Tech Industry

2024 Tech Trends

Intelligent Experiences and the Elements They're Built On

CAPTECH THOUGHT LEADERSHIP

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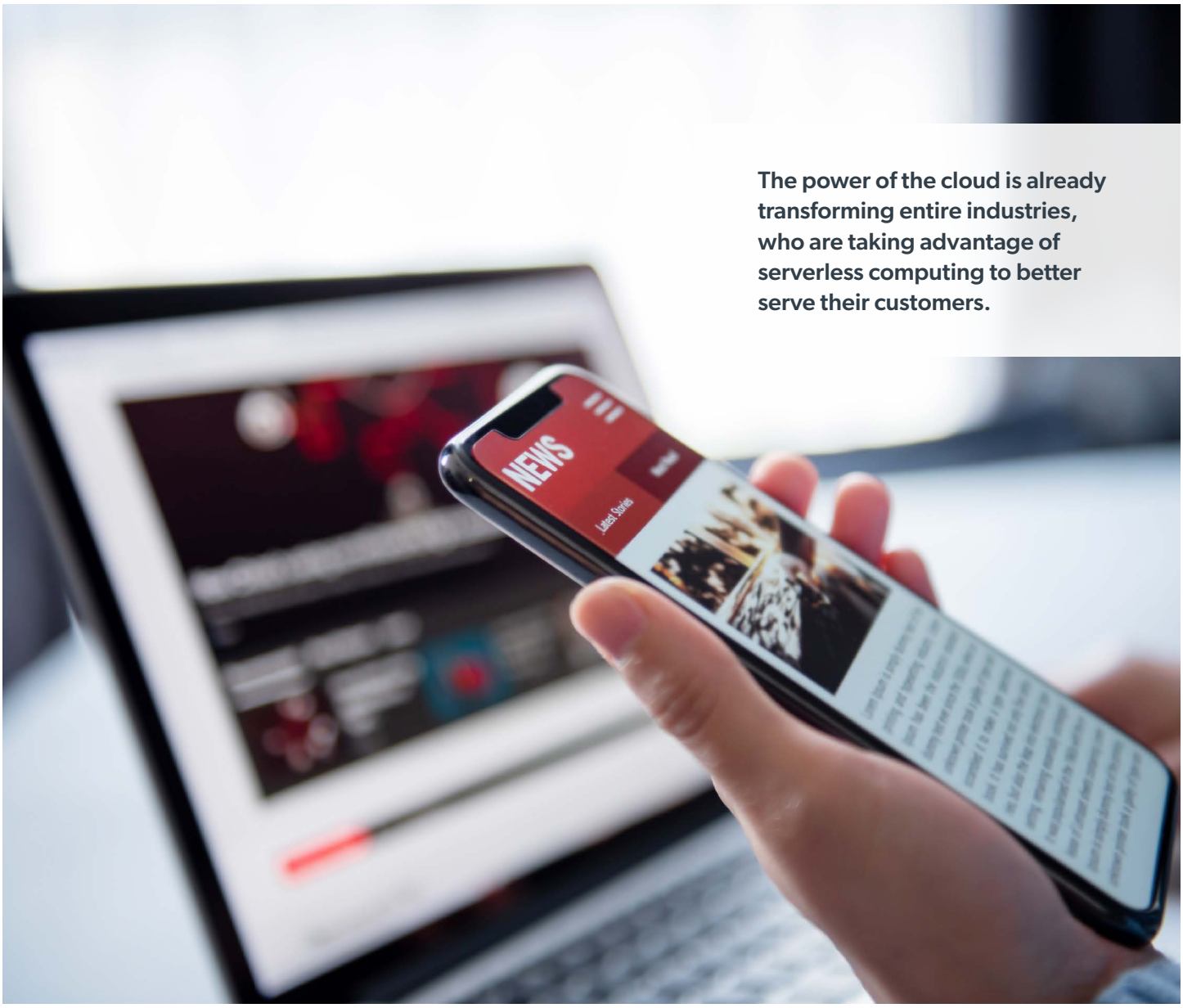
There was a time when customizing an experience based on a customer's past actions was the peak of personalization. But today's customers now live in a world of instantly accessible, real-time data. They expect something a good deal more intelligent, and with recent advancements in AI and data analytics, companies now have all the tools at their disposal to answer the call.

Intelligent experiences leverage AI, customer data, and other advancing technologies to understand, shape, and optimize the customer journey to a level never before seen. It's a new era of customer experience that anticipates customer needs, personalizes every interaction, and drives unprecedented operational efficiency.

Looking throughout 2024, CapTech predicts a broader investment into intelligent experiences across industries, with a focus on the three elements that make up an intelligent experience: Data-Rich Foundations, Innovation Enablers, and a Customer-First Philosophy.



The power of the cloud is already transforming entire industries, who are taking advantage of serverless computing to better serve their customers.

TREND 1

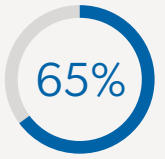
Data-Rich Foundations

While part of the purpose of an intelligent experience is to simplify the customer journey, the mechanisms behind these experiences are decidedly not so simple, involving an intricate orchestration between several technologies and methodologies. To support this orchestration, we expect companies to continue accelerating investments in powerful, data-rich foundations upon which to build and innovate.

Make Your Data Actionable to Unlock Powerful Insights

The first layer of this foundation is actionable data, the wellspring of intelligent customer engagement. Sculpted from raw data, actionable data is clear, structured, and understandable, ready to be analyzed and acted upon at a moment's notice.

> **Insights gleaned from actionable data are crucial in understanding customers so you can anticipate, meet, and exceed their ever-evolving needs.**



of marketers said improving their data analysis is a very important factor in delivering a better customer experience[i]

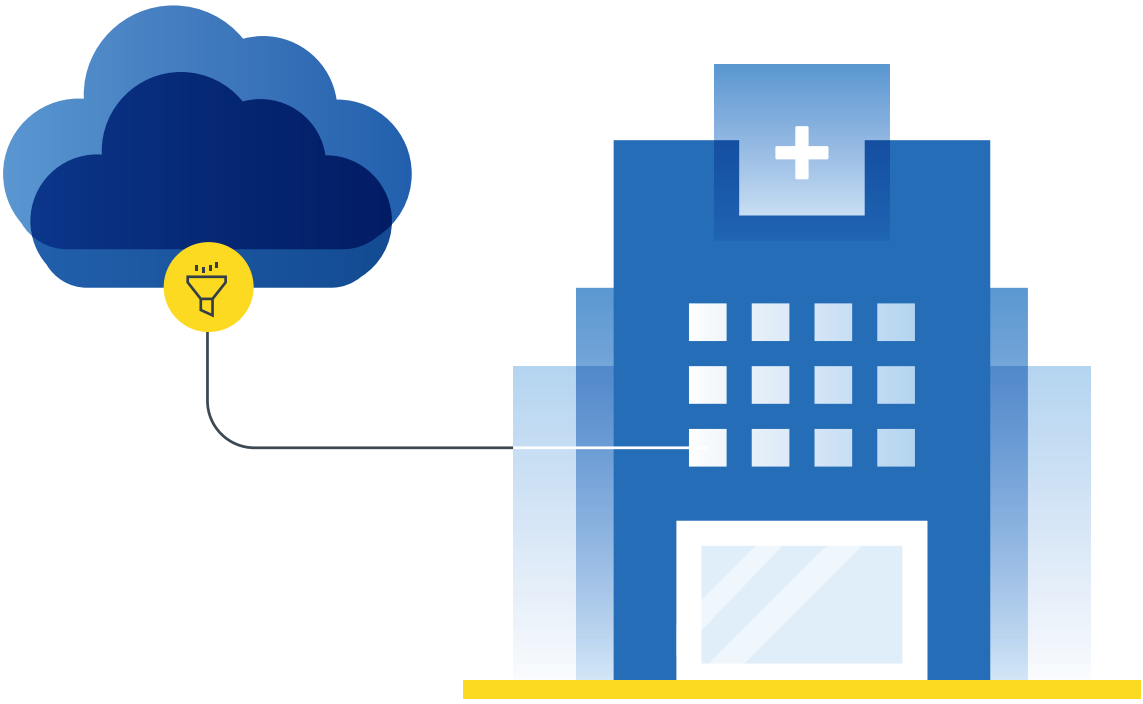
To transform raw data into actionable data, organizations must unify, structure, and enrich the data they ingest within a seamless and integrated platform. Without a strong platform, they'll struggle to stitch together insights across customer interactions, resulting in a disjointed and incomplete view of their needs and preferences. Such fragmented data limits the deep understanding necessary to craft an intelligent experience.

Imagine a growing hospital system trying to analyze massive volumes of patient data without a unified data platform. It would be incredibly difficult to make sense of all that disparate information, let alone turn it into an intelligent experience for their customers. But by developing a centralized dashboard providing a real-time view of patient information, they could empower personalized care through — for example — tailored text messages, reminders, and digital follow-ups, all driven by actionable insights.

We expect companies across industries to sharpen their focus on actionable data if they want to build these kinds of intelligent experiences and stay competitive in a rapidly advancing technological landscape.

Optimize Your Cloud for Serverless Freedom

The second layer of a data-rich foundation is an optimized cloud platform built with cloud-native capabilities, whose scalability and flexibility enables organizations to build experiences that work across devices and address changing customer demands in real-time. An optimized cloud platform isn't the result



of a lift-and-shift migration; it's a dynamic ecosystem, constantly evolving with the latest cloud technologies and best practices.

> **If built with strategic vision and expert guidance, an optimized cloud can even empower organizations to effortlessly run AI applications that are scalable, cost-effective, secure, and easy to manage.**

The power of the cloud is already transforming entire industries, who are taking advantage of serverless computing to better serve their customers. Our hospital system, for example, can now generate actionable insights thanks to its integrated data platform, and if they migrated the bulk of their infrastructure to the cloud, they won't be hindered by the limitations of physical hardware.

But the cloud is not a monolith, and not every cloud setup is equal. If our hospital system runs on a first generation cloud solution like AWS Elastic Compute Cloud (EC2), for example, which builds on a server instance footprint that was common in on-premises data centers, they may encounter scaling challenges, struggle to manage complex workloads, and ultimately see higher-than-expected operational overhead. (According to a report published by Anodot, nearly half of businesses find it difficult to get cloud costs under control).[ii]

Instead, organizations like our hospital system should revisit their cloud strategy to address these roadblocks and evolve their operations. Migrating from a suboptimal solution to a more cloud-native optimized solution like AWS Elastic Kubernetes Service (EKS), for example, can increase the velocity at which applications can be deployed and actionable data can be acquired and processed. With greater features and more robust automation capabilities, EKS can improve efficiency and system reliability, and reduce operational costs by minimizing the need to manage virtual machines, elevating process maturity and cloud resource usage, and offering advanced scalability and availability techniques.

By optimizing their cloud with EKS, our hospital system's

actionable data now becomes instantly accessible, readily scalable, and can be distributed and analyzed with lightning speed, leading to faster diagnoses, optimized treatment plans, and proactive outreach.

> **Companies will soon realize that if they haven't optimized their cloud, they won't be able to enable the speed, scalability, and serverless freedom necessary to power intelligent experiences.**

While every organization adds their own spin to the process, the winning tactics are universal: prioritizing user needs, iterating for improvement, and measuring impact.

Follow an End-to-End Product Development Framework for Go-to-Market Success

Intelligent experiences require a tried-and-true framework to reach their full potential. End-to-end product development, the third layer of a data-rich foundation, is an iterative process that guides a product lifecycle from ideation to delivery, and fosters continuous improvement post-delivery for as long as it's needed. While actionable data provides insights into customers and an optimized cloud facilitates the analysis and management of that data, end-to-end product development offers a roadmap for product vision, development, release, and optimization.

Beginning with strategy and research, end-to-end product development continues through design, development, release, and post-release activities such as marketing tactics and change acceleration. While every organization adds their own spin to the process, the winning tactics are universal: prioritizing user needs, iterating for improvement, and measuring impact. Iteration, in particular, is vital for success.

> **By providing a learning feedback loop that optimizes every stage of the process, teams are able to continuously improve, quickly respond to change, and efficiently allocate resources.**

By following an end-to-end product development process, our growing hospital system can confidently build intelligent experiences that transform the patient journey from reactive to proactive, enabling care that anticipates needs and empowers individuals to take control of their health.

Data and the cloud alone can't unlock the true potential of intelligent experiences. We expect companies in every sector to increasingly recognize the value that the product development process brings to an intelligent experience, and how it completes a data-rich foundation by providing a clear vision, strategic direction, and concrete steps toward delivering real-world impact.

TREND 2

Innovation Enablers

Fresh ideas and innovative concepts propel intelligent experiences forward, and innovation thrives when people have the space and the tools to think big. To guide the innovation process and ensure it is fruitful, organizations must enable their people to unleash their full creative potential.

Innovation enablers are the technology and processes that enable or accelerate innovation. As the expectation for intelligent experiences grows, we expect organizations to commit more resources into two major innovation enablers.

Conduct Innovation Sprints to Create New Ideas Quickly

Fostering an environment in which people can rapidly try and fail hones good ideas into breakthrough product concepts. Innovation sprints enable this type of rapid development by giving teams a short, time-boxed period to test out key components of an experience to see what works, what doesn't, and further validate the market opportunity. An important element of an agile strategy, sprints make the product development process more affordable, eliminate waste, and get products to market faster.

Imagine a rapidly growing shoe retailer with poor ecommerce search capabilities. It can bring visitors to the website, but the frustrating shopping experience is hurting conversion rates. Instead of spending months debating potential solutions, the retailer could conduct an innovation sprint to lock down a unique concept and build a prototype in just a few days. Creating a chatbot that uses semantic search, for example, could allow users to find the product they're seeking, even with vague search terms. Since semantic search makes intelligent associations between words or phrases and considers synonyms and related terms, even a query like "shoes that are good off road" would usually surface the right product.

Some of the biggest brands in the world, including Google[iii], Uber[iv], and Lego[v], use innovation sprints to envision new capabilities or products that solve business challenges, and these companies know that even if a sprint doesn't result in a tangible outcome, the collaborative process still builds valuable soft skills like teamwork and problem solving.

> **As customer demands continue to evolve and employees seek greater value and purpose at work, it won't be long before innovation sprints become business as usual.**

Identify AI Opportunities to Enhance the Experience

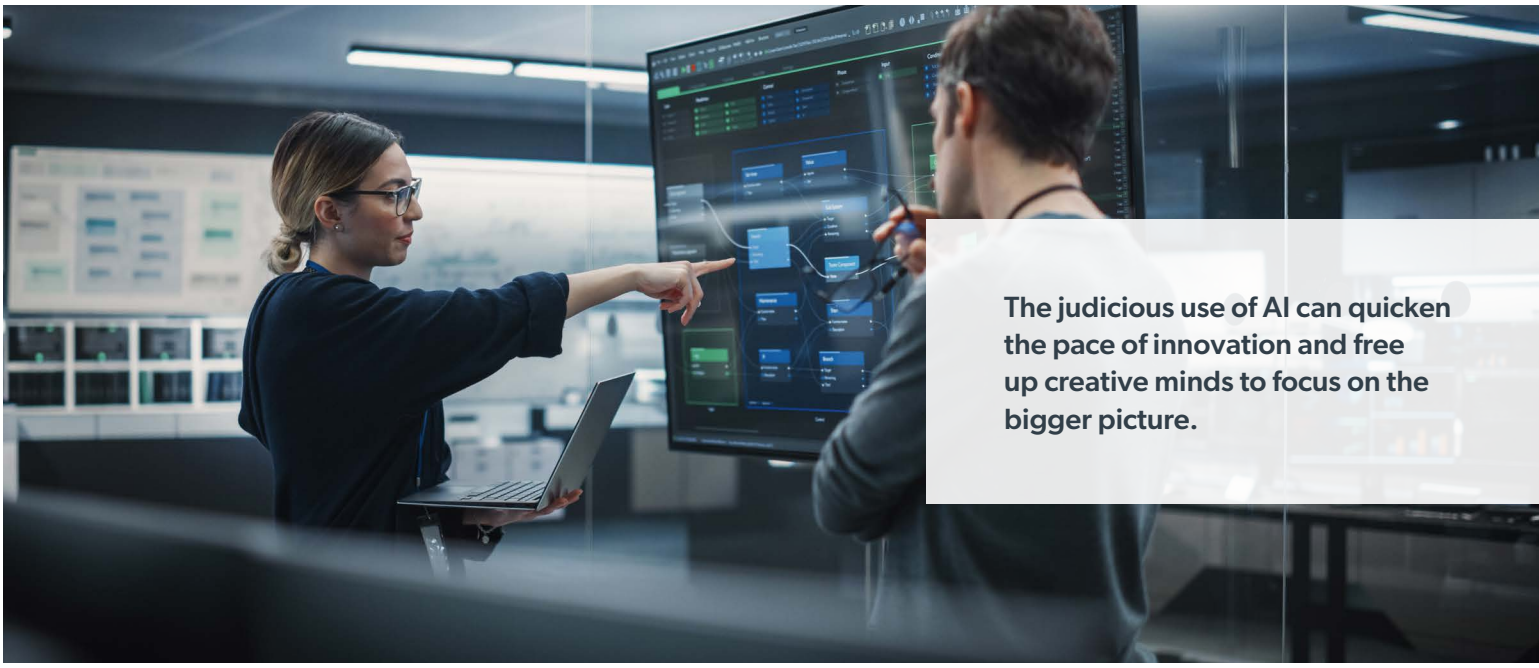
The judicious use of AI can quicken the pace of innovation and free up creative minds to focus on the bigger picture.

> **Through machine learning and predicative analytics, AI can enhance idea generation, simplify and expedite the testing of those ideas, and accelerate research by synthesizing vast amounts of data from a wide and diverse array of sources.**

AI, of course, also enables some of the more innovative aspects of intelligent experiences themselves. Everything from personalized product recommendations to chatbots is powered by the invisible network of algorithms and data models that form the beating heart of AI. In fact, AI can touch so many facets of the innovation process that knowing where to start can actually be a bit of a challenge. To break free from the paralysis of choice, organizations should consider following an AI Acceleration Framework to best determine the business problems AI can help solve, and which AI tools are the best fit. Using the aforementioned innovation sprint as a testing ground, the Acceleration Framework helps teams define goals and identify opportunities to implement AI solutions within their innovation strategy.

The AI Acceleration Framework would help beef up our shoe retailer's chatbot, for example. By pinpointing strategic areas where AI can enhance chatbot performance, they could ensure the experience smartly adapts to a customer's unique needs, preferences, and vernacular. Following the framework, our retailer might create a more intelligent experience by designing a solution using the retrieval-augmented generation (RAG) technique. Using an AI tool to generate text descriptions from product pictures — and combining that data with a vector store based on existing product descriptions — they could train an AI model to infer meaning from search queries that a less intelligent chatbot might miss. A search for "patriotic shoes," for instance, might locate a pair of shoes with red, white, and blue in them, even if that pair's product description doesn't mention the word "patriotic."

For companies embarking on the intelligent experience journey, pinpointing optimal AI integration points will become increasingly crucial to accelerate time-to-market and offer new experiences previously considered impossible or impractical.



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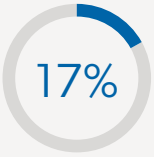
TREND 3

Customer-First Philosophy

What the "intelligent" part of an intelligent experience really means is that it puts the customer first by delivering on everything they expect from that experience and more. This makes every interaction frictionless, seamlessly guiding the customer toward their goal while anticipating any questions, issues, or opportunities that might arise along the way. As the intelligent experience wave continues to rise, companies will double down on the processes that fuel this philosophy and the frictionless build-ins that bring it to life.

Use a Customer 360 Strategy to Deepen Personalization

According to an Adobe study, only 17% of leading organizations base their personalization efforts on intent or prediction.[vi] To start anticipating customer actions and expectations, companies must develop a 360-degree view of those customers, which blends actionable data with comprehensive research to build accurate, insight-rich customer profiles from which brands can tailor experiences and deepen personalization.



of leading organizations base their personalization efforts on intent or prediction

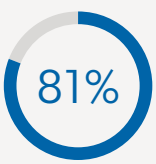
Customer 360 embodies the customer-first philosophy by revealing — and designing for — a customer's true wants and pain-points, and organizations large and small are leveraging the strategy to heighten personalization and create more meaningful engagements.

Imagine a national sports organization that wants to connect with more sports professionals but doesn't know how to engage multiple audiences with different goals. By fusing in-depth customer research with data analysis, the organization could generate detailed customer profiles based on actual customers and gain a true understanding of their unique motivations. From there, they could build separate user pathways within their digital platform, creating a freshly designed set of experiences that personalizes the journeys for its existing audiences while creating new connections for additional audience types.

As audience fragmentation accelerates, a customer 360 strategy will soon become non-negotiable for crafting resonant intelligent experience that cater to everyone.

Implement Conversational Technology for Frictionless Assistance

Nothing adds friction to a customer experience like high call volumes and long hold times. That's why customers are increasingly expecting brands to offer conversational technology for real-time assistance. A frictionless build-in that combines generative AI, customer data, and natural language processing enables conversational technology that enhances personalization and convenience while reducing call center volume and employee burdens. In fact, according to a recent CapTech survey, 81% of consumers are comfortable using conversational technology, reflecting a broader trend where consumers value the personalization, efficiency, and round-the-clock accessibility provided by these technologies.



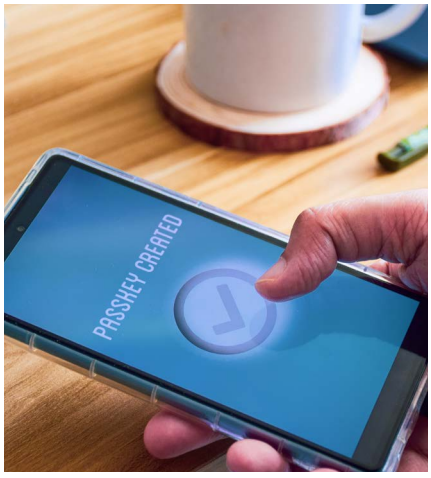
of consumers are comfortable using conversational technology

Many companies have already started implementing AI-powered chatbots into their business strategy, and we expect the trend to continue. Our sports organization, for instance, likely engages with large and diverse audiences every day concerning everything from membership pathways and volunteering opportunities to tickets, events, and promotional offers. By building an AI-powered chatbot, they could answer customer questions in a fraction of the time, provide personalized recommendations and suggestions, and reduce reliance on human resources.

Pick Winning Build-Ins that Customers Expect

Not every intelligent experience uses the same technologies, but several build-ins are quickly becoming table stakes for brands who are trying to stay competitive. Two-click checkout, facial recognition, and passkeys are just a few increasingly expected build-ins that remove roadblocks preventing customers from interacting with a brand. Whether it's one-too-many steps down the sales funnel, clunky sign-ins, or vulnerable authentication workflows, these build-ins embody the customer-first philosophy by making the customer journey easy, quick, and safe.

As the intelligent experience wave continues to rise, companies will double down on the processes that fuel this philosophy and the frictionless build-ins that bring it to life.



Customers Want Intelligent Experiences

While many customers have valid concerns about AI such as misinformation and security, data shows that they still express a strong preference for technologies that use AI to provide convenience, personalization, and efficiency.

CapTech's consumer survey found that 36% of respondents are more likely to engage with a company if it uses AI-driven algorithms to provide personalized recommendations, and only 13% say they would be less likely to engage. Furthermore, a combined total of 64% of respondents place importance on innovation when selecting digital products, reflecting a substantial customer preference for modern conveniences and advanced features in their technology choices.

Clearly, customers value intelligent experiences, and with a data-rich foundation on which to build, enablers with which to innovate, and a customer-first philosophy focused on meeting customers' frictionless expectations, brands can create intelligent experiences that understand and deliver exactly what customers want.

AI's Impact on Decision-Making

36% of respondents are more likely to engage with a company if it uses AI-driven algorithms to provide personalized recommendations

13% of respondents are less likely to engage with a company if it uses AI-driven algorithms to provide personalized recommendations

64% of respondents place importance on innovation when selecting digital products

[i] 65% of marketers say improved data analysis improves customer experience," Insider Intelligence, March 16, 2018, https://www.insiderintelligence.com/content/better-data-analysis-is-critical-to-improving-customer-experience

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[vi] 17 of leading organizations personalize via intent or prediction," Adobe, 2023, https://business.adobe.com/content/dam/dx/us/en/resources/digital-trends-2023/adobe-digital-trends-2023-uk-en.pdf

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