE RETAILERS THAT INVESTED IN TECHNOLOGY IN THE PAST TWO YEARS TO ADDRESS OPERATIONAL CHALLENGES

Operational Challenge Solved for Through Technology in the Past 2 Years	Under 60% of tech spend on customer-facing (improve CX) areas	60% or more of tech spend on customer-facing (improve CX) areas
 Maintaining stock of in-demand products	39%	76%
 Making inventory management less manual	47%	67%
 Maintaining cybersecurity/regulatory compliance	53%	62%
 Allowing store staff to spend more time on customer-facing activities	49%	57%
 Creating a more seamless supply chain	26%	57%
 Making store(s) “findable” by customers searching for something	28%	52%
 Auto-update of price book changes vs manual tablet inputs	39%	38%
 Remote updates to order-taking/selection boards	23%	29%

Importantly, companies that are focusing more of their current technology spend on customer-facing projects have not ignored operations and back-office technology development. On the contrary, firms that are more focused on customer-facing efforts have largely implemented technologies that solved for operational challenges during the past few years. Figure 7 breaks down the percentage of companies that have addressed operational challenges through technology across the past two years.







 **Only 27% of convenience retailers allocate the majority of their technology spend to customer experience efforts.**

Most of those retailers that are currently allocating more spend to customer-facing technology projects have already adopted technologies that improve inventory management, cybersecurity efforts, supply chain tracking, and other operational projects. Now, these technology leaders are able to turn more attention to customer-facing technology initiatives.

Unsurprisingly, those companies that dedicate more technology spend to customer-focused areas currently have been more attentive to similar projects during the past couple years. Figure 8 displays the percentage of retailers that implemented technologies in the past two years that address customer-driven challenges.

> Payment ease has been the primary focus for CX-focused retailers.

FIGURE 8: PERCENTAGE OF CONVENIENCE RETAILERS THAT INVESTED IN TECHNOLOGY IN THE PAST TWO YEARS TO ADDRESS CUSTOMER-DRIVEN CHALLENGES

Customer-Driven Challenges Solved for Through Technology in the Past 2 Years	Under 60% of tech spend on customer-facing (improve CX) areas	60% or more of tech spend on customer-facing (improve CX) areas
 Making payment fast/easy	37%	71%
 Loyalty reward points/benefits	47%	67%
 Contactless shopping experience/interactions	40%	48%
 Last-mile fulfillment (delivery, curbside pickup, drive-thru, etc.)	37%	48%
 A fast in-store shopping experience	23%	43%
 Personalized product suggestions/promotions/discounts	14%	24%



Payment technology solutions and loyalty rewards were the top two customer-related technology projects that the most tech-advanced companies addressed. These retailers largely focused customer technology efforts on minimizing touchpoints and making in-store shopping fast. Retailers also list the following technologies as among the most important for solving customer-driven challenges:

- **Suggestive selling**
- **Contactless technology (payments and shopping)**
- **Mobile/online ordering**
- **Loyalty app development**

Although many back-office and operational challenges require technology innovation and support, those companies that allocate at least 60% of their technology spend to customer-driven challenges are more likely to adapt to future business environments and position themselves most effectively to keep pace with shopper demands.



FUTURE TECHNOLOGY ADOPTION

Convenience retailer technology adoption is expected to increase during the next two years. Relative to the current pace, 41% of technology leaders expect API adoption to increase during the next one to two years, while 31% expect their company's API adoption to remain consistent, and 22% are not sure. The expected increase in APIs will impact technology implementation across a variety of the operations and customer-facing projects detailed on the following pages.

> 41% of convenience retail technology leaders expect API adoption to increase during the next one to two years. None expect API adoption to decrease.



FIGURE 9: PERCENTAGE OF CONVENIENCE RETAILERS EXPECTING TO IMPLEMENT TECHNOLOGY TO ADDRESS EACH OPERATIONAL CHALLENGE IN THE NEXT TWO YEARS

In the next 2 years, does your company plan to implement technologies that solve for any of the following operational challenges?		Percentage
	Making inventory management less manual	48%
	Allowing store staff to spend more time on customer-facing activities	48%
	Maintaining cybersecurity/regulatory compliance	40%
	Maintaining stock of in-demand products	30%
	Creating a more seamless supply chain	27%
	Auto updating price book changes vs. manual tablet inputs	27%
	Making store(s) “findable” by customers searching for something	26%
	Remote updates to order-taking/selection boards	26%
	None of the above	11%

Technology leaders anticipate that the pace of technology implementation to tackle operational challenges will accelerate over the next two years. Aside from implementing technology to address cybersecurity and regulatory compliance, all other operational challenges shown in figure 9 are expected to be addressed through technology at an increased rate compared with the past two years.

> Inventory management is the top operational challenge convenience retailers aim to address in the next two years.

In the past two years, 54% of technology leaders report having implemented cybersecurity and regulatory compliance technologies. This represents the highest percentage among all operational challenges in the past two years and accounts for the declining percentage that need to address this challenge during the next two years. The largest percentage of companies expect to implement operational technologies that are designed to give store staff more time to spend on customer-facing activities and spend less time on inventory management, supply chain concerns, and other tasks that require manual inputs.

> Making payments fast & easy is the top customer-driven challenge convenience retailers will address in the next two years.

FIGURE 10: PERCENTAGE OF CONVENIENCE RETAILERS EXPECTING TO IMPLEMENT TECHNOLOGY TO ADAPT TO SHOPPER EXPECTATIONS IN THE NEXT TWO YEARS

In the next 2 years, does your company plan to implement any technologies that help with adapting to customer demand for...?		Percentage
	Making payment fast/easy	53%
	Contactless shopping experience/interactions	51%
	Online/mobile shopping experience	49%
	A fast in-store shopping experience	44%
	Loyalty reward points/benefits	40%
	An integrated experience at the pump, in-store, on mobile device	39%
	Last-mile fulfillment (delivery, curbside pickup, drive-thru, etc.)	32%
	Personalized product suggestions/promotions/discounts	30%
	An informed product selection experience	17%
	None of the above	13%



During the next two years, technology implementation that addresses customer-facing initiatives is expected to focus on different challenges compared with the past two years. Loyalty rewards technology implementation was the top concern across the past two years, but that focus is expected to transition to technology dedicated to improving contactless shopping and enhancing the mobile and in-store shopping experience. Figure 10 displays the percentage of retailers planning to implement technology that address each customer-facing initiative in the next two years.

The prioritization of customer-facing challenges in figure 10 reflects the convenience industry's effort to keep up with how customers are shopping (more omnichannel than ever before) and how customers prefer to pay. Mobile checkout, partnering with delivery services and self-checkout are examples of the types of technologies that convenience retailers have implemented recently or expect to soon in order to adapt to shopper expectations.

With technology adoption expected to increase, convenience retailers should focus on implementing operational technology that allows store staff to spend more time on revenue-generating activities and adopt technologies that enhance the shopper experience.



ABOUT THIS RESEARCH

This research is based on data from the NACS Convenience Retail Technology Survey conducted from April to June 2021. The analysis is based on a total of 104 responses from convenience retail technology leaders representing over 35,000 store locations globally. 83% of responses were from the United States, and the remaining 17% were from Australia, Central America, Europe, South America, Southeast Asia and the Middle East.

Results presented in this white paper represent part one of a two-part study. In the companion white paper, titled Convenience Retail Technology Implementation Mapping and RFP Guide, NACS research addresses the landscape of technology adoption and details how to scope for and evaluate technology providers.

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"We took jobs that were taking a whole day, jobs that were taking 3-4 hours a day, and consolidated those down to a few moments in the morning and a couple hours once a week." Charles Roe, Gaubert Oil/ GoBears Stores

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