Econsultancy ✕ Adobe

2021 Technology Trends
IT in Focus

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With over 13,000 participants in the 2020 study, more than 85,000 businesspeople from every continent (including Antarctica) have contributed their time and insights to this research since its inception in 2010. Their contributions make this the largest and most durable study of how digital trends are changing the marketing discipline.

Adobe and Econsultancy would like to thank everyone for their effort and insight.
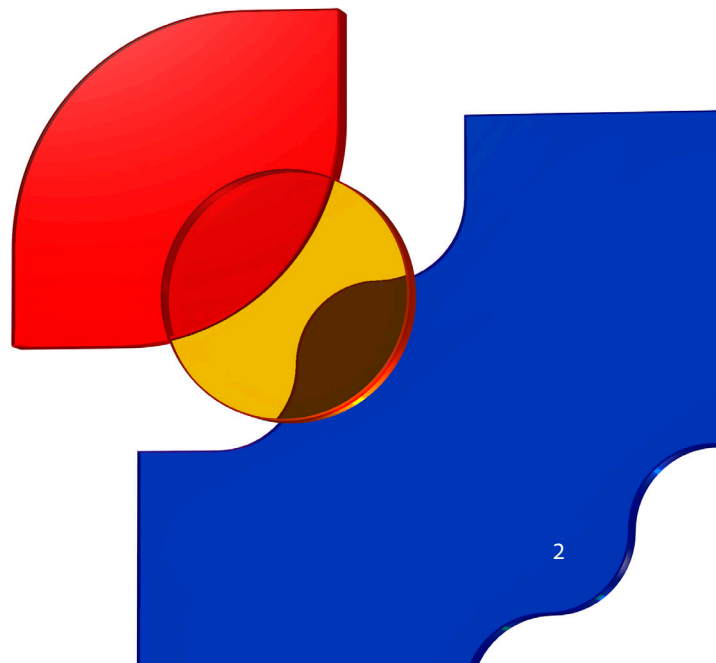
Foreword

Welcome to Adobe's *2021 Technology Trends Report*, our annual survey that charts the evolution of marketing, advertising, e-commerce, creative, and technology professionals around the world.

Last year, we published a landmark report to celebrate a decade of *Digital Trends*. As we celebrated its launch, nobody could have predicted what the next 12 months would bring. Well, it certainly hasn't been "more of the same!" The global pandemic and the sustained level of uncertainty that followed led to the most innovative period in the history of marketing, essentially rewriting the rulebook for many businesses.

Instead of deviating from predicted trends, the dramatic events of 2020 acted as an accelerant for digital transformation. Topics that were years away from consideration are now at the top of today's agenda. Whether demand for their products and services has increased or decreased, businesses are all grappling with the same challenges: remote working, new digital customers, the need for greater convenience, changes in buying behavior and, added to that, their employees' and their customers' well-being. More than two-thirds of the companies with top-tier customer experience (CX) functions outpaced their sectors in the second half of 2020 and they were three times more likely to have "significantly outpaced" their sectors than the rest of the sample.

The results of our survey show that past investments in customer experience have paid off, which further underlines the importance of speed and personalization as we enter the new era in experience. As business leaders look toward the new year and scan the horizon for a return to normal, it's apparent that the new era in experience will be born digital. The economic

Cynthia Stoddard
Senior Vice President and Chief Information Officer, Adobe

impact of this acceleration and the opportunities it presents will only become clearer as the dust settles. The *2021 Technology Trends Report*, produced in collaboration with Econsultancy, brings key trends to life with startling clarity.

The *2021 Technology Trends Report* looks to both the past and the future, and presents two equally valuable perspectives—what has changed in the last year as a result of the pandemic, and the trends that are waiting around the corner.

Thousands of seasoned professionals have shared their hard-won lessons of the pandemic—offering advice on everything from hybrid working and attracting talent, to catching up with the exponential rise of the digital-first consumer.

From these insights, we present three guiding principles for 2021—empathy is the future of experience, the new era is *disruptive*, and *brand purpose* becomes even more relevant.

With the world on the brink of change, this year's report provides timely insights to help marketers and business leaders realign their vision and bounce back stronger in 2021.

Executive summary

In a world where commercial success is increasingly defined by the quality of the customer experience (CX), the IT function plays a crucial role in making sure organizations deliver against the needs and expectations of their customers.

This Econsultancy-Adobe report focuses on how IT professionals responded to the *2021 Digital Trends* survey, compares their answers with their peers from other business functions, and also looks at the differences between top-performing companies and the mainstream.

The research highlights how close cooperation between IT and other functions, such as marketing, is crucial for success, but needs to be supported by technology that fosters collaboration and facilitates efficient workflows and the sharing of customer data.

Key findings from the report include:

The IT function needs to be at the forefront of CX technology development.

IT respondents working for top-performing companies are significantly more likely to "strongly agree" that CX priorities are pushing their IT or tech team to work more closely with other parts of the business (59 vs. 44 percent for mainstream companies). They are also more likely than respondents from mainstream companies to "strongly agree" that their IT or tech team is involved in the selection and implementation of CX technology (56 vs. 44 percent).

Organizations are held back by legacy technology and workflow issues.

IT professionals and their peers in other functions agree that legacy systems are one of the most significant internal barriers to success (both at 39 percent), while workflow issues are regarded as a challenge by 33 percent of IT professionals and 40 percent of their peers.

Shared customer data and customer journey insights are the bedrock of CX initiatives.

IT respondents rate predictive analytics (37 percent) and customer data platforms (33 percent) as the technologies most likely to have a positive impact on CX. IT respondents working at top-performing companies are twice as likely to have "significant insight" into the friction points in the customer journey (43 vs. 21 percent) and into the mindset of the customer across the whole journey (48 vs. 26 percent).

Section 1: CIOs lead the way in driving the CX-focused digital transformation.

The rise of the CIO embodies the evolution of the IT department from a supporting function to a pivotal strategic player within the modern business enterprise. According to Gartner, 84 percent of the top CIOs surveyed have responsibility for areas of the business outside traditional IT, while KPMG research shows that more than 60 percent now have frequent access to the main boardroom.

CIOs now sit at the top table and ensure that their teams help organizations meet commercial objectives by championing the digital transformation initiatives which will ultimately help to drive revenues and reduce costs.

Of course, like all other business functions, IT teams faced a year of uncertainty in 2020 as they dealt with considerable pressure to help their organizations adapt to a remote workforce, while also prioritizing "typical" items such as security and increased adoption of cloud services.

Like other C-suite leaders, the CIO has also faced tough budgeting decisions for 2021 with long-term projects sometimes being parked to focus on the more immediate challenges and opportunities surfaced by the COVID-19 pandemic. According to a 2020 TechRepublic survey of IT spending and priorities, almost two-thirds (62 percent) of IT professionals said that budgets would be tightened in 2021, compared to only 12 percent who said there would be an increase in spending.

As the COVID-19 pandemic has created a new societal normal, IT teams have gradually been able to move from reactive, "firefighting" mode to more strategic imperatives, such as helping their companies kick-start their digital transformation projects and improving, or even reinventing, the customer experience.

Figure 1 shows where IT respondents to the *2021 Digital Trends* survey feel responsibility should reside for various business imperatives. For most of these areas, they claim ownership ahead of their colleagues in product and marketing teams.

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"Gartner Survey of More than 3,000 CIOs Confirms the Changing Role of the Chief Information Officer," Gartner, 2017.
"Vital Statistics for CIOs," Global Intelligence for the CIO, Fujitsu.
"Research: How COVID-19 will Affect 2021 IT Budgets," ZDNet, 2020.

Figure 1   **In your opinion, where should responsibility reside within the organization for the following?**

Legend

IT or tech   Product   Marketing

Legend

New digital technology (e.g., AI, AR, VR)
77%   13%   7%

Digital transformation strategy
70%   14%   12%

Digital usability
64%   19%   15%

Customer privacy
59%   15%   14%

Customer data strategy
47%   17%   30%

Customer experience strategy
27%   24%   45%

Brand/messaging
19%   14%   65%
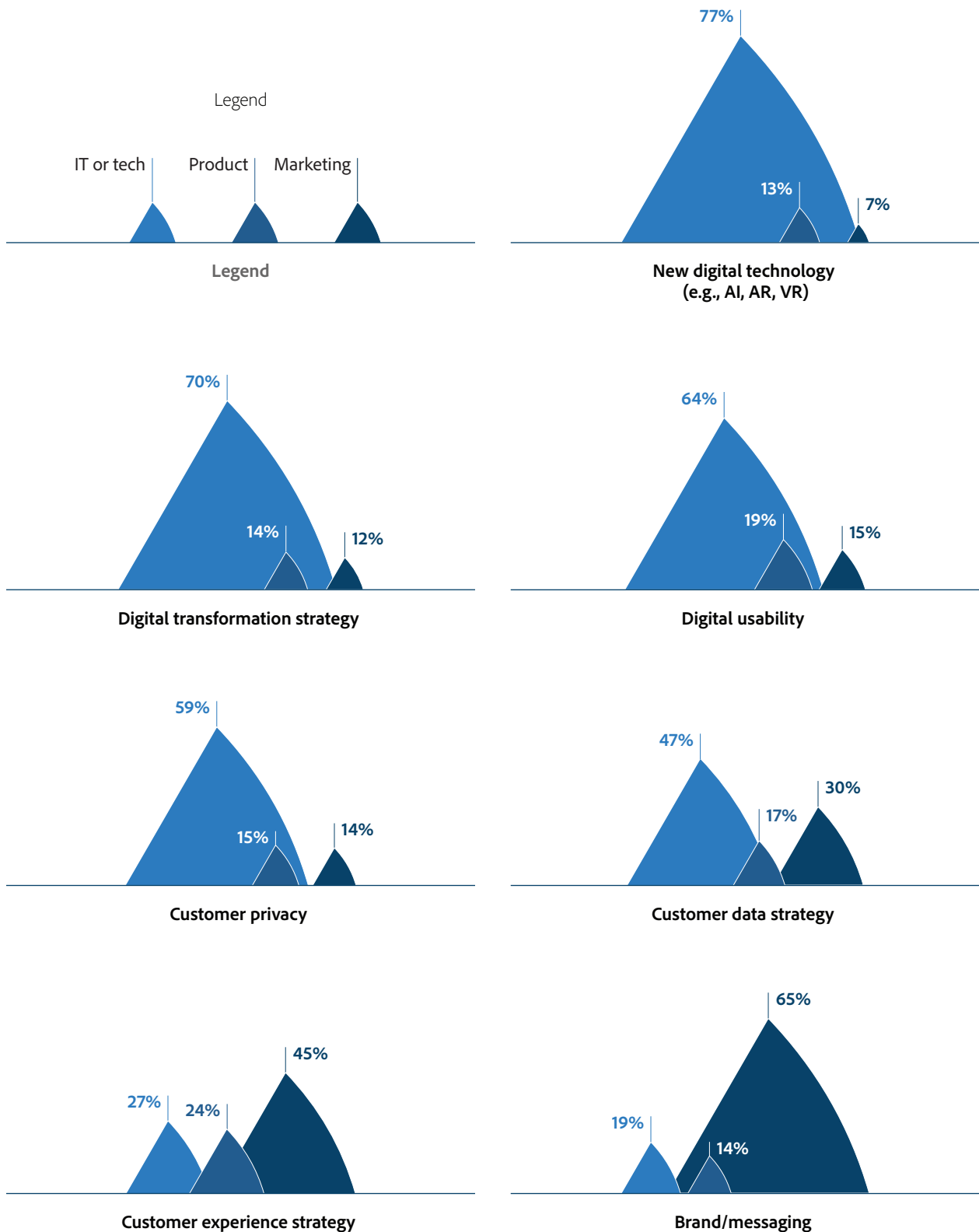
Respondents – 1,403

IT respondents are most categorical about IT and tech ownership of new digital technology (e.g., AI, AR, and VR) (77 percent), digital transformation strategy (70 percent), digital usability (64 percent), and customer privacy (59 percent). It is only for brand/messaging and customer experience strategy that they defer to marketing.

As well as showing how integral IT professionals think they are to the wider business, Figure 1 also highlights the importance of having a close working relationship between IT and marketing, a theme that will be more fully explored later in the report. Customer experience strategy (generally seen by IT respondents as the domain of marketers) is very much interlinked with digital transformation strategy where IT respondents believe the buck very much stops with them.

While the IT function may not be ultimately responsible for the customer experience strategy, it plays a fundamental role in helping organizations meet their customers' evolving requirements and increased expectations of their services and experiences.

Customer data.

Another area where close cooperation between IT teams and other functions is required is customer data strategy, an important discipline and something that is also crucial for delivering the best possible customer experiences. As we have just seen, slightly under half of IT respondents (47 percent) say the IT function has responsibility for customer data strategy, compared to 30 percent who say ownership resides with marketing.

Figure 2 shows that the two technologies thought by IT respondents to have the greatest impact on the customer experience are based on customer data, namely, predictive analytics to calculate the value of any particular interaction (37 percent) and customer data platform (CDP) to optimize data management (33 percent).
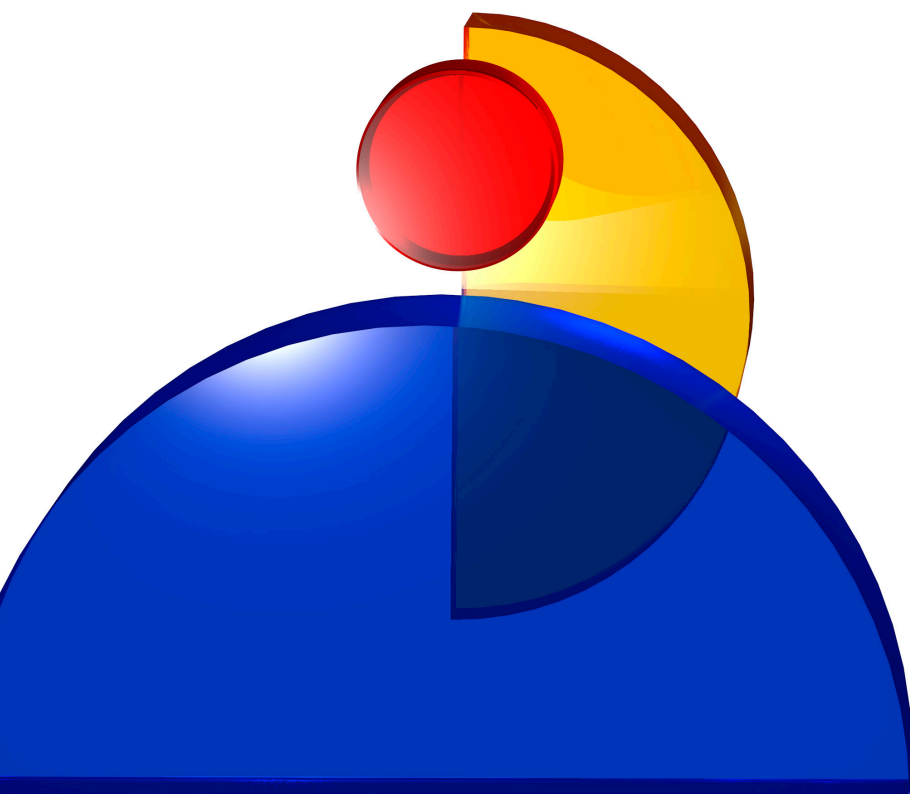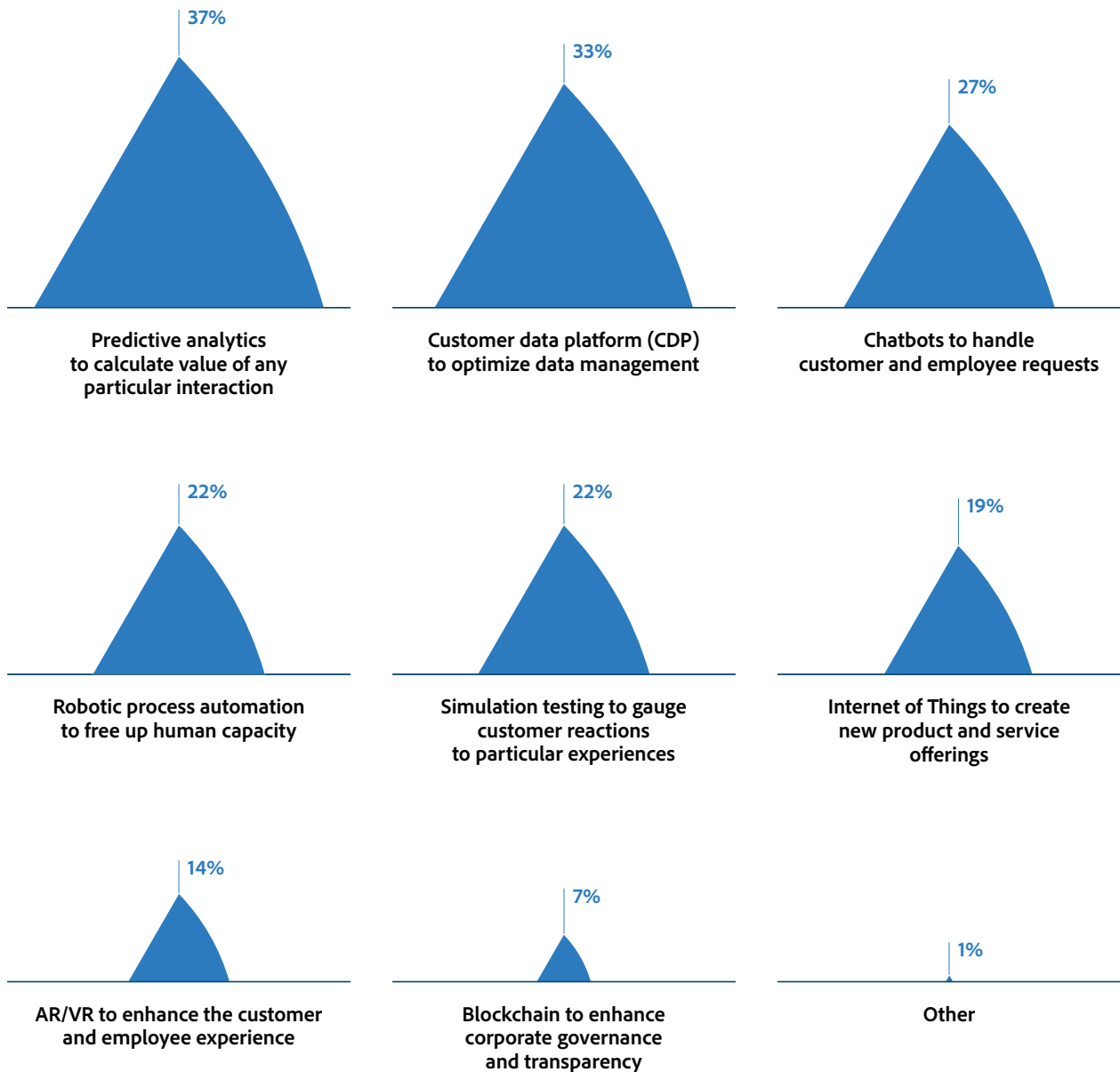
Figure 2 **What top two technologies do you believe have the greatest positive impact on customer experience?**

37%

**Predictive analytics
to calculate value of any
particular interaction**

33%

**Customer data platform (CDP)
to optimize data management**

27%

**Chatbots to handle
customer and employee requests**

22%

**Robotic process automation
to free up human capacity**

22%

**Simulation testing to gauge
customer reactions
to particular experiences**

19%

**Internet of Things to create
new product and service
offerings**

14%

**AR/VR to enhance the customer
and employee experience**

7%

**Blockchain to enhance
corporate governance
and transparency**

1%

Other

Respondents – 1,475

Predictive analytics help brands transform vast quantities of data into insights which can, in turn, help them better serve the needs of prospects and customers in real time. With the right software and data foundations in place, companies are increasingly able to understand what their customers want by identifying patterns and addressing anomalies.

To benefit from predictive analytics and "next best actions," companies need to have a rounded view of their customers, something which is only possible with integrated technology. CDPs help companies unify and surface their first-party data in real time so marketers can activate the best possible marketing messages through the most appropriate channel.

According to Gartner's latest *CMO Spend Survey*, 2020 saw martech investments surviving unscathed, despite making up about a quarter of marketing budgets (26 percent). The analyst firm commented that CDPs are perceived as helping executives navigate through difficult times and recover faster. Indeed, this reasoning is likely to drive accelerated uptake of such technologies in 2021.
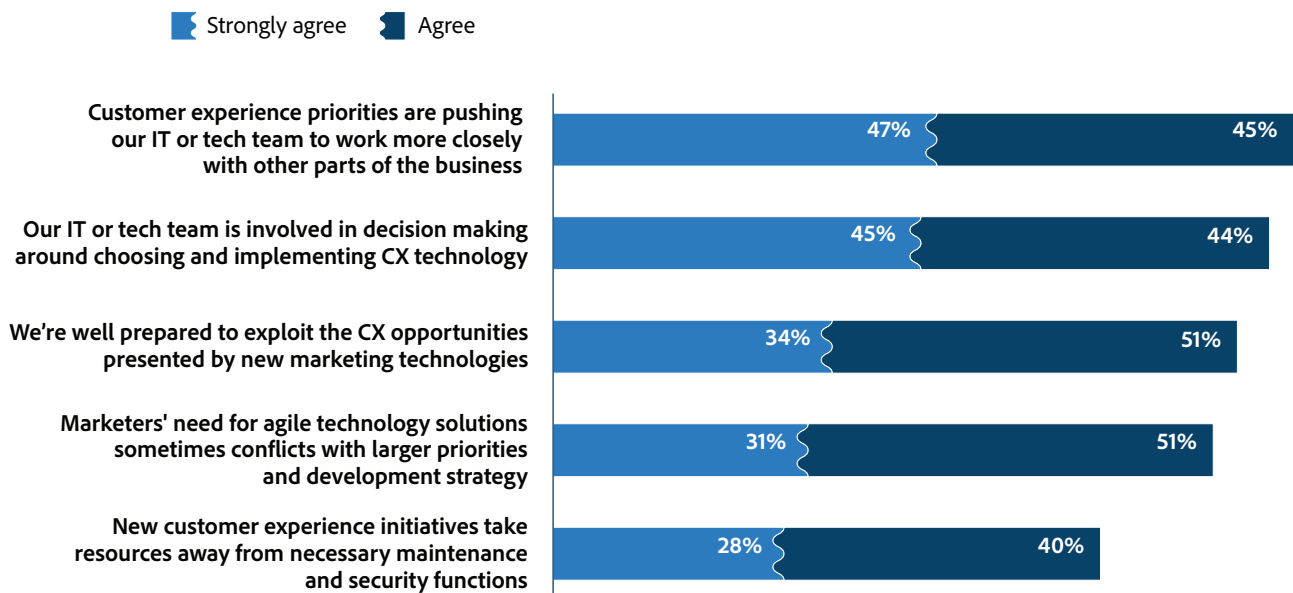
The adoption of CDPs and predictive analytics are good examples of areas where IT professionals need to collaborate with other functions to ensure they are getting the right technology for their businesses to meet commercial objectives, such as improved revenues and better CX, while complying with relevant industry regulations and legislation.

Encouragingly, IT survey respondents believe that they are now working more closely with other parts of the business, including marketing functions. The overwhelming majority of respondents 92 percent agree that customer experience priorities are pushing their IT or tech team to work more closely with other parts of the business (Figure 3). Furthermore, 89 percent of IT respondents agree that their IT or tech team is involved in decision making around choosing and implementing CX technology.

The last word in this section on the integral role of IT within the CX-focused modern enterprise goes to Deloitte U.S. CIO Doug Beaudoin, who said in December 2020: *"Like many organizations, Deloitte is re-envisioning IT as technology becomes increasingly inseparable from business. For example, systems and processes connected with customer data and platforms require tightly linked IT and business strategy expertise."*

Figure 3 **Thinking about how your organization approaches customer experience (CX), to what extent do you agree or disagree with the following statements?**

Strongly agree   Agree

Statement	Strongly agree	Agree
Customer experience priorities are pushing our IT or tech team to work more closely with other parts of the business	47%	45%
Our IT or tech team is involved in decision making around choosing and implementing CX technology	45%	44%
We're well prepared to exploit the CX opportunities presented by new marketing technologies	34%	51%
Marketers' need for agile technology solutions sometimes conflicts with larger priorities and development strategy	31%	51%
New customer experience initiatives take resources away from necessary maintenance and security functions	28%	40%

Respondents – 1,406

■
"Gartner Says CMOs Remain Optimistic About Budgets Post-COVID-19, Despite Bleak Outlook from C-Suite Colleagues," Gartner, 2020.
"Deloitte U.S. CIO on the Evolving IT Landscape," The Wall Street Journal, 2020.

Section 2: CX transformation is held back by legacy technology and workflow issues.

While there is evidence that the wider business is capitalizing on the tech expertise residing in IT departments for CX and marketing initiatives, there are also clear signs that more progress is needed to fully align IT teams with other business functions.
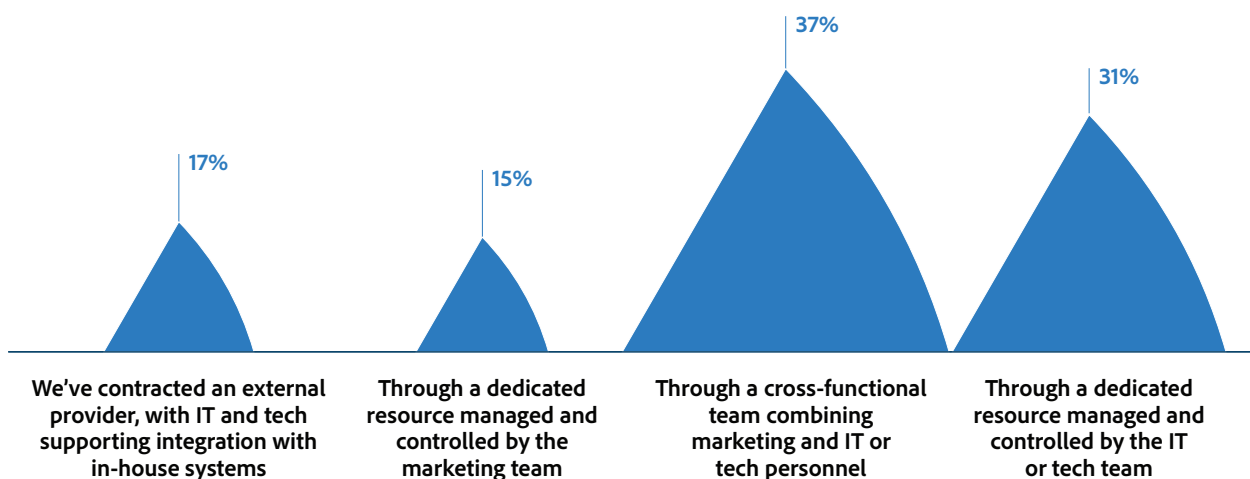
Only around a third (37 percent) of IT respondents report that their organization's main approach to supporting marketing technology needs is achieved through **a cross-functional team** combining marketing and IT and tech personnel (Figure 4).

The other two-thirds of the IT respondents say their organizations take a more siloed approach—about a third (31 percent) say that the **IT or tech** team supports marketing technology needs, 15 percent say it falls under the **marketing team**, and 17 percent say they outsource to an **external provider**.

The greater alignment between the CIO and the CMO, the better. To deeply understand the customer and deliver strategically-crafted experiences, marketers must have a comprehensive picture of the buying journey. This is only made possible through tech teams connecting internal systems to build dynamic, unified profiles of the customer.

Organizations whose marketing and tech teams take joint ownership of their marketing and technology functions will emerge stronger in 2021, driving digital transformation strategies that enable more meaningful customer engagement.

Figure 4   **What is your organization's main approach to support marketing technology needs?**

We've contracted an external provider, with IT and tech supporting integration with in-house systems	Through a dedicated resource managed and controlled by the marketing team	Through a cross-functional team combining marketing and IT or tech personnel	Through a dedicated resource managed and controlled by the IT or tech team
17%	15%	37%	31%

Respondents – 1,464

People, process, and technology.

For organizations to succeed in their digital transformation initiatives, they need to be aligned in respect of people, process, and technology. In terms of **people**, successful organizations are typically characterized by high levels of collaboration between teams straddling different functions, including centers of excellence made up of people with complementary skills drawn from across the entire business.

In terms of **process**, organizations require agile ways of working across different functions and the ability to share knowledge easily, and with **technology** that supports these requirements by being user-friendly, easy to integrate, and supportive of collaboration.

Figure 5 shows that IT professionals and their peers in other functions agree on the two most significant barriers holding back marketing and CX initiatives within their organizations. Nearly four out of 10 of both IT and non-IT respondents (39 percent) report that *legacy systems* are an internal barrier to success. This indicates that the challenge of outdated technology affects a large swath of businesses.

Issues with technology can manifest themselves in different ways, most obviously in terms of the experience for both customers and employees. For customers, a lack of technology integration resulting from outdated software can result in a poor customer experience with unnecessary pain points and friction for employees, systems that aren't user-friendly or compatible with the rest of the tech stack can discourage their use internally and make employee collaboration across the business extremely difficult.

From the perspective of survey respondents, workflow issues are regarded as a challenge by 33 percent of IT professionals as well as by 40 percent of those working in other functions.

Figure 5   **Internal barriers holding back marketing/customer experience organizations**

What is holding your marketing/customer experience organization back, if anything?
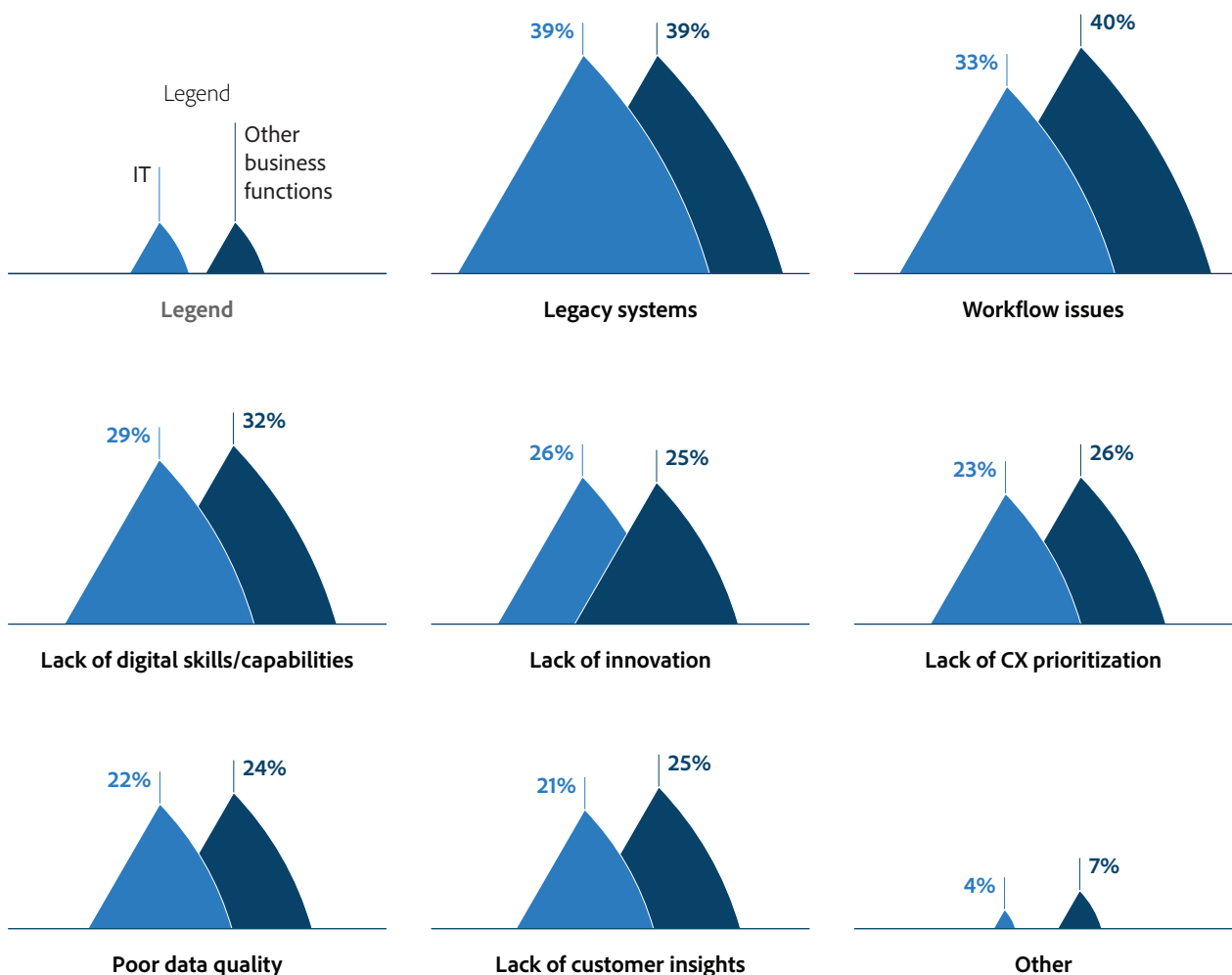
Respondents (IT) – 774, Respondents (Other business functions) – 3,033

The third most significant barrier to success is a lack of digital skills/capabilities, something which is flagged up by 29 percent of IT respondents and 32 percent of their peers. Though the best marketing and CX technology should be user-friendly even for those in non-technical roles, the onus is still on organizations to ensure their staff have the right know-how to succeed with the technology that has been invested in, either through upskilling existing employees or by hiring the right people.

The importance of data and the customer journey.

Another challenge highlighted in Figure 5 is poor data quality, a problem often resulting from poor data hygiene practices and processes. Poor data is also associated with legacy technology, which makes it difficult to surface needed information in real time, or even at all. Even with the necessary buy-in from relevant data owners, it can be a challenge to connect online and offline data, with silos and legacy technology limiting the ability to bring together the data required to build a holistic understanding of the customer experience.

As was discussed in the previous section of this report, companies can only be truly successful in their marketing execution if they have a 360-degree view of their customers.
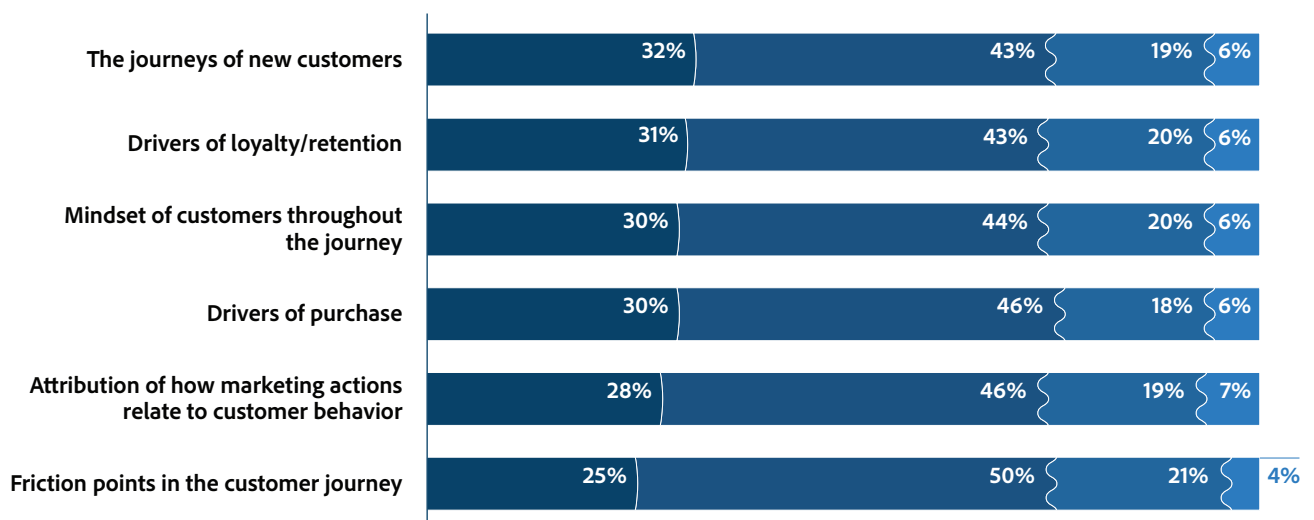
Customer journey analytics is crucial, and this was underscored by a 2018 Gartner survey that found that nearly half of IT and business leaders see customer journey analytics as their top analytics-related priority. However, Figure 6 suggests too few IT professionals believe their organizations have "significant insight" into the journeys of new customers (32 percent), the friction points in the customer journey (25 percent), and the mindset of customers throughout the journey (30 percent).

The onus is on IT professionals to help their businesses deliver compelling experiences across all their engagement points at key moments within the journey. The next section of the report will further explore the importance of customer journey data, and analytics and insights more broadly, for achieving commercial success.

Figure 6 **Level of insight into customer journeys**

To what degree does your organization have insight into the following?

■ Significant insight   ■ Some insight   ■ Limited insight   ■ No insight

	Significant insight	Some insight	Limited insight	No insight
The journeys of new customers	32%	43%	19%	6%
Drivers of loyalty/retention	31%	43%	20%	6%
Mindset of customers throughout the journey	30%	44%	20%	6%
Drivers of purchase	30%	46%	18%	6%
Attribution of how marketing actions relate to customer behavior	28%	46%	19%	7%
Friction points in the customer journey	25%	50%	21%	4%

Respondents – 673

■
"Complimentary Gartner Report: Market Guide for Customer Journey Analytics," Quadient, 2019.

Section 3: Top-performing companies are more focused on customer insights and workflow-friendly infrastructure.

This report has so far highlighted how IT professionals in general have responded to rapidly changing market conditions. But what attributes separate the best performers from the rest?

To identify the characteristics of top-performing businesses, we compared IT professionals working in organizations that had significantly outperformed against their primary competition over the last six months of 2020 ("leaders") with those that had either slightly outperformed, kept pace, or underperformed ("the mainstream").
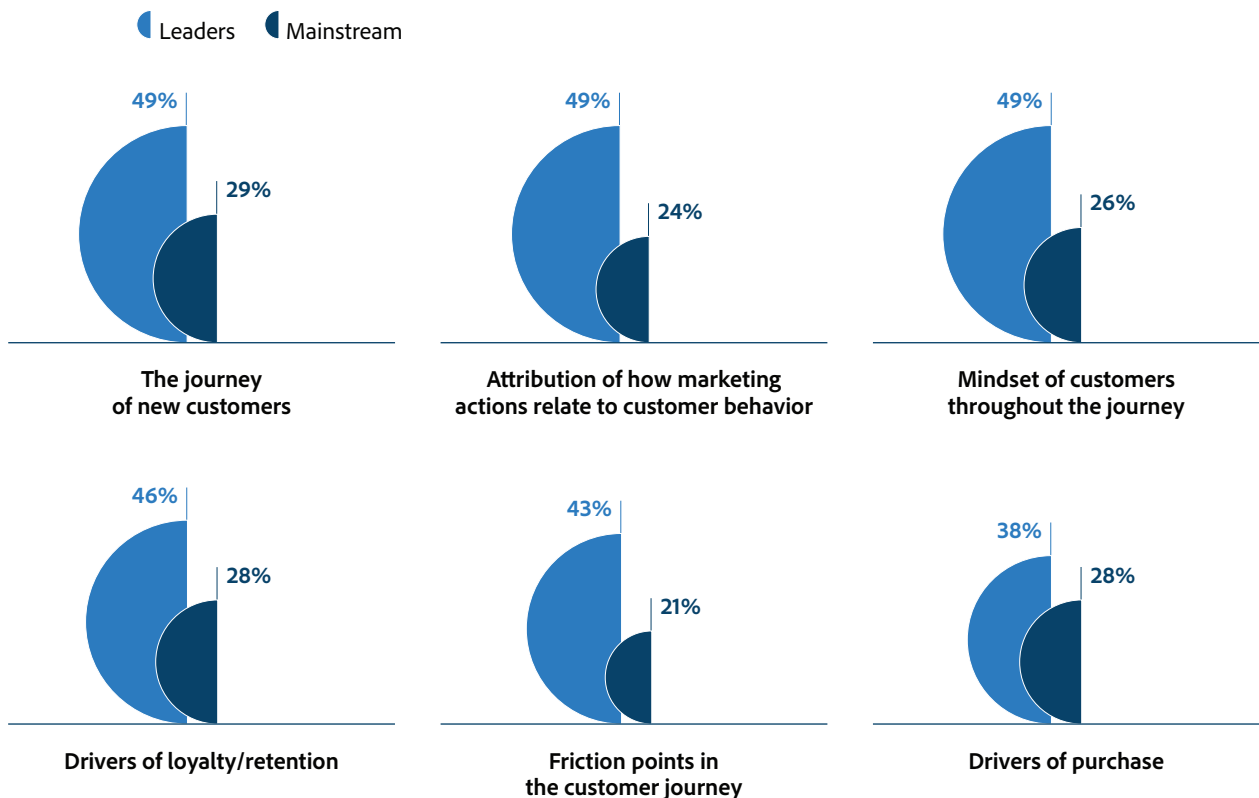
One of the key findings of this year's Digital Trends research is that good insights into customer journeys are closely correlated with strong business performance. As seen in Figure 7, IT respondents from top-performing companies are 69 percent more likely than those from mainstream companies to say that they have "significant insight" into the journeys of new customers (49 vs. 29 percent).

Even more strikingly, they are twice as likely to have "significant insight" into into the friction points in the customer journey (43 vs. 21 percent) and into the mindset of customer throughout the journey (49 vs. 26 percent).

This is particularly advantageous given the essential role customer journey analytics play in personalizing experiences across all touchpoints.

Figure 7   **Level of insight into customer journeys**

To what degree does your organization have insight into the following?

Leaders   Mainstream

	Leaders	Mainstream
The journey of new customers	49%	29%
Attribution of how marketing actions relate to customer behavior	49%	24%
Mindset of customers throughout the journey	49%	26%
Drivers of loyalty/retention	46%	28%
Friction points in the customer journey	43%	21%
Drivers of purchase	38%	28%

Respondents – 639

The importance of insights: speed, accuracy, and actionability.

Whatever industry they work in, people within a business need to make commercial decisions quickly based on accurate data and good analytics. At the same time, organizations require a set of marketing technologies that not only helps them derive insights, but also then helps determine the most appropriate type of marketing actions.
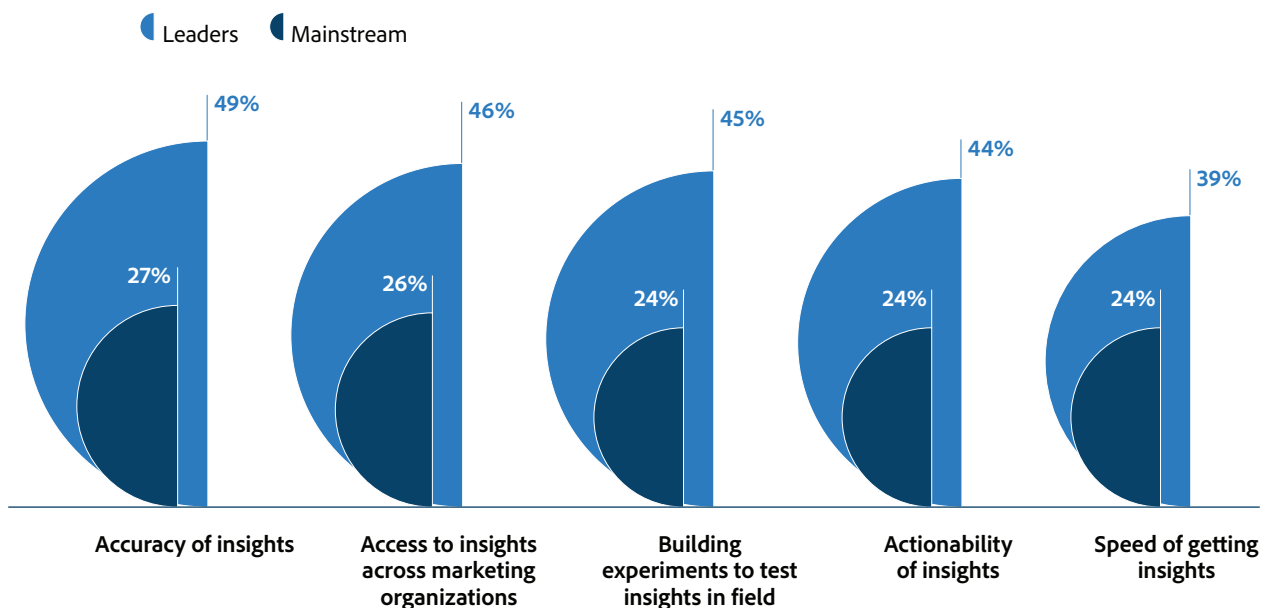
Although marketing automation has taken off by leaps and bounds in the last few years, enterprise companies also need people who possess data science and data governance skills to better ensure they are unlocking value from their data, while adhering to relevant data privacy legislation.

While Figure 7 looked specifically at data and insights in the context of customer journeys, Figure 8 looks more broadly at organizational capabilities in the context of deriving insights.

Across the spectrum of insights-related capabilities, those working for top-performing companies are significantly more likely than the mainstream to regard their organizations as "very strong," including for speed of insights (39 vs. 24 percent), accuracy of insights (49 vs. 27 percent), and actionability of insights (44 vs. 24 percent).

Figure 8   **Proportion of IT respondents rating insight-related capabilities as "very strong"**

Thinking about key marketing insights in your organisation (customer behavior, market shifts, predictions of demand,) how would you rate the following?

- Leaders
- Mainstream

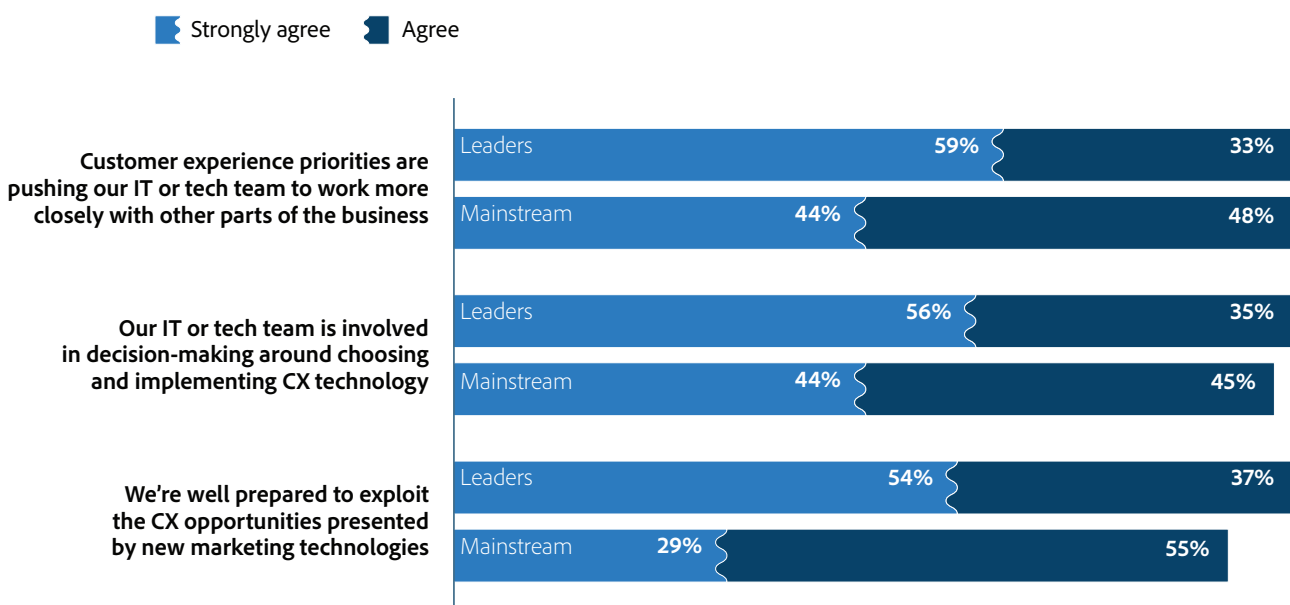|	Accuracy of insights	Access to insights across marketing organizations	Building experiments to test insights in field	Actionability of insights	Speed of getting insights
Leaders	49%	46%	45%	44%	39%
Mainstream	27%	26%	24%	24%	24%

Respondents – 590

Importance of workflows.

Figure 8 also shows that IT respondents from top-performing companies are significantly more likely than those in mainstream companies to give their companies the highest rating for access to insights (46 vs. 26 percent), something that requires the right combination of technology and collaborative workflows.

Solutions that facilitate more agile processes while creating visibility for all key stakeholders are key. IT teams should be leading the charge to ensure their organizations have the right infrastructure to deliver projects that come in on time and on budget—and with the desired scope. As part of this effort, companies also need the right technology to drive CX initiatives, and high-performing businesses are benefiting from significant IT involvement on this front.

As illustrated in Figure 9, top-performing companies are significantly more likely than mainstream companies to "strongly agree" that CX priorities are pushing their IT or tech team to work more closely with other parts of the business (59 vs. 44 percent), and that their IT or tech team is involved in decision-making around choosing and implementing CX technology (56 vs. 44 percent).

Figure 9 **Thinking about how your organization approaches customer experience (CX), to what extent do you agree or disagree with the following statements?**

■ Strongly agree ■ Agree

Customer experience priorities are pushing our IT or tech team to work more closely with other parts of the business

	Strongly agree	Agree
Leaders	59%	33%
Mainstream	44%	48%

Our IT or tech team is involved in decision-making around choosing and implementing CX technology

	Strongly agree	Agree
Leaders	56%	35%
Mainstream	44%	45%

We're well prepared to exploit the CX opportunities presented by new marketing technologies

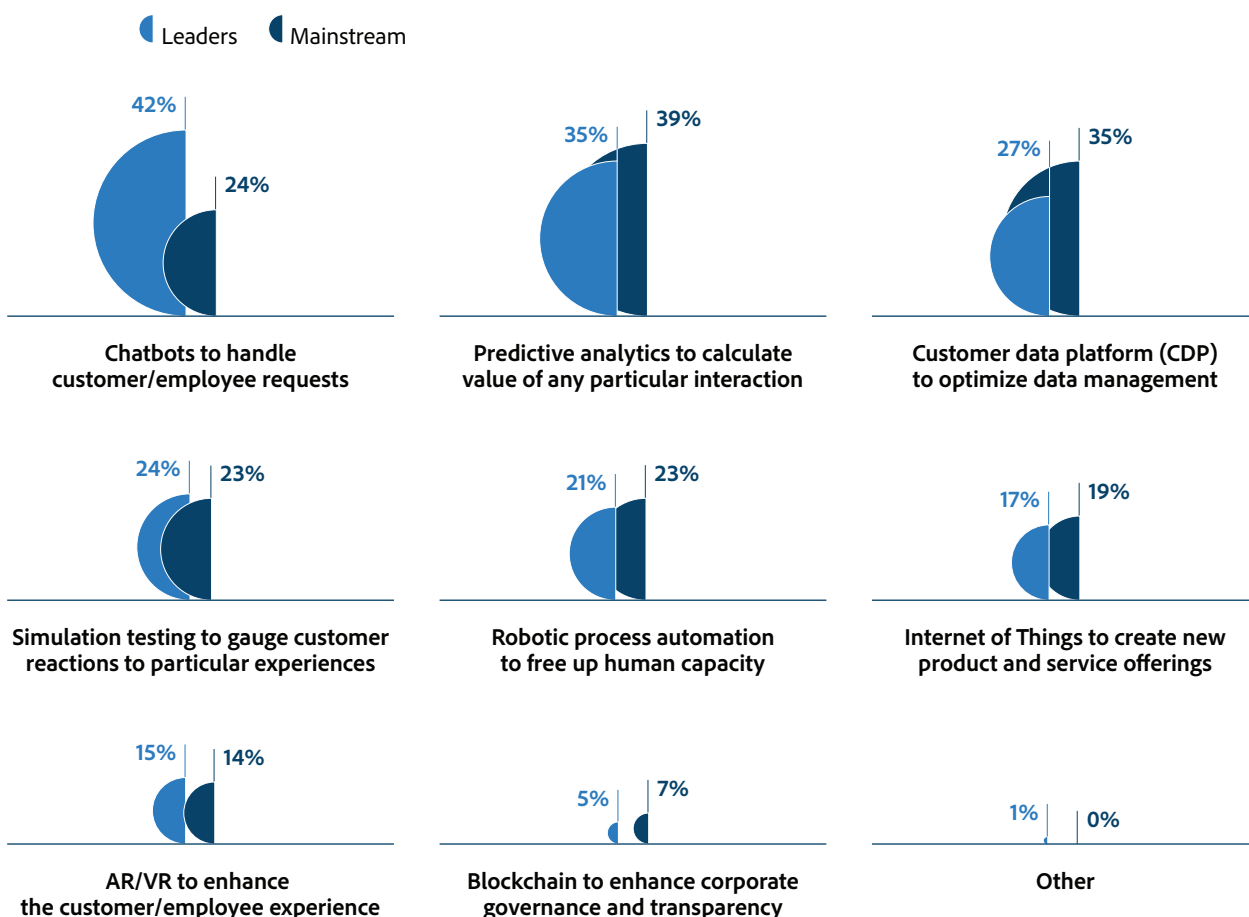|	Strongly agree	Agree
Leaders	54%	37%
Mainstream	29%	55%

Respondents – 1,318

Innovation and experimentation.

The role of the IT function in driving innovation and experimentation is very important, whether for marketing, CX, or electronic signature technology, indeed for the broader digital transformation across all functions within the organizations. As Figure 9 shows, IT respondents working for top-performing companies are nearly twice as likely than those in mainstream companies to "strongly agree" that they're well prepared to exploit the CX opportunities presented by new marketing technologies (54 vs. 29 percent).

A good example of emerging technology is the use of chatbots to handle customer and employee requests, something which IT respondents working at leading organizations are almost twice as likely to identify as one of the two most impactful technologies for driving a positive customer experience (42 vs. 24 percent for IT respondents at mainstream companies, Figure 10).

Chatbots are by no means a panacea for all CX challenges, but they do offer exciting opportunities for companies to resolve issues, answer questions, and even drive sales in a way which is both on-brandand cost-effective.

Figure 10 **What top two technologies do you believe have the greatest positive impact on customer experience?**

Leaders   Mainstream

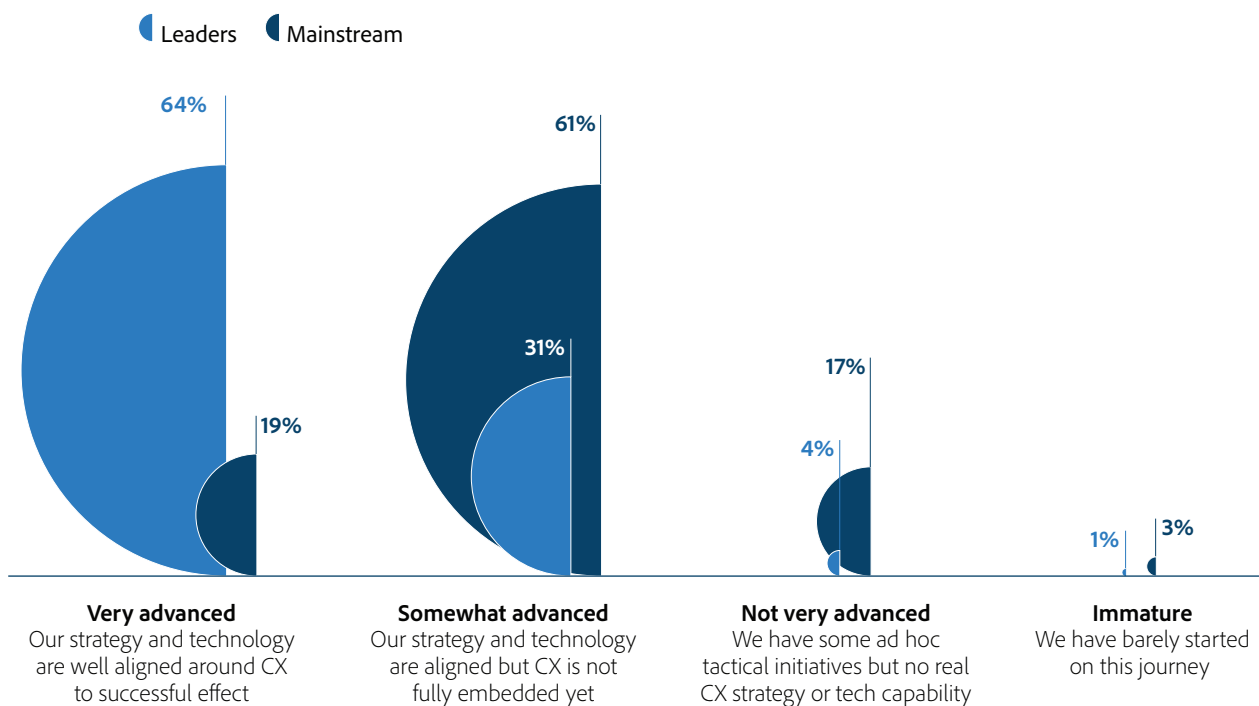|	Leaders	Mainstream
Chatbots to handle customer/employee requests	42%	24%
Predictive analytics to calculate value of any particular interaction	35%	39%
Customer data platform (CDP) to optimize data management	27%	35%
Simulation testing to gauge customer reactions to particular experiences	24%	23%
Robotic process automation to free up human capacity	21%	23%
Internet of Things to create new product and service offerings	17%	19%
AR/VR to enhance the customer/employee experience	15%	14%
Blockchain to enhance corporate governance and transparency	5%	7%
Other	1%	0%

Respondents – 1,380

Chatbots are just one small facet of the overall CX which top-performing companies are on a relentless quest to optimize. The benefits of a positive customer experience are clearly illustrated by the closing chart (Figure 11) below which shows that IT respondents working at top-performing companies are more than three times as likely to say they are "very advanced"— their their strategy and technology are well aligned around CX to a successful effect.

In summary, a modern IT function needs to be instrumental in driving CX initiatives within the business, helping to ensure that foundations are built on robust and actionable data, and on technology platforms that promote (rather than hinder) collaboration and efficient workflows.

Figure 11 **How do you rate your company's customer experience (CX) maturity?**

● Leaders ● Mainstream

Very advanced
Our strategy and technology are well aligned around CX to successful effect
Leaders 64% / Mainstream 19%

Somewhat advanced
Our strategy and technology are aligned but CX is not fully embedded yet
Mainstream 61% / Leaders 31%

Not very advanced
We have some ad hoc tactical initiatives but no real CX strategy or tech capability
Mainstream 17% / Leaders 4%

Immature
We have barely started on this journey
Leaders 1% / Mainstream 3%

Respondents – 1,537

Four key takeaways for IT professionals.

1. CIOs and their teams must be at the forefront of CX programs.
Senior IT professionals need to ensure they are working as closely as possible with other parts of the business that are instrumental in delivering great customer experiences, including the marketing and product teams. At the top levels of the organizations, CIOs should play a leading role in helping define how technology can help their companies deliver against commercial objectives. At all levels of seniority, IT professionals should be integrated within the business rather than just staying within their own lane.

2. Modern organizations require software that facilitates collaboration, efficient workflows, and integration.
Those working in IT need to be evangelists for tech solutions that promote agile and collaborative working relationships, define clear workflows, and help to ensure that projects are delivered on time with clear visibility provided for all key stakeholders. Organizations are destined to fail unless they have an integrated technology stack which can transcend unnecessary gaps between different marketing channels and teams.

3. World-class CX requires actionable insights.
IT professionals need to help organizations surface customer insights as quickly as possible, while making sure they are both accurate and actionable. The organizations that will succeed in 2021 and beyond will be those that are most efficient at building new and existing revenue streams based on a clear understanding of customer needs through insights harnessed in real time.

4. IT teams must embrace experimentation and innovation.
CIOs must encourage their teams to champion innovative technology which, in turn, will help their companies become more customer-centric, whether through solutions that encourage collaboration and more efficient workflows internally, or through software that helps reduce friction within customer journeys.

Methodology

2021 Digital Trends 11th Edition is based on an online survey fielded to select Adobe and Econsultancy lists in the fourth quarter of 2020. The survey closed having collected 1,709 qualified responses from the IT sector.

Demographics profiles

• Seventy-nine percent of all the responses were at manager level or above.

• As defined by target market, those addressing both markets equally accounted for 45 percent, followed by B2B (33 percent), and B2C (22 percent).

• The sample is global, with Europe providing the largest share of respondents (49 percent), followed by Asia-Pacific (24 percent), and North America (20 percent). The survey was translated into French, German, and Chinese.

Econsultancy × Adobe