

e-Commerce

How to Take your Business to the Next Level

Software Trends
& Insights

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Key Takeaways



DIGITAL-FIRST STRATEGIES



The pandemic accelerated the rise of e-Commerce and digital retail, which were already becoming popular options as alternatives to traditional brick-and-mortar stores. At BairesDev, we have seen firsthand how retail businesses are looking to embrace digital-first strategies. Between 2021 and 2022, our e-Commerce project count in the industry grew by 150%.



DATA-DRIVEN EXPERIENCE



Data-driven businesses are better equipped to understand their industry and customers. By leveraging data and analytics, businesses can tap into important trends in retail, such as personalization and a frictionless e-Commerce experience.



EXTERNAL RESOURCES EXPERTISE



Tapping into specializations and software development expertise, including external resources, will allow companies to scale their operations, save time, and meet consumer demand, as well as optimize the user experience.



HYBRID OPTIONS



Digital solutions are not replacing physical stores entirely. Instead, consumers want hybrid options, such as curbside pickup.



PAYMENT METHODS ON THE RISE



Post-pandemic e-Commerce has become borderless, from multichannel options to payment methods. This requires businesses to stay agile, compliant, and aware of changes in the industry.



Digital Retail and e-Commerce Software Trends

E-COMMERCE GROWTH

Retail is a **key driver of the U.S. economy**. Even during times of economic challenges and uncertainty, it has stayed in motion.

That said, the industry is constantly evolving and in flux. **E-Commerce and digital retail**, in particular, have grown substantially, **becoming perhaps the most important sector within retail** — and the one with the most potential. This trend has been predictable for decades, but since the onset of the COVID-19 pandemic, it has seen an unprecedented surge.

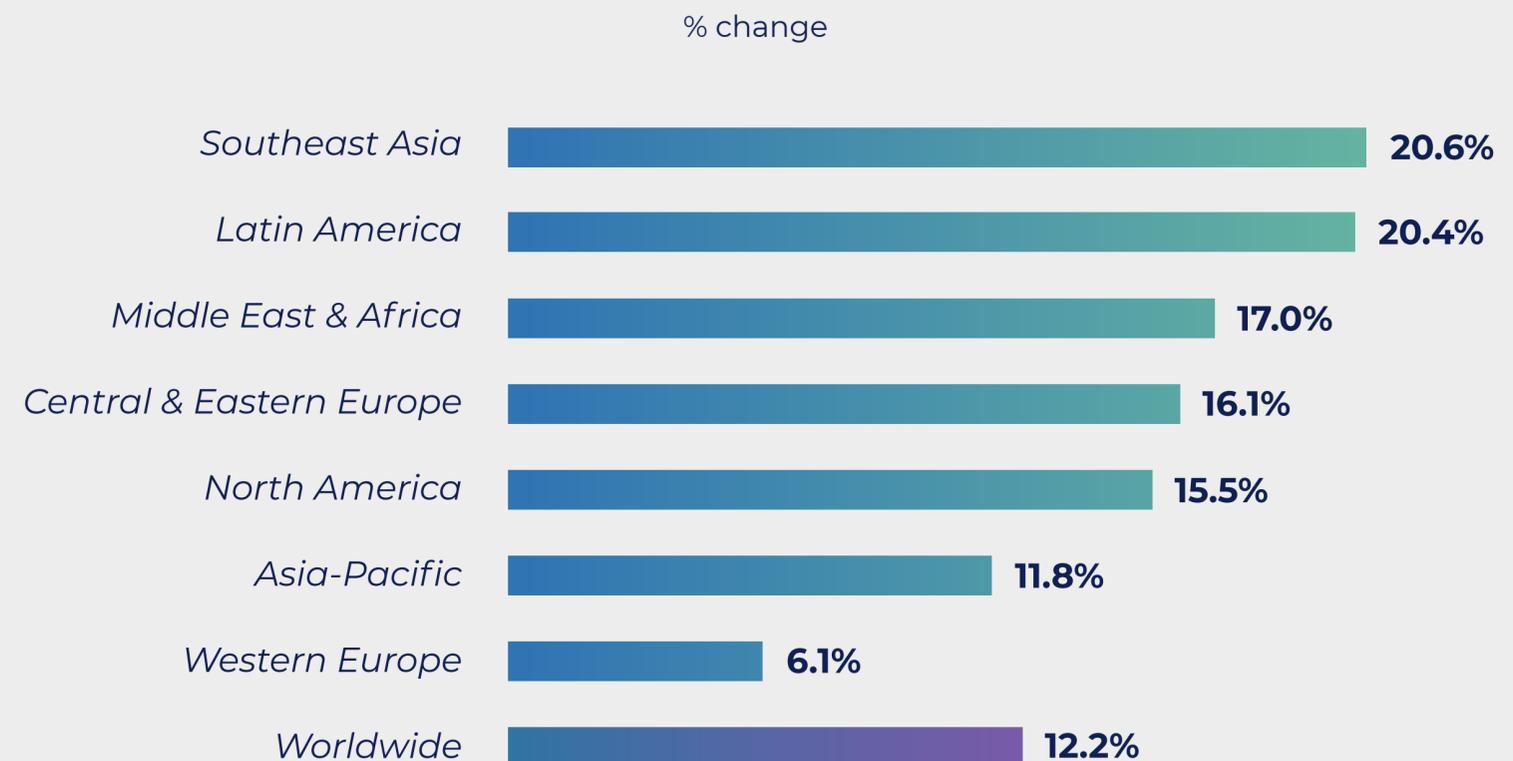
In fact, **retail was one of the sectors that saw the biggest impact of the pandemic**. Retail companies were forced to pivot and change their strategies, in some cases **moving their operations online entirely**.

While there have been challenges in e-Commerce and digital retail, **there are also many opportunities**. Along with changes in consumer behavior and demand, there have been new innovations and technologies to accommodate the ever-changing landscape of retail.

At BairesDev, we are well-versed in the digital retail and e-Commerce landscape. We have worked with numerous niches within the larger retail industry, including food and beverage, apparel and fashion, business supplies, pharmacy, automobile, home goods, and many others.

Through our projects, we have discovered how the entire retail industry can **adapt to a new environment, build borderless relationships, and thrive**.

RETAIL E-COMMERCE SALES GROWTH BY REGION, 2022



Source: <https://stusupplychain.com/global-ecommerce-forecast-2022-mx-la.html>

THE CURRENT LANDSCAPE

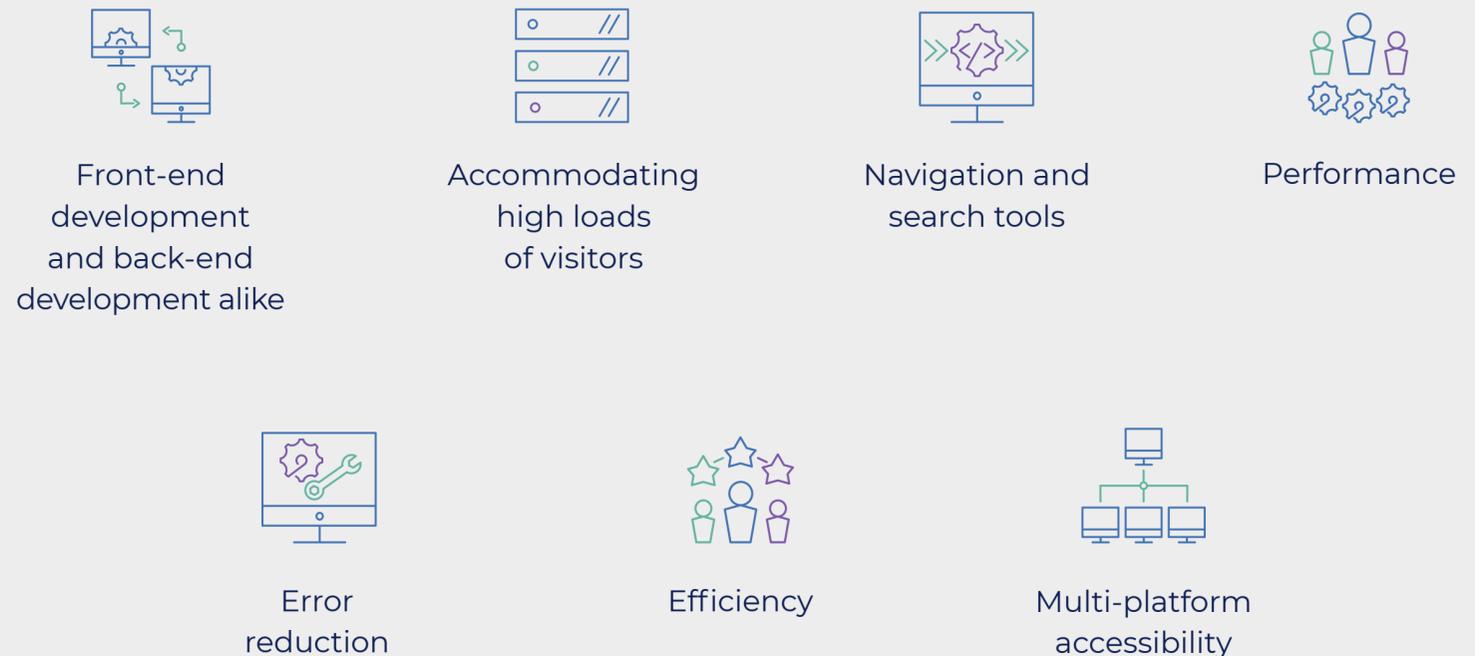
Nothing is set in stone in the e-Commerce space. That is something URBN recognized all too well when [COVID-19 shook the world](#).

URBN is a leading retailer with a portfolio that includes global consumer brands, retail values, and e-Commerce sites such as **Urban Outfitters, Anthropologie, Free People, BHLDN, Terrain, Menus & Venues, and Nuuly**. To stay ahead of the curve and continue to provide an exemplary shopping experience to its consumers, URBN knew it needed to pivot to mainly e-Commerce operations and improve its web experience.

URBN called on BairesDev to help its technology team move quickly, and through the partnership, we were able to gain firsthand visibility into how e-Commerce can succeed in spite of the obstacles that are thrown its way.

The **URBN** case study is emblematic of the larger state of e-Commerce. In a world driven by the digital experience, where brick-and-mortar stores are losing

ELEMENTS RETAILERS SHOULD CONSIDER AND PRIORITIZE



appeal, retailers must create a user-friendly and unique experience online.

trends that are dominating the e-Commerce/digital retail landscape now and will continue to persist in the future.

In this paper, we will explore the 10 most important



10 Trends in e-Commerce

1. PERFECTING PERSONALIZATION

“The commerce experience will be greatly defined by personalization,” said **Kevin French, Client Solutions Executive, BairesDev**. *“That is, building out a profile of your user and finding a way to personalize their entire shopping and commerce experience, from search all the way to purchase, fulfillment, and review. That can be accommodated by storing data. There’s also going to be a big push in terms of leveraging artificial intelligence.”*

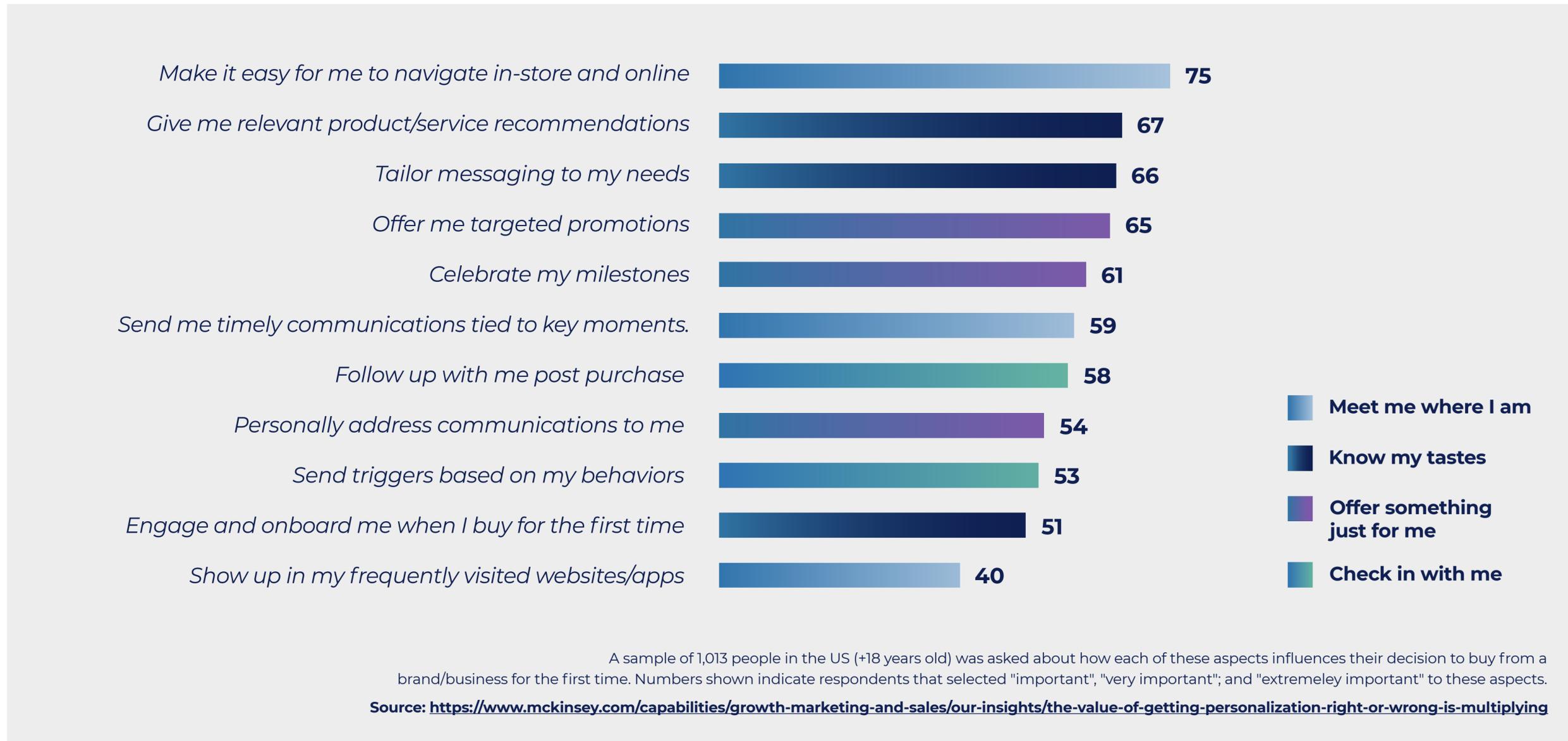
Personalization – tailoring the shopping experience to the unique profile of the consumer — is one of the most important aspects of the e-Commerce platform

development process. Our clients frequently ask for our expertise in perfecting this aspect of the digital retail experience.

One client is a software provider in the independent bicycle retail space, transforming these retailers’ websites and digital marketing tools into interactive, feature-rich services. The subscription-based model allows retailers to stay informed about their niche and promote their products and services more effectively. Our client sought a more robust, flexible, high-performance platform that would be suited to their own **clients’ needs** and turned to BairesDev to help them build the solution.

This is reflective of a larger trend — one that puts the consumer at the center of the e-Commerce experience and prioritizes their unique needs. A uniform experience is no longer sufficient — **tailored experiences** are what will draw consumers in and encourage them to make purchases.

PERSONALIZATION EXPECTATIONS FOR CONSUMERS



2. MOBILE ACCELERATION

In 2024, an estimated **187.5 million consumers** in the U.S. will have made at least one purchase through a mobile app or web browser on their mobile device. In fact, **mobile sales account for 43.4% of total e-Commerce sales**, and that number is only growing.

“The future of e-Commerce is closely tied to the growth of mobile technology, as mobile devices are rapidly becoming the primary way consumers access the internet and make purchases online,” says **French**. *“In the coming years, mobile e-Commerce will continue to see significant growth and become increasingly important to businesses and consumers alike.”*

Mobile has become a leading channel **for consumers not only looking to make purchases but also to engage with organizations**. Today, organizations must ramp up their responsive design in order to meet and exceed consumer expectations. In fact, **57% of customers** say they wouldn't recommend a business with a poorly designed mobile website.

Another key trend is the rise of voice-activated assis-

tants, such as Amazon's Alexa and Google Assistant, which are changing how consumers interact with e-Commerce sites and making it even easier for them to shop on the go.

“Mobile e-Commerce will be driven by social ‘buy buttons,’” **Justice Erolin, CTO at BairesDev**, explained. *“This includes **Pinterest**, a client of ours. Where traditionally, mobile was used for social research, before users would go on a desktop website for final purchase, now users are more open to doing the whole process on a mobile device.”* Erolin also noted that Southeast Asia has a higher mobile commerce usage because of apps like WeChat.

“Mobile apps see 3 times more conversion than mobile sites,” he adds. *“Clients may want to convert to an app to increase conversion rate. We can supply iOS/Android engineers for that.”*

“Overall, the future of e-Commerce looks bright, with mobile technology continuing to play a central role in shaping and accelerating its growth,” says **French**. *“Brands and businesses that are able to effectively leverage mobile technology and meet the changing needs and expectations of consumers will be well-positioned for success in this rapidly evolving landscape.”*

MOBILE DEVICE USAGE IN E-COMMERCE

The mobile acceleration trend concerns numerous aspects of the e-Commerce experience. Consumers report using mobile devices to:

66%
Receive appointment notifications

65%
Order notifications

57%
Text or email marketing messages

56%
Text or email loyalty messages

46%
Scan QR codes

37%
Text with a business

28%
Receive invoices

Source: <https://squareup.com/us/en/townsquare/top-mobile-commerce-trends-stats>

3. FRICTION-FREE RETAIL

Seamless experiences are what set retailers apart in an increasingly saturated market. Yet too often, shopping is full of friction. The checkout process, for example, might be full of complicated hoops to jump through — and, in fact, **68% of online shopping carts are abandoned**. Or, perhaps the would-be customer

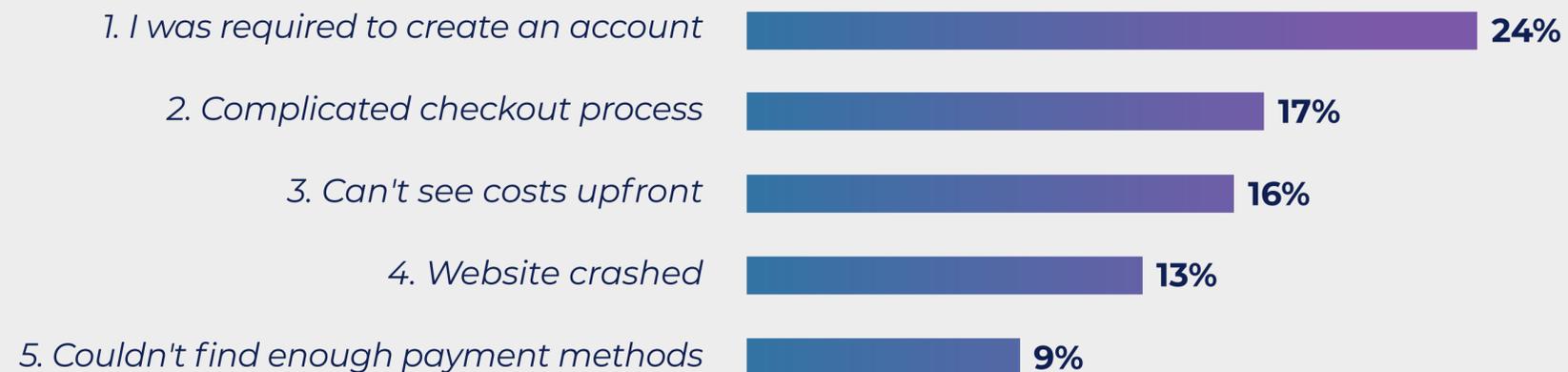
must complete surveys to access certain content. With so many actions required, the consumer becomes frustrated and leaves the website entirely.

Our client, a ticket marketplace that facilitates purchases for events in different industries, found that using a third-party vendor was causing friction. We helped them build an in-house solution that incorpo-

rated automation to speed up transactions and reduce obstacles to a speedy purchasing process, yielding numerous benefits and better profits.

This is just one example of how technology can reduce challenges in the shopping experience, helping create a better, friction-free retail process.

TOP REASONS WHY CUSTOMERS DON'T COMPLETE CHECKOUTS



Source: <https://baymard.com/lists/cart-abandonment-rate>



4. EXPERIENTIAL RETAIL DRIVEN BY AR AND VR

Today's consumers are seeking **immersive, vivid experiences**. This has led to a push for more virtual experiences, particularly those that augmented reality (AR), virtual reality (VR), and mixed reality (MR) can provide.

For example, using avatars, consumers can effectively “try on” clothing and other goods to gain a better sense of how the items will look in the real world — thus replicating the experience of trying on the items in an in-store fitting room. But thanks to immersive technologies, they can do this entirely from the comfort of their homes.

AR, VR, and MR also serve as tools to promote greater consumer engagement. The technologies offer exciting ways to sample products and reconceptualize products.

According to **one study** by the Harvard Business Review, clients who used AR to try on different varieties

of lipstick sampled nearly twice as many products as those who browsed the lipsticks in-store. Meanwhile, AR users were almost 20% more likely to ultimately purchase products than those who did not use AR.

In fact, overall, **experts estimate** that using AR in an online store can increase sales by up to 71%. Consumers are not just looking to replace the physical store experience but find new ways to experiment and express themselves — and these tools make that possible.



BETTER THAN A PHYSICAL STORE

“There’s a tremendous push to create virtual experiences. If you see any item, you click on it and you can try it on, whether it’s a pair of sunglasses or a lipstick. There’s a lot of AR/VR involved in this. First, we replaced brick and mortar because we were in a pandemic. The next step is to think, ‘How do we make e-Commerce so vital and vivid that it becomes better than a physical store, and you can feel it without touching and physically feeling?’”



Bob Leibholz,
Senior Vice President,
Business Development,
BairesDev

5. DATA-DRIVEN DECISIONS

With the rise of **Big Data** comes another important theme in the e-Commerce/digital retail industry: data-driven decisions. It is no longer enough to make business decisions based on intuition or even experience. **Today, organizations need hard facts — qualitative and quantitative data** — to support and justify their choices.

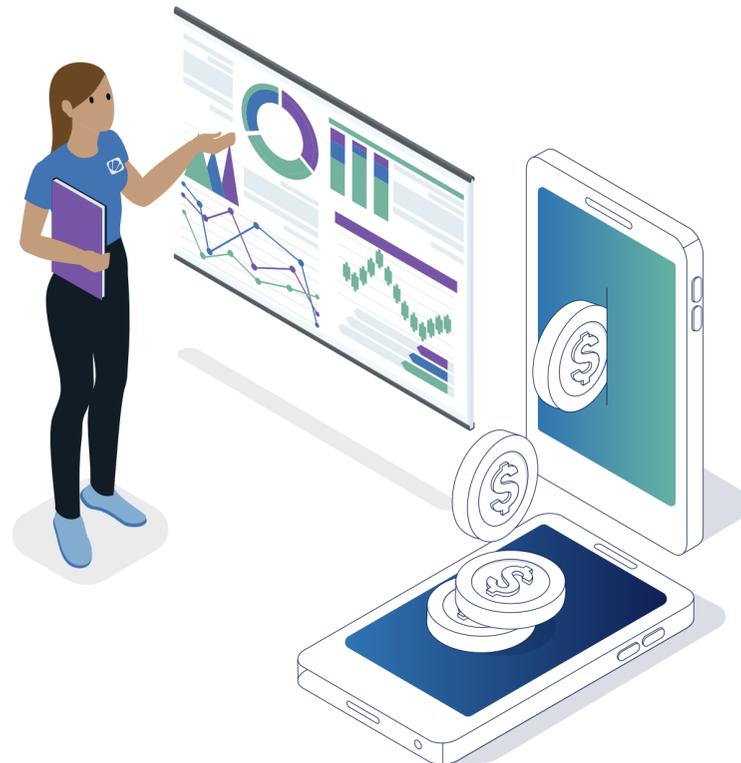
Data-driven organizations are, in fact, 23% more likely to acquire customers, according to **McKinsey Global Institute**. They are also six times as likely to retain customers and 19 times more likely to be profitable.

This is a common theme we have seen in our clients. For example, **a pharmaceutical company** came to BairesDev to ensure correct dosages in terms of the number of pills in the bottles they produced. We brought in a **data scientist with Python expertise** to propose and implement better models — all supported by the data.

Data science has become integral to the retail space.

The industry is constantly evolving, and we need clear facts to make better decisions and keep businesses moving and thriving.

Thanks to the rise of cloud computing technologies, businesses have a wealth of data to tap into from multiple sources and can leverage this information to **make decisions in real-time**. They provide an abundance of predictive analytics, which facilitate actionable insights into the customer journey.



THE IMPACT OF DATA-DRIVEN DECISIONS

23x

How much more likely data-driven organizations are to acquire customers

19x

How much more likely data-driven organizations are to be profitable



How much more likely data-driven organizations are to retain customers:

6x

Source: <https://www.keboola.com/blog/5-stats-that-show-how-data-driven-organizations-outperform-their-competition>

6. PLATFORM INTEGRATION

With so many modes of shopping available to consumers today, retail businesses need to find ways of **integrating all the platforms** they offer — or want to offer — into a single unit or enterprise.

One example of integration is the holistic concept of **Buy Online, Pickup In-Store (BOPIS)**, which incorporates both digital and physical models of commerce. The pandemic brought the idea to prominence, particularly in the form of curbside pickup. Fifty-six percent of respondents to a [McKinsey poll](#) said they wanted to continue to use curbside pickup in the future.

This means that retailers must build a solid infrastructure to accommodate the multiple styles and modes of buying and selling that now exist. And they will need the assistance of many tools to make this happen, from Big Data to AI.

THE COMPOSABLE APPROACH

“Composable /MACH (Microservices, API-first, Cloud-native, and Headless) commerce is selectable and customizable so that you're able to have best-of-breed solutions in your entire commerce experience. This API approach gives BairesDev the opportunity to truly integrate and build best-of-breed solutions for clients.”



Kevin French,
Principal,
Client Solutions,
BairesDev

7. SCALING E-COMMERCE MODELS

Nearly every business is looking toward a future of growth, and those in the e-Commerce space are no different. With business growth comes the need to scale their models and processes.

That was the case with **our client in the fitness/exercise industry**. The company was restructuring its engineering team under a new CTO and management and was preparing to reconceptualize its architecture and tech stack. The client sought our services to create scalable solutions to accommodate a high volume of customers and support a new product the business was launching.

In another example, **a client in the fashion industry** wanted to increase its capacity and escalate operations. Together, we modified and improved the client's website to provide a uniform experience to customers, regardless of load.

A final client that offers Commerce Execution solutions sought to expand its presence in a new continent and engaged BairesDev to help them expand its platform and implement technical solutions across borders. We brought in an architect and cloud engineers to help them create a strong infrastructure that would allow them to expand their global reach.

Growth is, of course, a goal of practically any organization — so it should come as no surprise that scaling e-Commerce models is an important next step for businesses.

8. OMNICHANNEL AND HYBRID SHOPPING

It may seem as though digital shopping is replacing the traditional in-person retail experience, but that's not the case. Instead, **omnichannel commerce** is becoming a preferred method.

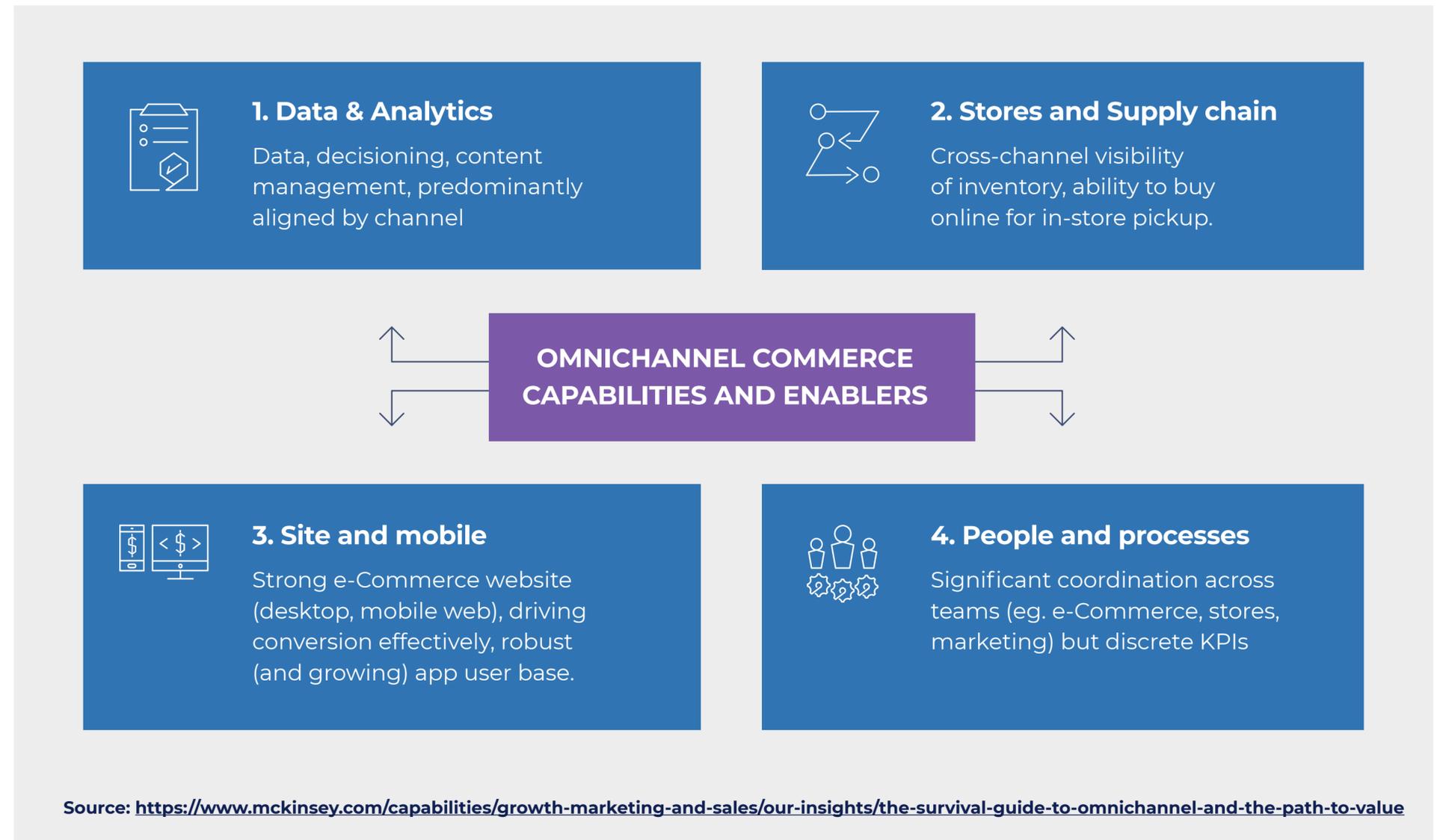
As the name implies, this involves using **multiple ways to shop**. But it goes beyond this. For example, some sites leverage interactive content like videos that allow consumers to “experience” products.

According to a [Shopify study](#), in 2022, 54% of consumers said they expected to be able to view a product online and purchase it in a store, while 53% said the reverse.

How are retailers rising to the challenge of providing omnichannel/hybrid retail to their consumers? From what we have seen firsthand, they are aiming to create **experiences of equal quality** across both physical and digital platforms.

One of our clients in the food industry was looking to do just that, wanting to match its sophisticated brick-and-mortar operations with an equally impres-

sive digital experience. We partnered with the client to revamp its online platform, which was outdated, to create an omnichannel retail experience.



9. GEN Z AND MILLENNIALS AS DIGITAL-CONSCIOUS CUSTOMERS

“As the world continues to become more digital and technology-driven, both Gen Z and Millennials are becoming increasingly aware of the impact technology and digital devices have on their lives and the wider world,” **French, Client Solutions Executive at BairesDev**, says. “As a result, many are beginning to adopt a more conscious and mindful approach to their digital habits and usage.”

“This is a growing demand for products and services prioritizing privacy, security, sustainability, and ethical practices,” he adds. “These ‘digital-conscious customers’ are more likely to choose brands that align with their values and are transparent about their data practices.”

Both generations are known for focusing on social and environmental issues, and they're more likely to support companies that **align with their values**. Brands prioritizing sustainability, transparency, and

corporate social responsibility will likely appeal to these generations.

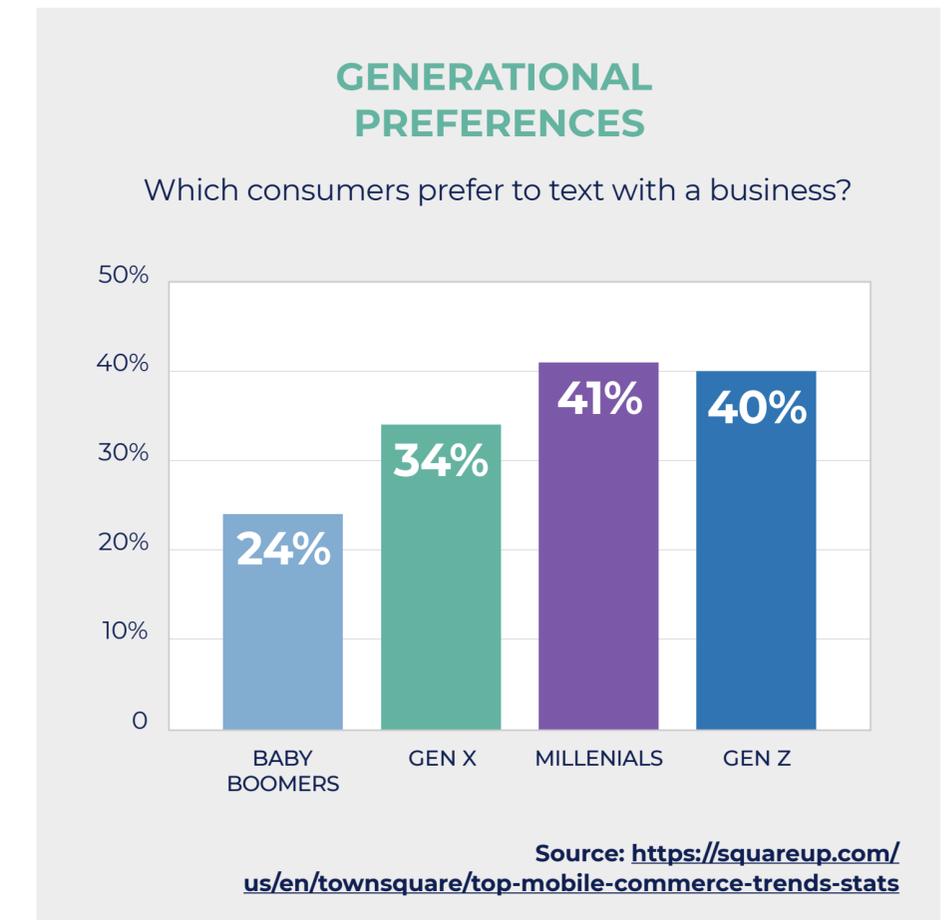
As digital natives, Gen Z consumers and all but the oldest millennials grew up with the internet at their fingertips. They know the ins and outs of smartphones and social media. And together, they are the majority of today's customers — Gen Z, currently the youngest generation of consumers, has an **estimated spending power** of more than \$360 billion in disposable income — so retailers must cater to their preferences and styles of connecting.

In fact, **41% of millennials** and 40% of Gen Z consumers say that they would prefer to text with a business, compared with just 34% of Gen Xers and 24% of Baby Boomers.

These two generations will continue to lead their purchasing experiences digitally, even when points of the journey may branch over into physical touchpoints such as curbside pick-up, product returns, and post-purchase support.

E-Commerce businesses must be conscious of their

audience and their preferences and adjust their models, incorporating data analytics and market research methodologies to understand their consumers and meet the changing needs of different populations. At the same time, they need to **accommodate the preferences of multiple generations**. In order to do this, they must get to know their audience better and build a personal rapport with them.



10. PAYMENT FLEXIBILITY

Finally, modern consumers have an unprecedented number of options when it comes to how they can pay for their purchases. In some cases, they can use many digital methodologies in physical stores as well as online.

In addition to more traditional models like cash and credit and debit cards, today's customers can leverage:

- **Digital wallets** including Apple Pay, Google Pay, and similar tools
- **Mobile payment apps** like Venmo and PayPal
- **Digital electronic payment systems** such as eChecks, wires, and electronic bank transfers
- **Digital credit and debit cards**
- **Cryptocurrency** like Bitcoin
- **Contactless payments**, encompassing many of the items on this list

Digital wallets are even outpacing credit and debit cards as the top method of payment. By 2024, their use is expected to rise to **53%**.

Additionally, there is more opportunity for providers to simplify **cross-border transactions** through a range of solutions, such as know-your-customer (KYC) digital IDs and security services.

The variety of payment methods available offers numerous advantages. For one, retailers are better equipped to meet the demands and preferences of a greater number of consumers. Many also offer improved security.

In order to reach more consumers, e-Commerce and digital retail businesses will be tasked with building an infrastructure to ensure payment flexibility.

EMERGING PAYMENT METHODS

“ There are now many different forms of payment. Some of the focus is on payments on time. Some of it's on accepted crypto. Another emerging area is cross-border payments and shipping. These are expanding areas. ”

Bob Leibholz,
Senior Vice President,
Business Development,
BairesDev





Most Demanded Software Requirements

```
package com.ds.ucd.be.becore.solr;

import ...

public final class LocationUtils {

    /**
     * Parses Point from it's String representation.
     * @param locationString - String that represents location, as 2 double v
     * @return org.springframework.data.solr.core.geo.Point Instance
     */
    public static Point parseLocation(String locationString) {
        Preconditions.checkNotNull(locationString, "Location St
        Preconditions.checkArgument(locationString.contains(","), "errorMessa
        locationString = locationString.trim();

        if (locationString.contains(", ")) {
            locationString = locationString.replaceAll( regex: ", ", replac
        }

        if (locationString.contains(" ")) {
            locationString = locationString.replaceAll( regex: " ", repl
        }

        String[] location = locationString.split( regex: ",");
        Preconditions.checkArgument( expression: location.length >= 2,
        double lat = Double.parseDouble(location[0]);
        double lon = Double.parseDouble(location[1]);

        return new Point(lat, lon);
    }
}
```

PROJECT TYPES

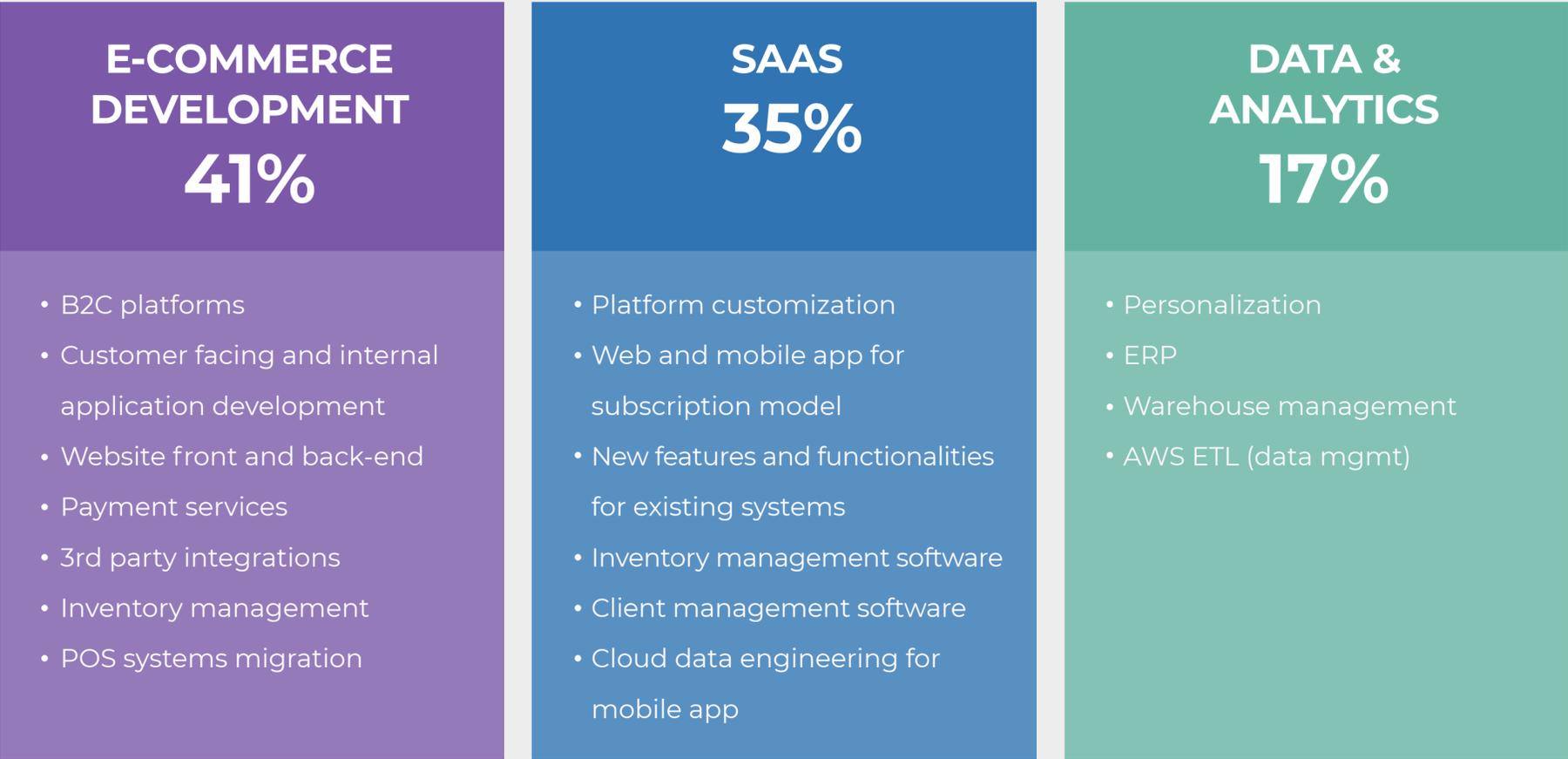
As a software development outsourcing company, we have gained insight into the technical requirements

that are most in demand by e-Commerce clients today.

Generally speaking, there is a growing demand for remote hires in software development. Almost 70% of our active retail projects are nearshore staff augmentation.

In terms of specific e-Commerce project types, e-Commerce development (41%), SaaS (35%), and data and analytics (17%) represent the vast majority of requirements requested.

MOST DEMANDED PROJECT TYPES BY E-COMMERCE CLIENTS



MACH COMMERCE

“ MACH commerce, as opposed to monolithic, gives organizations much more control over solutions. Microservices are not going away. This means an environment that is more engineer-independent instead of partner-dependent. ”

Kevin French,
Principal, Client Solutions,
BairesDev

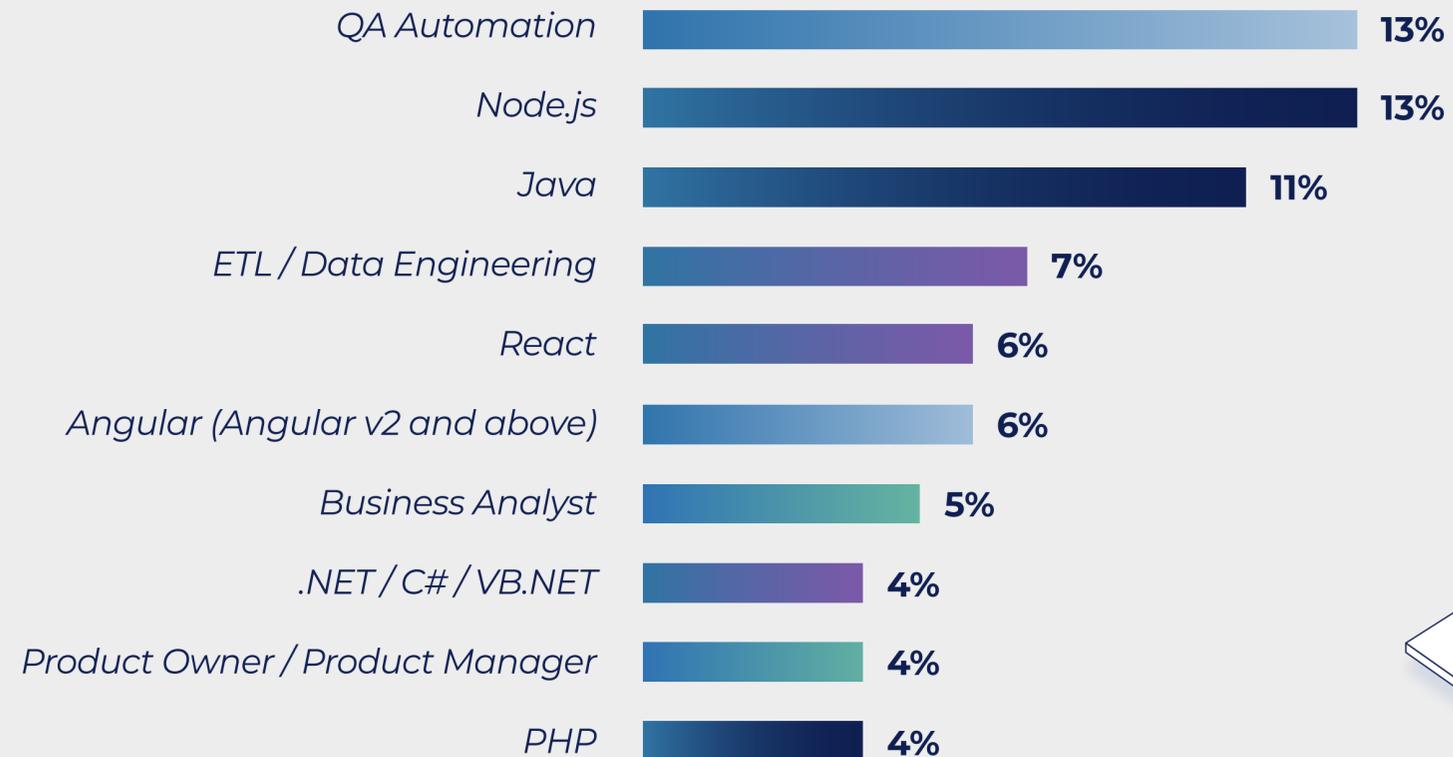
TECH ROLES IN E-COMMERCE

Most Demanded Software Requirements

In e-Commerce, developers are the vast majority of BairesDev hires, representing 71.3% of hired talent. **There is a greater demand for backend developers than frontend developers.**

But e-Commerce requires additional roles as well: QA/Testing (13.8%), Project Management (6.4%), Business Analysis/Process Design (4.6%), and Infrastructure and Database Administration (3.7%).

MOST REQUESTED TECHNOLOGIES BY OUR CLIENTS



Source: BairesDev Internal Data

COMMON MISTAKES/ PAIN POINTS

Many of these pain points can be resolved when retailers work with software development teams with expertise in e-Commerce software development.

The process of digitizing retail is not without its pain points. Among our clients, these are the issues most commonly cited:



Lack of flexibility
in **mobile platforms**



Difficulty scaling
outdated architectures
to accommodate higher
volumes of users



Lack of **knowledge and experience** with newer
technologies common
in e-Commerce



Difficulty honing
requirements



Problems facilitating
diverse methods of payments, such as crypto



Lack of **knowledge of compliance**
and standards

THE FUTURE OF E-COMMERCE AND DIGITAL RETAIL

What does the future of e-Commerce and digital retail look like?

Businesses in retail will need a quality partner like BairesDev to **solidify their digital presence**, implement changes at lightening speed, and stay ahead of the competition. They must consider not only how to build and maintain their platforms but also how to make them appealing and engaging. UX/UI, architecture, and other factors matter just as much as the development itself.

In our new normal, **a world where e-Commerce and digital retail dominate the retail landscape**, businesses must continue to innovate and find unique ways of making the customer experience an exemplary one.

OTHER TRENDS

The trends we have explored in this paper will certainly persist and grow in popularity. Additionally, retailers should be on the alert for:

- **Checkout-free shopping:** Cashier-less checkouts that blend in-store shopping with digital modes, detecting purchases and billing consumers without requiring them to take items out of their bags
- **Immersive and interactive technologies:** Introducing new technologies and heightening existing ones like VR/AR to make the user experience more engaging
- **Sustainable business practices:** More environmentally-friendly retail practices

OUR VISION

“ We need to prioritize the customer experience. How do we make e-Commerce so **vital and vivid** that it becomes better than the brick-and-mortar store? How do we make it even better than an offline experience? We need options, alternatives, and instant reward with minimal disappointment. ”



Bob Leibholz,
Senior Vice President,
Business Development,
BairesDev

“ Trends we’re seeing are composable, MACH commerce, personalized shopping, brands selling directly to consumers rather than going through retailers, and a move to **“phigital”** — physical + digital. Moreover, social commerce is becoming increasingly important. A brand must offer a uniform experience regardless of where the transaction is happening. ”



Kevin French,
Principal,
Client Solutions,
BairesDev

“ Businesses need to update their **user flow and responsive site design** to accommodate mobile shopping. Clients may want to utilize e-Commerce platforms like Shopify to have an e-Commerce presence. We can help with supplying resources for that. ”



Justice Erolin,
CTO, BairesDev



Why BairesDev

The Top 1% of Tech Talent is the backbone of our business. We deliver end-to-end technology solutions created by the most highly vetted, expert-level teams in the business.



www.bairesdev.com



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