WE, THE POST-DIGITAL PEOPLE

Can your enterprise survive the tech-clash?

Executive Summary

Provocative thinking, transformative insights, tangible outcomes
We, the Post-Digital people

People’s love for technology has let businesses weave it—and themselves—into our lives, transforming the way we work, live and interact with the world. But that unconditional love is starting to fray, and it’s increasingly clear that the approaches companies took to reach this point won’t take them any further.
Even as people’s expectations for their future with technology continue to grow, many enterprises’ attempts to deliver on those expectations are being rejected. Companies need to build a new path forward, developing new models that bring a human focus.

Imagine a world with seamless, secure and personalized healthcare. Wearables give doctors instant access to patients’ real-time and past vital signs. Digital healthcare records automatically incorporate results and notes from different providers, with no delayed requests for records or decisions made on incomplete information. All the while, artificial intelligence (AI)-powered machines use these records to make preventative recommendations.

Companies already aspire to this type of human-centered experience. But even though the technology exists to build it, implementation remains out of reach. Models that companies have been relying on for decades are becoming roadblocks. Closed ecosystem models mean different levels of technology access and different standards, creating obstacles to smooth experiences. Application-centered data models create fragmented, even conflicting, data about patients, while innumerable go-betweens, regulators and gatekeepers can often add friction—not value—to the experience. Meanwhile, concerns about security, privacy and ethical issues keep patients and providers alike wary of new technological solutions.
Enterprises are facing their next big challenge. Up until now, businesses have largely benefited from following the technology roadmap laid out by digital pioneers. Now, digital technology is evolving from an advantage to a basic expectation—and yesterday’s best practices are turning into today’s shortcomings. To grow and compete, enterprises will need to revisit their fundamental models of business and technology, rebuilding them to align better with people today.

This is a conundrum playing out across all industries

The promise of a world made better and easier by technology is being trapped behind models, architectures and governing structures that have not realized their full potential nor created adequate value—leaving companies out of sync with people’s needs and expectations.

Despite this tension, businesses aren’t slowing down with their agendas; in fact, many are unknowingly speeding toward technological deadlock. They’re poised to flood the world with purportedly smarter products and services like intelligent assistants and immersive experiences—offerings that hold deeply transformative potential for both people and the enterprise. But enterprises are embedding digital everywhere just as customers and governments are bringing more scrutiny to the role technology plays in their lives. With technology as the foundation of the enterprise, leaders need to update their models and bring business value in line with people’s values, or future innovations stand to be rejected and fail.
Every business assumption and entrenched approach is up for review and reinvention toward people-centric models. Companies must reengineer the experiences that bring people and technology together; they must raise questions about the democratization of data and technology, and they must reevaluate the application and value of intelligence—what technology is providing for people, and the ways it’s changing people in the process.

This reimagination of the enterprise offers tremendous opportunity to those that take the lead. In every industry, companies’ current successes are happening in spite of their foundations, not because of them. When leaders successfully rebuild their technology models to deliver the human focus they’ve lost, they will be poised to do far more than meet expectations. They’ll set the new standard that every competitor—in every industry—will be forced to try to meet.

Getting there is the greatest challenge the C-suite will face during the next decade. The success of the next generation of products and services will rest on companies’ ability to elevate the human experience. None of the steps on the journey are incremental changes, nor are they as simple as finding the next technological tool to do what you’re already doing today. Leading in the future will demand rethinking core assumptions about how an enterprise works and redefining the intersection between people and technology.
People are changing. Why aren’t you?

To move forward, enterprises must first acknowledge the essential role technology plays in people’s lives today, and how that relationship is changing.

The reason that the increasingly strong and symbiotic connection between people and technology is meeting resistance is not because technology has ceased to be valuable. It’s because enterprises have not yet re-oriented to just how meaningfully people treat technology today.
In retrospect, this isn’t surprising

Just 20 years ago, digital access was limited by dial-up connections and desktop PCs, and individuals remained predominantly anonymous online. Tools like e-mail, forums and e-commerce were more efficient or far-reaching than analog counterparts, but hardly vital to people’s existence. Companies didn’t need to closely consider the impact of technology in their customers’ lives; our digital lives were distinctly separate from our “real” ones.

It’s hard to find that kind of separation today as technology has become an inextricable part of the human experience. More than half the world’s population—a whopping 4.5 billion people—have access to the internet.¹ People are ever-connected on every type of device, globally spending an average of 6.4 hours online daily.² Even distinctions about “screen-time” are becoming an obsolete way to look at reality as technology permeates the physical world. Daimler is integrating intelligent voice control into its Mercedes-Benz vehicles, letting drivers ask their car questions about traffic, weather and more.³ Samsung’s digital assistant Bixby is interacting with people in their homes via the company’s FamilyHub line of refrigerators.⁴ And the last mile is becoming a thing of the past as companies like FedEx, Amazon and Postmates use robots and drones for delivery right to customers’ doorsteps.⁵

Not only is technology a symbiotic part of people’s lives, it’s also being embedded in the building blocks of society. Take the evolution underway in education: China is investing $30 billion in edtech by 2020 to ensure its 230 million K-12 students have access to individualized learning platforms.⁶,⁷ In Indonesia, non-profit group Room to Read is closing the country’s illiteracy gap by building an open-source platform that provides access to children’s stories, literacy education videos and training videos for teachers.⁸,⁹ And technology isn’t just transforming how people learn, but also what they learn: bootcamps that teach coding and web development skills have grown 11x in the last six years.¹⁰

Given the starring role technology has in people’s lives, it makes sense that we take technology personally—and why we expect so much more from it going forward. Just as many current models fail to account for the growing impact of technology, our unconditional love for unlimited technology is fading. Some are labelling today’s environment a “tech-lash,” or backlash against technology. But that description fails to account for the fact that we’re using technology more than ever. Rather, it’s a tech-clash—a collision between old models that are incongruous with people’s current expectations.

of consumers say that technology plays a prominent role or is ingrained into almost all aspects of their day-to-day lives. An additional 19% report that technology is so intertwined with all aspects of their day-to-day lives that they view it as an extension of themselves.
Some are labelling today’s environment a “tech-lash,” or backlash against technology. But that description fails to account for the fact that we’re using technology more than ever. Rather, it’s a tech-clash—a collision between old models that are incongruous with people’s current expectations.
Smart products are appearing everywhere, but businesses create walled gardens around them, turning a world of unprecedented choice and customization into one of ecosystem lock-in. Privacy and security concerns around the troves of valuable data people produce lead to hesitation and distrust. AI is being applied to bigger challenges, but is still largely focused on automation, leading people to worry about losing their livelihoods.

And the issues leading to tech-clash are changing constantly as technology becomes ever more prominent in people’s lives. AI systems today are being used to decide whether a job candidate should proceed to an interview or recommend whether criminal defendants should be allowed to post bail.11 As the capabilities of AI-driven systems have grown beyond automating boring or repetitive tasks, to making decisions that directly impact people’s lives, the fact that many of these systems are still “black-box” leaves people skeptical about the fairness and effectiveness of the algorithms.12

This deadlock must be broken, or the progress of the last 20 years will grind to a halt. Governments from the European Union, United States, Brazil and other countries are attempting to ease the burden by creating new rules, guidelines and practices.13, 14, 15 But lawmakers are limited to addressing or changing existing models—not building new ones. The true path to solving the tech-clash rests in the domain of the enterprise, driven through what products and services companies build and how they offer them to customers, employees and ecosystem partners.

For people to accept the flurry of new product and service innovations that companies are eager to introduce, a major reckoning must take place. Companies must synchronize the business and technology models that drive enterprise value with people’s evolving expectations.
Leaving the roadmap behind

With the roadmaps of the past two decades, companies successfully wove technology throughout the business, but tech-clash makes these blueprints irrelevant going forward.

What does that mean for enterprises? There’s no defined path left to follow. Everyone is working from the same blank slate, but that doesn’t mean they’re working with nothing. There’s a larger guiding light: companies should look to people’s core values to see how success could take shape.
Businesses must challenge existing models to create something wholly new. Inventing a better, human-centered future for people requires a virtuous circle of trust, data and deeper experiences.

Consider just one of the challenges today’s models create. People’s information—whether medical, shopping or other data—is generated, stored, shared, accessed and controlled by the companies and ecosystems with which they do business, and sometimes even by businesses with whom they have no direct relationship. As these ecosystems grew to provide expansive personalization and valuable services, companies were relied on to steward more data and manage increasingly complex relationships. But now customers are growing hungry for more input on how their data is used, and many businesses lack the mechanisms needed to provide that engagement. In this absence, customers can grow wary of businesses and potentially distrust them too. Governments, sensing that distrust, are looking to impose consumer access and control requirements on personal data.

But where people’s expectations are outgrowing today’s standards, disruptors see the beacon of opportunity. One company introducing a new model for this relationship is Inrupt, a startup founded by Tim Berners-Lee (the originator of the world wide web) and a business partner to scale a data-linking architecture called Solid.16

The Solid movement emphasizes trust. Individuals’ data is stored and used across the web through “pods,” which can contain personally identifiable information, financial records, contact lists, content subscriptions and more—but people can decide where their personal data is hosted and determine which companies or machines can access their pods. They can also revoke that access at any time and even delete all their information with a click of a button. It’s the beginning of a new kind of platform that gives people more agency and builds clear lines of sight for companies about how to best engage with customers.
Opportunities are knocking

These new models represent new ways to unlock value for both customers and enterprises alike. For instance, the Known Traveller Digital Identity (KTDI) program, a World Economic Forum initiative to deliver a better travel experience by shifting the paradigm on how data is shared through the ecosystem. The blockchain-based solution encrypts an individual traveler's critical identity data, like passport information, and stores it on the traveler's own personal mobile device. With the old model, a traveler's personal data is taken and stored by a different entity every time the person goes through passport control, buys an airline ticket or books a hotel room. With KTDI, the traveler alone can determine who gets what access and when—fundamentally placing the human at the center of the ecosystem. With data access being revoked when the transaction is completed, the system maximizes efficiency and mitigates security risks for all parties.

There are opportunities to reimagine models across all dimensions of technology. Microsoft is redesigning experiences and rethinking interoperability models to meet customers' new expectations. The company announced its Xbox One entertainment system would start supporting Amazon's Alexa and Google Assistant—a departure from the ecosystem playbook of the past, where technology and standards were used to push customer choice in a particular direction. Rather, Microsoft is respecting individual consumer's preferences and ecosystem choices, setting themselves on a new path for success.

And with technologies increasingly able to have a physical impact in our lives, trust is among the important guiding lights in developing new models of operation. Look at autonomous vehicles. These cars use a wide array of sensors and AI to “see” the world around them, but people are already aware of close calls during test situations and, in one case, a pedestrian fatality, giving rise to serious concerns and distrust around autonomous technology. Volvo and Perceptive Automata are working together to build safer autonomous vehicles by pairing computer vision with behavioral science and neuroscience to understand the intention and awareness of pedestrians. By teaching autonomous vehicles about human intuition and why people might act the way they do, the companies are making it safer for these vehicles to operate on busy streets.

As a variety of technology models hit their breaking point, they herald a bigger shift that enterprises in every industry must note: people will no longer be bystanders when it comes to technology. Whether it’s security standards misaligned with today’s interconnected ecosystems, bad actors leveraging the content neutrality of social platforms to amplify misinformation, or government regulations that are years behind the technology itself, expectations are not being met—and the resulting tech-clash demands action.
Building a foundation of trust

Diffusing tech-clash begins with new models, but it’s imperative for companies to adopt a broader perspective.

Disruptive technology opened the door for enterprises to take a deeper and more influential position in shaping the world. With impact that now resonates beyond customers and employees alone, every business must hold itself accountable for its role across society. Failure to acknowledge this growing impact will push people to reject even the best of intentions as trust becomes currency in an era where digital is everywhere.
Microsoft is embracing a model of accountability that goes far beyond its products or customers. Responding to the impact the tech boom is having on Seattle’s housing prices, the company pledged $500 million to build affordable housing in the city.22 Similarly, as Microsoft has researched and developed more advanced technology, it has strived for responsible innovation. Most notably, the company built an ethical framework to guide its development of AI and backed state legislation around proper use of facial recognition technology.23,24

Businesses across all industries are also beginning to acknowledge that they have a responsibility to a larger range of stakeholders. In 2019, chief executives of nearly 200 major companies, including Accenture, signed a letter indicating this shift: that shareholder value should not be the only metric of success. The signatories took a more holistic approach, pledging to expand investments in employees, protect the environment and work ethically with supply chain providers.25

Business leaders must adapt for the world they’ve created. Sticking with yesterday’s models isn’t just a risk around annoyed customers or disengaged employees; it’s a permanently limited potential for future innovation and growth. But it doesn’t have to be this way. Tech-clash is a challenge waiting to be solved: people still love technology. The enterprises that find a way to deliver it in line with people’s expectations will blaze the trail for everyone else.

Is your company ready to deliver human-centered experiences? The world is ready for you.

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2020 Tech Trends

To truly bring a human touch to the next decade, the new models that enterprises build must be rooted in collaboration. As technology’s level of impact grows ever higher throughout society, successful businesses will be those that use new models to invite people—customers, employees, partners or the public—to co-create their new course for the future.
Our five tech trends this year:

**The I in Experience**

Helping people choose their own adventure

Redesign digital experiences with new models that amplify personal agency. Turn passive audiences into active participants by transforming one-way experiences into true collaborations.

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**AI and Me**

Reimagine the business through human and AI collaboration

Take a new approach that uses artificial intelligence to bring out the full power of people. Move beyond deploying AI for automation alone and push into the new frontier of co-creation between people and machines.

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**The Dilemma of Smart Things**

Overcome the “beta burden”

Address the new reality of product ownership in the era of “forever beta.” Transform pain points into an opportunity to create an unprecedented level of business-customer partnership.

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**Robots in the Wild**

Growing the enterprise’s reach—and responsibility

Build new models of interaction and impact as robotics move beyond the walls of the enterprise. Companies in every industry will unlock new opportunities by introducing robots to the next frontier: the open world.

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**Innovation DNA**

Create an engine for continuous innovation

Tap into the unprecedented scale of disruptive technology available today. Build the capabilities and ecosystem partnerships necessary to assemble the organization’s unique innovation DNA.
Accenture’s Technology Vision report comprises a three-year set of technology trends, currently including trends from 2019 and 2018. It’s important to recognize that each year’s trends are part of a bigger picture. Tracking how they evolve over time offers a glimpse into how they may continue to grow in the future.
2019 Trends

DARQ POWER
Understanding the DNA of DARQ
New technologies are catalysts for change, offering businesses extraordinary new capabilities. Distributed ledger technology, artificial intelligence, extended reality, and quantum computing will be the next set of new technologies to spark a step change, letting businesses reimagine entire industries.

GET TO KNOW ME
Unlock unique customers and unique opportunities
Technology-driven interactions are creating an expanding technology identity for every consumer. This living foundation of knowledge will be key to not only understanding the next generation of consumers, but also to delivering rich, individualized, experience-based relationships in the post-digital age.

HUMAN+ WORKER
Change the workplace or hinder the workforce
Workforces are becoming human+: each individual is empowered by their skillsets and knowledge plus a new, constantly growing set of capabilities made possible through technology. Now, companies must adapt the technology strategies that successfully created this next generation workforce to support a new way of working in the post-digital age.

SECURE US TO SECURE ME
Enterprises are not victims, they’re vectors
While ecosystem-driven business depends on interconnectedness, those connections increase companies’ exposures to risks. Leading businesses are recognizing that just as they already collaborate with entire ecosystems to deliver best-in-class products, services and experiences, it’s time security joins that effort as well.

MYMARKETS
Meet consumers’ needs at the speed of now
Technology is creating a world of intensely customized and on-demand experiences, and companies must reinvent their organizations to find and capture those opportunities as they come. That means viewing each opportunity as if it’s an individual market—a momentary market.
2018 Trends

CITIZEN AI
Raising AI to Benefit Business and Society
As artificial intelligence grows in its capabilities—and its impact on people’s lives—businesses must move to "raise" their AIs to act as responsible, productive members of society.

EXTENDED REALITY
The End of Distance
Virtual and augmented reality technologies are removing the distance to people, information and experiences, transforming the ways people live and work.

DATA VERACITY
The Importance of Trust
By transforming themselves to run on data, businesses have created a new kind of vulnerability: inaccurate, manipulated and biased data that leads to corrupted business insights, and skewed decisions with a major impact on society.

FRICTIONLESS BUSINESS
Built to Partner at Scale
Businesses depend on technology-based partnerships for growth, but their own legacy systems aren’t designed to support partnerships at scale. To fully power the connected Intelligent Enterprise, companies must first rearchitect themselves.

INTERNET OF THINKING
Creating Intelligent Distributed Systems
Businesses are making big bets on intelligent environments via robotics, AI and immersive experiences. But to bring these intelligent environments to life, they must extend their infrastructures into the dynamic, real-world environments they want to reach.
About the Technology Vision

Every year, the Technology Vision team partners with Accenture Research to pinpoint the emerging IT developments that will have the greatest impact on companies, government agencies and other organizations in the coming years. These trends have significant impact across industries and are actionable for businesses today.

The research process begins by gathering input from the Technology Vision External Advisory Board, a group of more than two dozen experienced individuals from the public and private sectors, academia, venture capital and entrepreneurial companies. In addition, the Technology Vision team conducts interviews with technology luminaries and industry experts, as well as nearly 100 Accenture business leaders from across the organization.

The research process also includes a global survey of thousands of business and IT executives from around the world, to understand their perspectives on the impact of technology in business. Survey responses help to identify the technology strategies and priority investments of companies from across industries and geographies. In parallel, a consumer survey is conducted to understand the use and role of technology in people’s lives.

As a shortlist of themes emerges from the research process, the Technology Vision team reconvenes its advisory board. The board’s workshop, a series of ‘deep-dive’ sessions with Accenture leadership and external subject-matter experts, validates and further refines the themes.

These processes weigh the themes for their relevance to real-world business challenges. The Technology Vision team seeks ideas that transcend the well-known drivers of technological change, concentrating instead on the themes that will soon start to appear on the C-level agendas of most enterprises.
Survey demographics

Business survey

Accenture Research conducted a global survey of 6,074 business and IT executives to capture insights into the adoption of emerging technologies. The survey, fielded from November 2019 through January 2020, helped identify the key issues and priorities for technology adoption and investment. Respondents were C-level executives and directors at companies across 25 countries and 21 industries, with the majority having annual revenues greater than US$5 billion.

25 Countries

1. Argentina
2. Australia
3. Austria
4. Brazil
5. Canada
6. Chile
7. China
8. Colombia
9. France
10. Germany
11. India
12. Indonesia
13. Ireland
14. Japan
15. Kazakhstan
16. Mexico
17. Peru
18. Portugal
19. Russia
20. South Africa
21. Spain
22. Switzerland
23. Thailand
24. United Kingdom
25. United States
### Roles

- **50%** Business Executives
- **50%** IT Executives

### Revenues

- **3%** $50 billion or more
- **10%** $20-$49.9 billion
- **14%** $10-$19.9 billion
- **26%** $5-$9.9 billion
- **45%** $1-$4.9 billion
- **2%** $250-$999 million

### 21 Industries

- Aerospace and Defense: 1%
- Automotive: 2%
- Banking: 11%
- Chemicals: 8%
- Consumer Goods and Services: 9%
- Communications: 9%
- Energy: 4%
- Equipment Finance: 1%
- Freight and Logistics: 2%
- Health: 4%
- Industrial Equipment: 1%
- Insurance: 9%
- Life Sciences: 2%
- Media: 1%
- Metals and Mining: 2%
- Public Service: 11%
- Retail: 9%
- Semiconductors: 1%
- Software and Platforms: 3%
- Travel: 7%
- Utilities: 3%

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Consumer survey

Between November and December 2019, Accenture Research surveyed 2,000 people in four countries with respondents representing different age and demographic groups. The survey asked consumers about their viewpoints and use of technology in their daily lives, including voice assistants, robots and connected products.

Four Countries

1. China
2. India
3. United Kingdom
4. United States
References

About Accenture

Accenture is a leading global professional services company, providing a broad range of services and solutions in strategy, consulting, digital, technology and operations. Combining unmatched experience and specialized skills across more than 40 industries and all business functions—underpinned by the world’s largest delivery network—Accenture works at the intersection of business and technology to help clients improve their performance and create sustainable value for their stakeholders. With 505,000 people serving clients in more than 120 countries, Accenture drives innovation to improve the way the world works and lives. Visit us at www.accenture.com

About Accenture Labs

Accenture Labs incubates and prototypes new concepts through applied R&D projects that are expected to have a significant impact on business and society. Our dedicated team of technologists and researchers work with leaders across the company and external partners to imagine and invent the future.

Accenture Labs is located in seven key research hubs around the world: San Francisco, CA; Sophia Antipolis, France; Washington, D.C.; Shenzhen, China; Bangalore, India; Herzliya, Israel and Dublin, Ireland; and 25 Nano Labs. The Labs collaborates extensively with Accenture’s network of nearly 400 innovation centers, studios and centers of excellence located in 92 cities and 35 countries globally to deliver cutting-edge research, insights and solutions to clients where they operate and live. For more information, please visit www.accenture.com/labs

About Accenture Research

Accenture Research shapes trends and creates data driven insights about the most pressing issues global organizations face. Combining the power of innovative research techniques with a deep understanding of our clients’ industries, our team of 300 researchers and analysts spans 20 countries and publishes hundreds of reports, articles and points of view every year. Our thought-provoking research—supported by proprietary data and partnerships with leading organizations, such as MIT and Harvard—guides our innovations and allows us to transform theories and fresh ideas into real-world solutions for our clients. For more information, visit www.accenture.com/research

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