

# 2021 Trends: The Year of Acceleration

Looking Ahead in the World of Tech

CapTech®



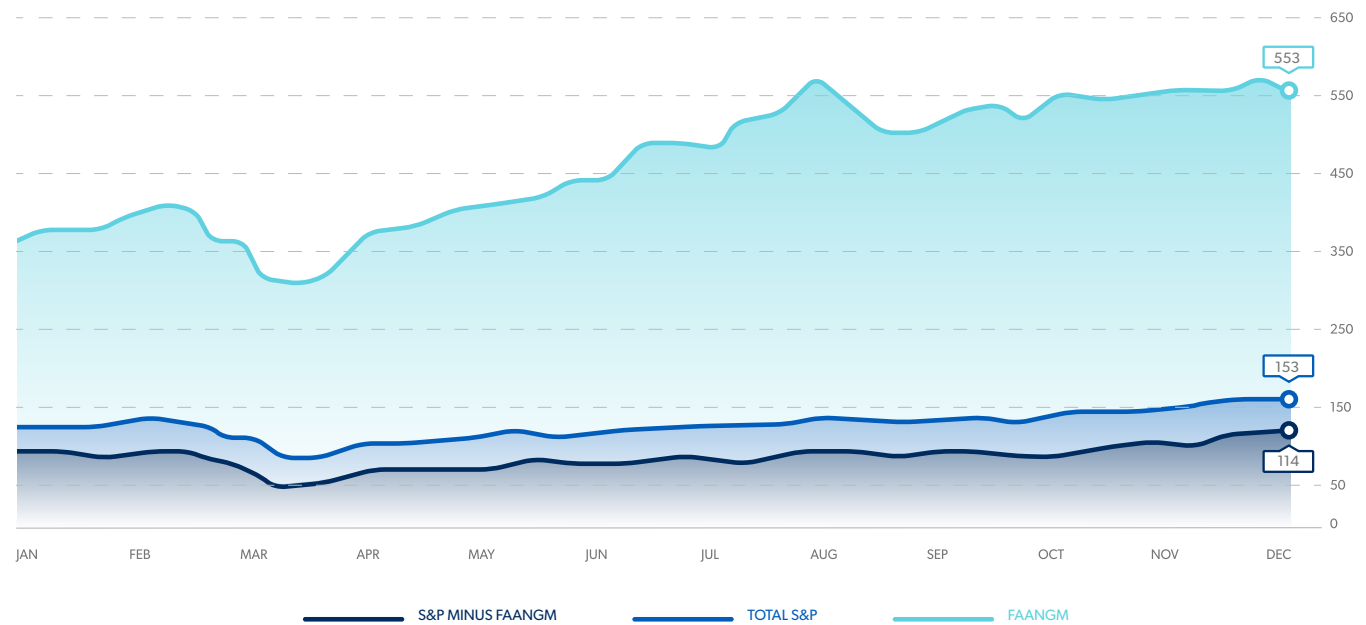
To say 2020 was a year of uncertainty would be a massive understatement. While that uncertainty begins and ends with COVID-19, other factors have contributed throughout the year. From a tumultuous economy to social unrest to a dramatic election, this year brought a variety of unique challenges, one after another.

Of course, challenges often lead to new opportunities for companies and their customers alike. As customer demand increased, competitors capitalized on cracks in the façade of traditional brand loyalty. Smart companies understood, almost immediately, that customers were adopting new technologies, prioritizing safety, and expecting value—and that they were willing to change their shopping behaviors to meet these shifting needs.

Successful organizations have a modern, flexible architecture that allowed them to respond to these changing needs and transform both customer engagement tools and internal operations. Parallel growth occurred for companies and these technologies and concepts, allowing both to reach a new plateau of maturity during the past year. In fact, McKinsey found that the pandemic accelerated the digitation of customer interactions by several years.<sup>1</sup> And technology companies outperformed other sectors in the stock market in 2020, as evidenced in the graph below.

## TECHNOLOGY COMPANIES OUTPERFORM OTHER SECTORS

### MARKET CAP OF FAANGM\* STOCK VS S&P 500® IN 2020



\* Taking a look at the performance of FAANGM stocks against the S&P 500®. FAANGM stocks include Facebook, Amazon, Apple, Netflix, Google (Alphabet), and Microsoft. Both classes of Alphabet were included.

So, for those organizations that didn't respond as quickly, time is of the essence. Organizations must elevate the significance of and invest in technology to remain competitive.

The stage is set for 2021 to be the year of acceleration – for technologies and for organizations that increasingly rely on those technologies. At its core, this year promises to be about integration and refinement in a way that enables organizations to take advantage of more advanced data, technology, and processes. And, in doing so, refining operations and supply-chain logistics, and providing exceptional value to the consumer.

## TREND 1

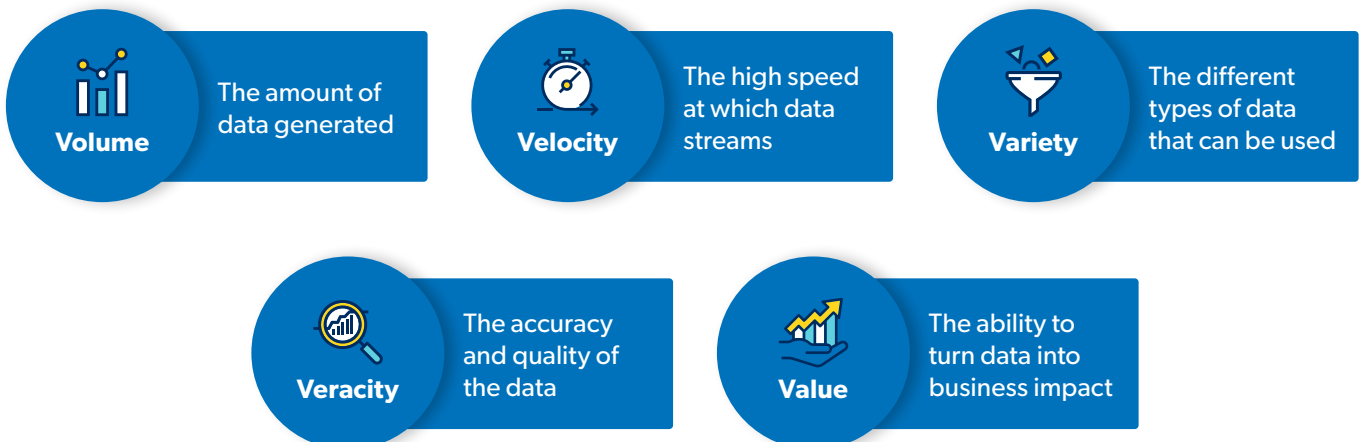
### More Complete Data Will Lead To Leaps In Actionable Insights



What were once considered innovative data technologies —artificial intelligence (AI), machine learning (ML), computer vision, and more—are now becoming table stakes. Companies that have more complete data are positioned to disrupt competitors by surfacing actionable insights. Indeed, Forrester research found that more than a third of companies in “adaptive and growth mode” will leverage AI in 2021 for the automation of tasks in areas like customer support, or by using semiautonomous robots to help workers in a physical setting.<sup>ii</sup>

More complete data doesn't simply equate to volume, the first of the “5 Vs of big data.” Smart companies also take into account what we consider to be the other four: variety, velocity, veracity, and value. Veracity, in particular, will take center stage in 2021. According to IBM, one in three business leaders don't trust the information they use to make decisions.<sup>iii</sup> Yet the more accurate a company's data is, the better an understanding it will have in how to apply it and glean actionable insights.

#### THE FIVE V'S OF BIG DATA



This all dovetails with personalization and the customer experience (CX), especially with consumer expectations rising with the arrival of advancements in the form of cloud tooling, 5G networks, and more. Smarter, cheaper devices are increasingly able to communicate across networks. Since data tools are now more mature and more complete data is being collected, companies can identify patterns, predict behaviors, and personalize recommendations, all for the sake of enhancing the CX. Many organizations recognize the benefits of doing so; in fact, research from Forrester finds that organizations focused on customer insights outperform their peers.<sup>iv</sup>

With more complete data, 2021 will see more companies unleash AI and ML, in which computers use models to draw inferences from data patterns, since the potential exists to move beyond basic personalization. Thanks to the Internet of Things (IoT) and edge computing, data exists on where consumers are and what device they're using—even what they're doing in precise moments.

With the right tools in place, advanced analytics and ML models can be applied to a variety of industries to identify patterns, solve business problems, even mitigate risks – ultimately driving exceptional value.

## HOW INDUSTRIES BENEFIT FROM ACTIONABLE INSIGHTS

### Financial Services



Through ML, finance apps can assess data culled from spending behaviors to provide personalized financial guidance. Other companies use ML to mitigate consumer fraud—transactions are analyzed then flagged as risks to be investigated.

### Retail



While retailers can also employ ML to tag potentially fraudulent purchases, recommendation engines offer various touches of personalization, ranging from making buying suggestions based on browsing histories to providing chatbots to answer frequently asked questions.

### Manufacturing



For manufacturers, ML can be a game-changer for supply chain optimization. The technology can deliver more precise demand forecasting, enhance delivery performance, and deliver valuable insights to improve overall performance—all of which positively impacts the customer in the process.

### Healthcare



From diagnostics to information management, ML is currently being used effectively in the healthcare industry, too. Through data analysis, doctors can make diagnoses more quickly and accurately for their patients while, in the back office, workflows can be improved and clinical data can be accessed to ensure patient records are updated and passed along correctly.

### Utilities



Much like with fraud for financial companies and retailers, ML can discover suspicious energy consumption to nip it in the bud, ultimately saving their customers money in the process. Some companies are even using machine learning to predict—and prevent—potential outages.

## Enhanced Cloud Capabilities Will Advance Digital Transformation



Five years ago, many organizations were debating whether or not to rely on cloud computing. Those that dove in had savvy people on the payroll to manage and configure the tooling and services. On the other end of the spectrum, some companies embarked on complex, custom builds to meet their needs because the built-in functionality was lacking.

Keeping with the running theme of technological maturity, cloud tooling and services have advanced to a point where adoption is at an all-time high, just as companies have loosened their attachment to physical structures and data centers (and many did so as COVID-19 forced companies to embrace remote working in 2020).

Of course, it's much easier for companies to untether themselves when they can just "turn on" Salesforce or Amazon Web Services, easily enabling cloud service that provides robust tools to boot. These improvements have led to more companies utilizing the cloud, whether they're using a public, private, or hybrid solution. They're also abandoning traditional hosting methods to leverage the cloud computing stack, which comes in the form of software-as-a-service (SaaS), platform-as-a-service (PaaS), and infrastructure-as-a-service (IaaS).

Spending on cloud services is expected to grow, as organizations rely more on cloud models to accelerate digital transformation as a result of the pandemic. Gartner predicts spending on cloud services globally will increase 18.4% in 2021 to total \$304.9 billion.<sup>v</sup>

Companies that have embraced the cloud stack understand the benefits: cost efficiency, higher speeds, and dynamic scaling, just to name a few. By modernizing processes and avoiding antiquated patterns, in 2021, companies will capitalize on tools designed to help them thrive.

Telemedicine serves as a perfect example of how an industry has taken advantage of cloud-computing support in response to COVID-19. In 2020, more patients were open to telemedicine due to social distancing, and healthcare professionals have been on board to avoid overcrowded practices and hospitals. Of course, enhancements to providers' infrastructure were necessary to meet the increased demand. As the healthcare industry has adjusted on the fly, the cloud has been instrumental in protecting patient data, hosting virtual appointments, managing health records, and more.

Ultimately, companies have accepted the cloud. The only remaining question is how much they're willing to use it to their advantage.



The pandemic validated cloud's value proposition. The increased use of public cloud services has reinforced cloud adoption to be the 'new normal,' now more than ever."

**Sid Nag**  
Research Vice President  
Gartner

### THE BENEFITS OF A CLOUD STACK



**Integration:** Assists with deployment, as well as information technology (IT) governance.



**Management:** Provides compliance and security for a company's chosen cloud services.



**Monitoring:** Assesses potential threats to the system, allowing for proactive prevention.



**Optimization:** Recognizes inefficiencies so the appropriate tweaks can be made.



**Auditing:** Tracks cloud service usage to find opportunities for cost reduction.

## C-Suites Will Embrace Modern Delivery



For years, organizations have embraced Agile, an interactive form of software development and project management that manages work in short phases with ample opportunities for reassessment, and DevOps, which combines a company’s software operations with its software development to enable faster, continuous delivery. A Forrester survey found that 26% of companies surveyed have fully transitioned into an Agile/DevOps operating model, with another 27% reporting a move in the works.<sup>vi</sup>

Though organizational comfort has seemingly settled in for many companies conceptually, sustained success demands a cultural shift that starts at the very top and distributes ownership. Only then can a company deploy a true multifunctional team effort. Simply mapping new buzzwords and ideas to old processes keeps companies mired in the status quo.

Companies that embrace Agile and DevOps let their customers serve as the compass; instead of forcing them into established routines and patterns, they pay rigorous attention to their customers’ needs and behaviors. This “human-centered design” philosophy enables them to understand why and how people will use the solution and validate that it works. This ties back to the veracity of data that we discussed earlier. When teams have the right metrics, they have the confidence to go forth and build.

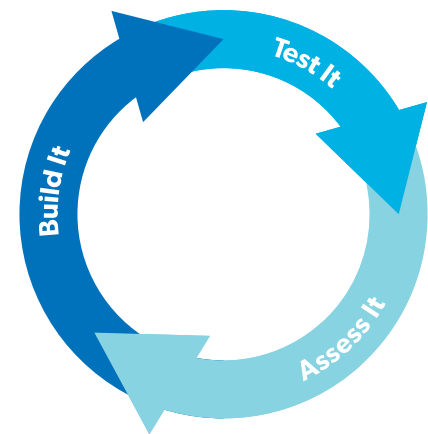
This approach suggests a paradigm shift: leaders empower their people to learn, discover, and improve – with every iteration. Experimentation will expose both gaps and opportunities in architecture and processes, ultimately driving success.

In tackling projects in 2021, companies should build it, test it, then assess it. This delivery approach is never more important following the disruption and change demanded by 2020.

Pump more resources into the product or service if it’s working. If it’s not working, at least a year wasn’t wasted trying to achieve perfection at a glacial pace. And sometimes, even when a company achieves something close to perfection, it might still be irrelevant due to all the valuable time that was lost. Learn to live with a “minimal loveable product”—then iterate again to improve it incrementally.

Because companies that have already committed to modern delivery quickly learn that their rapid response times are appreciated by their existing customers—and catch the eye of prospective ones, too.

### MODERN DELIVERY FRAMEWORK





## Rising User Expectations Will Continue to Impact Consumer Loyalty

We've mentioned the pandemic multiple times already, but it's hard to overstate its impact on consumer behaviors in 2020. Behavior shifts have turned on a dime, serving as a catalyst for wider technological adoption. CapTech's findings in a survey conducted earlier this year, [Captivating Consumers During COVID-19](#), bear this out in a variety of different ways across a range of demographics. Indeed, 72% of consumers are comfortable interacting with new technologies to make a purchase. And nearly three quarters of consumers are likely or very likely to interact with new technology to ensure enhanced safety and cleanliness.

Not only are consumers willing to interact with new technologies, motivating factors for brand loyalty have shifted, with over a third trying new brands due to convenience. The key takeaway is that consumers are more open than ever before to trying new and different activities, brands, and technology, with the increased interest in new technologies driven by a desire for enhanced safety. Of course, it shouldn't come as a surprise that younger consumers are leading the way in trying the latest innovations. In fact, Gen Z consumers have increased their augmented reality shopping habits by 10% and are paying for products with their smart devices more than ever (growing from 33% pre-COVID-19 to 44%).

### RESEARCH SHOWS SHIFTS IN CONSUMER BEHAVIOR



**46% of consumers** have tried new brands based on availability.



**56% of consumers** said increased safety measures had the most influence on whether they gave a company their business.



**59% of consumers** said a business offering unique or innovative solutions was influential or very influential on their purchasing decisions.



**52% of consumers** want to continue paying for products or services using a smart device.



**32% of consumers** in the 18–50 age bracket are open to using chat to communicate with associates during COVID-19.



**Respondents age 18–50** have used touchless payment options when available.



**All age groups** are ordering online or using curbside pickup more.

These shifts are significant. And since some of the findings show adoption or openness to adoption, companies would be wise to innovate at the speed of increased demand. Contactless payment solutions and self-service tools are fundamental expectations now. Concepts like augmented reality are becoming increasingly common for users of smartphones and tablets and, down the line, might even be used in stores.

2021 is not the year to rest on your digital laurels. Nimble companies—especially companies ahead of the curve on the three trends previously discussed—will bend over backwards to provide a seamless customer experience, online and off.

## CONCLUSION

# 2021: When Maturity Becomes Momentum

In 2020, organizations reached new levels of maturity that have them poised to do incredible things in 2021. But in this year of acceleration, companies that know how to architect and engineer solutions have pole position to win the race to meet their customers' needs. So even with more complete data, enhanced cloud tooling, and cultural shifts in process, genuine innovation will be the only way to meet sky-high consumer expectations.

The rising technological tide has the potential to lift your organization to new heights. And for companies that continue to innovate, 2021 holds promise to be a truly transformational year.

<sup>i</sup> "How COVID-19 has pushed companies over the technology tipping point—and transformed business forever," October 5, 2020, McKinsey. Retrieved from <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/how-covid-19-has-pushed-companies-over-the-technology-tipping-point-and-transformed-business-forever>.

<sup>ii</sup> Predictions 2021: Artificial Intelligence," October 22, 2020, Forrester. Retrieved from <https://www.forrester.com/fn/5FQLFysVYIhIZLOTHA009Z>.

<sup>iii</sup> The Four V's of Big Data, IBM. Retrieved from <https://www.ibmbigdatahub.com/infographic/four-vs-big-data>.

<sup>iv</sup> Predictions 2021: Customer Insights, October 20, 2020, Forrester. Retrieved from <https://www.forrester.com/fn/4wfoTYqbjb7cxeEd4JyEvN>.

<sup>v</sup> Gartner Forecasts Worldwide Public Cloud End-User Spending to Grow 18% in 2021, November 17, 2020, Gartner. Retrieved from <https://www.gartner.com/en/newsroom/press-releases/2020-11-17-gartner-forecasts-worldwide-public-cloud-end-user-spending-to-grow-18-percent-in-2021>.

<sup>vi</sup> The State Of Modern Technology Operations, Q4 2020, November 5, 2020, Forrester. Retrieved from <https://www.forrester.com/report/The+State+Of+Modern+Technology+Operations+Q4+2020/-/E-RES161155?objectid=RES161155>





## Brian Bischoff

### Principal

Brian leads our business strategy for our practice areas and is a thought leader in digital strategy. He provides an objective perspective through the strategic analysis of current technology trends and designs and builds great experiences for our clients.

**e:** [bbischoff@captechconsulting.com](mailto:bbischoff@captechconsulting.com)

**p:** 804-301-0397



## Jack Cox

### Fellow

Jack has over a decade of experience helping Fortune 500 clients build mobile and device strategy. He is responsible for the firm's mobile practice and is a frequent speaker on mobile development and best practices.

**e:** [jcox@captechconsulting.com](mailto:jcox@captechconsulting.com)

**p:** 804-306-4710



## Ben Harden

### Principal

Ben leads our Data and Analytics practice and specializes in delivering enterprise-scale data warehousing solutions using the Agile Scrum methodology. He has been consulting with Fortune 500 clients on data and analytics solutions for over 18 years.

**e:** [bharden@captechconsulting.com](mailto:bharden@captechconsulting.com)

**p:** 703-371-4660



## Vinnie Schoenfelder

### Principal

Vinnie is Chief Technology Officer and plays a large role in helping define services, forge partnerships, and lead innovation for our clients. As a thought leader, he regularly helps clients solve their most complex business challenges.

**e:** [vschoenfelder@captechconsulting.com](mailto:vschoenfelder@captechconsulting.com)

**p:** 804-647-3143

This publication contains general information for educational purposes only. In posting this publication CapTech is not providing business, financial, investment, tax, legal or other professional advice or services and should not be used as a substitute for those services or should not be used for any decision or action that may impact your business. This publication is not a solicitation for business for any of the companies or the organizations included in it, nor does CapTech recommend or endorse the services or products provided by these companies or organizations. CapTech provides this publication on an "as is" basis and makes no representation or warranty as to its suitability or validity for any specific purpose. CapTech is not responsible for any loss sustained by any person or company who relies on this publication for making business decisions.

[captechconsulting.com](http://captechconsulting.com)

CapTech is a national consulting firm that helps clients grow efficient, successful businesses. We do so by bringing the data, systems, and ingenuity organizations need to stay ahead and transform what's possible in a changing world. Here, we're master builders, creators, and problem solvers who find inspiration in the unknown and enjoy getting our hands dirty as we design solutions for each client. Across industries and business goals, we fuse technical depth and analytical prowess with creative savvy to ignite innovation and move business forward. This drive helps each organization use technology, management, and insight to turn ideas into action. Together, we create outcomes that exceed the expected — which is one of the reasons we've been on the Inc. 500/5000 list for over a decade.

# CapTech®

Copyright © 2021 CapTech Ventures, Inc. All Rights Reserved.

[t](#) [in](#) [i](#) [f](#) [@](#)  
[@captechlistens](#)