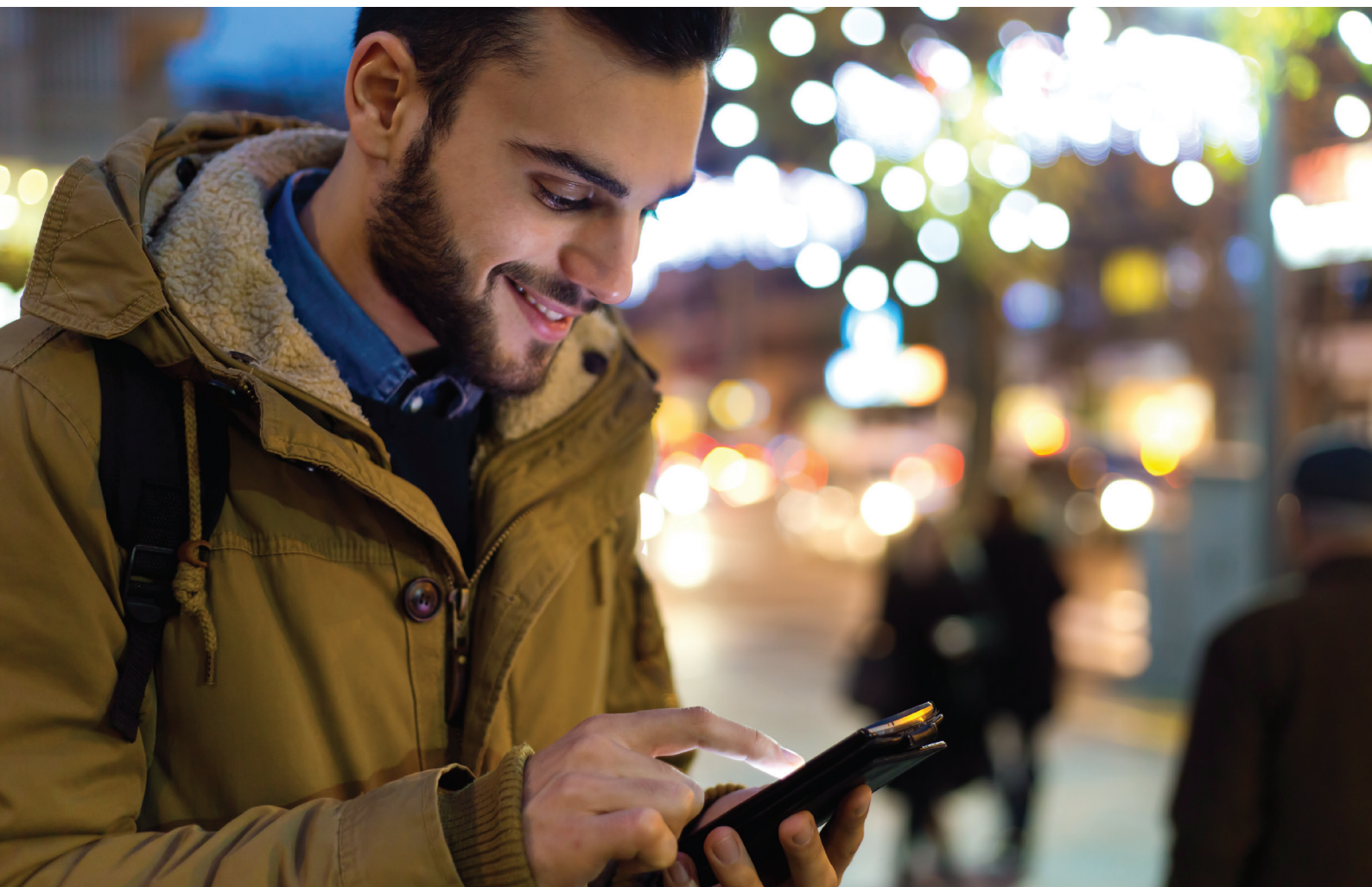# Aricent

Delivering an Autonomous Customer Experience Through Business Intelligence and Analytics

Enhancing customer experience management for communications service providers through improved services design and delivery

Overview

Customer experience management (CXM) has been evolving rapidly over the last few years as advancements in technology and tools enable more efficient management of the customer experience. Both big and small businesses are adopting customer-management enhancements and delivering superior service to their customers. Social media integration and collaboration are being used to create and enrich the customer experience.

In this whitepaper, we will review the current maturity level of CXM for communications service providers (CSPs), identify and discuss the latest CXM technology drivers and detail Aricent's CXM offerings, including a few case studies.

Introduction

Customer experience management is the key to business growth as market dynamics and customer demographics shift creating expectations of outstanding customer satisfaction. This trend is being driven by an almost exponential increase in the digital sophistication of customers, who read and write blogs, tweet and post on Facebook, Instagram, Linkedin and other social networking platforms. At the same time, the risk of losing customers is increasing as the consequences of not meeting customer expectations can be swift and devastating. Taking advantage of new technology solutions can ensure risks are avoided and customer expectations are met or exceeded. (See Figure 1.)

The process of creating a high-quality customer experience is complex, involving many factors and actors, including customers, employees, suppliers, partners, processes and information.
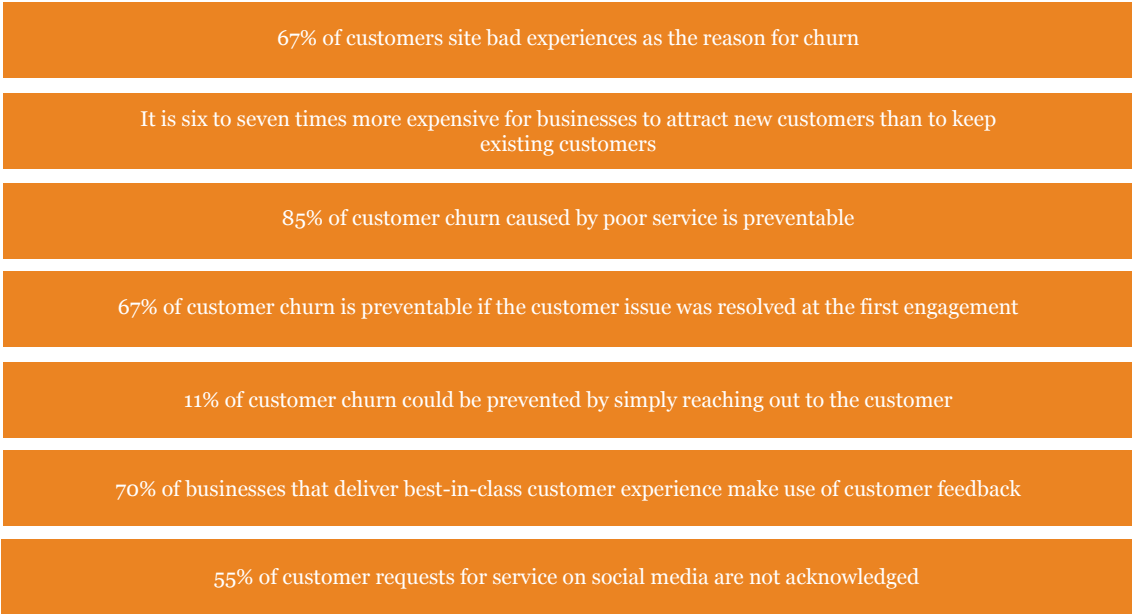
67% of customers site bad experiences as the reason for churn
It is six to seven times more expensive for businesses to attract new customers than to keep existing customers
85% of customer churn caused by poor service is preventable
67% of customer churn is preventable if the customer issue was resolved at the first engagement
11% of customer churn could be prevented by simply reaching out to the customer
70% of businesses that deliver best-in-class customer experience make use of customer feedback
55% of customer requests for service on social media are not acknowledged

Figure 1: Seven reasons why investing in CXM makes good business sense

Source: Huffington Post[1]

Enhanced customer experience management defines a new model for customer engagement where the customer's context is at the center of the solution, so each transaction is optimized for speed, and each session is optimized for the specific context—be it the time of day, location, type of content, type of device, etc. The evolution of context-based customer experience management is significant, as the value of any interaction is defined by its context. Orchestrating the experience—both proactively and reactively to the context—plays an important role in enhancing the customer experience.

Although CSPs have graduated from providing basic telephony services to offering a host of entertainment and other value-added services, they still struggle with a number of challenges, such as falling average revenue per user, rising capital expenditures and a growing threat from over-the-top players. The high rate of customer churn is complicating these challenges.

Focusing on improving the customer experience enables CSPs to respond more effectively to customer requirements, build customer loyalty and establish a stronger sense of value in the minds of customers. CSPs are beginning to understand the connection between low net promoter scores and CXM. Indeed, market studies are capturing a shift in their strategy. For example, a Forrester Research survey found that 72% of businesses say improving customer experience is their top priority.[2]

Similarly, a 2017 Gartner report revealed that customer experience is a top priority for CEOs, with customer analytics being the number one priority to improve the customer experience. For CX-focused organizations, AI technologies are already on track to become mainstream CX investments in the next three years, with 55% of organizations implementing machine learning, 47% using virtual customer assistants or chatbots, and 40% deploying virtual personal assistants for their customers, according to Gartner.[3]

Enhancing the customer experience is not easy, in large part because of the lack of data. The primary issue is the number, range and variety of data sources that contain customer experience data. Most companies currently use an average of about eight data sources, both structured and unstructured, including multiple customer-interfacing channels like websites, self-care applications or customer care and customer feedback data, demographics, bill payments, interactions, social media, video and website usage.

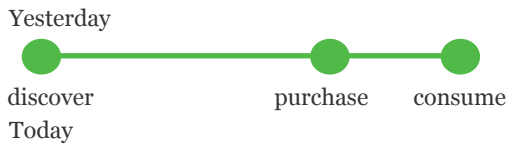# 01 Maturity in Customer Experience Management

The hurdles and challenges

There are a number of challenges CSPs face with legacy CXM tools:

01 — They are manual, time-consuming processes and inconsistent owing to the customized implementation of tools

02 — Customer surveys and feedback mechanisms are not implemented well, and the results are not used effectively

03 — Each business unit typically has its own, often unique customer information, that it collects and reports on creating disparate data silos

04 — There are multiple incongruent sources and channels of data, both structured and unstructured

05 — Customer experience feedback is reported and measured for single channels of data; cross-channel analysis is typically not performed

06 — Not all the data channels are used in delivering customer experience feedback, such as social media, community and blogs

07 — There's a lack of contextual data that details the history of the engagement when delivering customer service

08 — The massive amount of data generated from multiple data sources is difficult to measure periodically and problematic to use as the basis for decision making

09 — Most critical customer feedback exists as voice conversations, which need to be digitized so they can be analyzed and used to improve the customer experience

Evolution in customer experience management

Businesses generate massive amounts of valuable data in the form of notes from contact centers, chat sessions, emails, image files, marketing material, memos, news items, presentations, reports, user groups and communities, video files, web pages, and so on. It is widely recognized that these customer interactions contain valuable information about the root causes of key business issues, but many never see the light of day.

Another important customer experience management challenge is to provide the customer with a consistent experience across all touch points in the organization because individual business units typically have different customer information they collect and report. See Figure 2 for an example of a customer experience journey.

Yesterday

discover   purchase   consume

Today

Watch			Act		Pick			Consume			Manage			Pay			Renew		Recommend		Leave	
Observe	Study	React	Request Details	Reserve	Product/Service	Order	Receive	Use	Usage Review	Evaluate	Profile/Service	Request Help	Receive Resolution	Notification	Verify or Dispute	Pay/Recharge	Select/Keep	Renew Contract	Refer Friends/Family	Gain Loyalty	Feedback	End Contract
Channels	Web, Device, Email, Customer Care, Retail Store, Ussd, Sms, Messaging, Social, Field Service, Mass Media, Digital Signage, Chat																					

Figure 2: Tracing the customer experience journey

In decades past, customer satisfaction used to be difficult to measure as shown in Figure 3. But with an increase in communication and collaboration, customer expectations have evolved making it critical for businesses to understand the customer experience across every customer touch point.

Today's customers are willing to share their opinions and experiences publicly through social media networks, which is empowering. Indeed, customer communication has shifted the balance of power in favor of the customer and away from the service provider. Also, the increased variety of options consumers and businesses have today has played a role in this shift.

Customers talk to businesses - 1990

Businesses focus on efficiency – 2000 - 2005

Customers connect with businesses – 2005 - 2010

Customers collaborate with businesses – 2011 - 2013 (Social Media)

Businesses differentiate through experience – 2013 - 2016 (Business Experience Management)

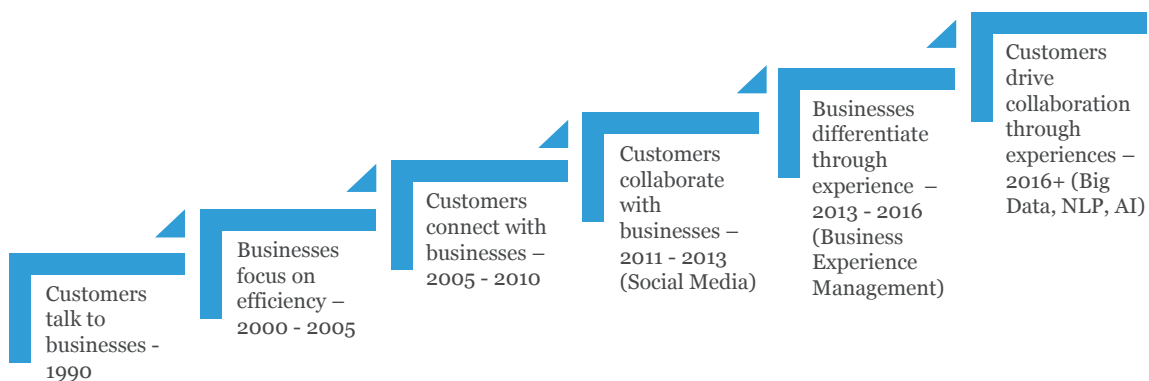Customers drive collaboration through experiences – 2016+ (Big Data, NLP, AI)

Figure 3: Evolution of customer experience

In the past, customer satisfaction was measured by retention rate. Now, it is a matter of quality and breadth of service, reputation, growth and brand. Listening to and monitoring social media is not enough, nor is it scalable. Social media processing—the scanning and processing social media events—plays a key role in CXM. There are many different types of social media—blogs, microblogs, media sharing, video streaming, multi-player games, virtual worlds—and there is a need to leverage them all to deliver an enhanced customer experience.

Technology advances, most notably data collection and analysis, are bringing change to all businesses. Increasingly, data is helping all kinds of businesses provide personalized experiences. Customer experience management promises to deliver the same level of customization, providing fast, effective experiences with a combination of new technologies, including analytics, artificial Intelligence (AI), Big Data and business intelligence (BI). As Figure 4 shows, adoption of these new technologies is expected to increase rapidly in the next few years.

> By 2020, smart, governed, Hadoop/Spark-, search- and visual-based data discovery capabilities will converge into a single set of next-generation data discovery capabilities as components of modern BI and analytics platforms.

> By 2021, the number of users of modern BI and analytics platforms that are differentiated by smart data discovery capabilities will grow at twice the rate of those that are not, and will deliver twice the business value.

> By 2020, natural-language generation and artificial intelligence will be a standard feature of 90% of modern BI platforms.

> By 2020, 50% of analytic queries will be generated using search, natural-language processing or voice, or will be autogenerated.

> By 2020, organizations that offer users access to a curated catalog of internal and external data will realize twice the business value from analytics investments than those that do not.

Figure 4: Gartner's projections of business intelligence and analytics trends

Source: Gartner, BI and Analytics Magic Quadrant, Q1, 2017

02 Path to Autonomous Customer Experience Management Using BI and Analytics

Decisions based on data from reporting and performance management tools require manual effort to prepare, review and digest the data, and are prone to data inconsistencies and errors. Deriving data autonomously and running it in real-time through BI and analytics tools to gain insights provides increased business value.

An enhanced customer experience can be delivered by leveraging location, presence, social attributes, communication and historical data. Customers are continuously adopting new technologies and expect to be engaged via the web, video, mobile and social networking. For example, in a contact center, customer experience can be enhanced by eliminating hold times and allowing self-service through mobile devices.

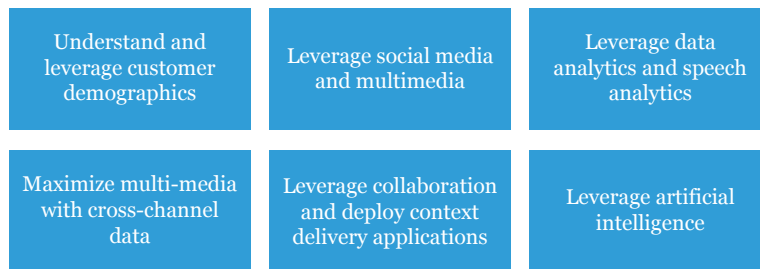| Understand and leverage customer demographics	Leverage social media and multimedia	Leverage data analytics and speech analytics
Maximize multi-media with cross-channel data	Leverage collaboration and deploy context delivery applications	Leverage artificial intelligence

Figure 5: Enhancing the customer experience by leveraging customer data

Caption: Aricent's customer experience offering autonomously collects and analyzes all the different data sources influencing the customer experience and uses multiple BI and analytics tools to correlate with the network performance data to help CSPs take proactive measurements to enhance the customer experience.

Analytics enables actionable real-time customer insights

Analytics is defined as a method of logical analysis, designed to deliver valuable intelligence that business users understand and use. Analytics can help reveal cause-and-effect relationships that underlie performance and business outcomes. By revealing both what is happening and why, analytics helps equip organizations to make informed decisions, maximize strengths, address deficiencies and make the most of market opportunities. For instance, mining information from contact centers using analytics can be an early warning system to address a problem before it escalates into a negative social media event. Many businesses are considering investing in customer analytics to improve the customer experience.

The objective is to analyze information that can help the business improve the customer experience, get reactions from customers to new products or policies, and so on. Analytics can help businesses turn thousands of calls into actionable data.

Customer interactions from multiple channels generate a massive amount of data that needs large storage mechanisms to run analytics across data from all the channels. Big Data technologies enable this mega-storage mechanism for large-scale, real-time and near real-time analytics.

Business intelligence: a business led analytics approach

Business intelligence combines data mining, analytics and other prediction techniques to identify, extract and analyze raw data. BI and analytics put data to work, help companies understand and improve the customer experience and run their businesses more efficiently. An integrated BI platform acts on data from multiple data sources, both structured and unstructured, using analytics and working in real- or near real-time. Advanced BI and analytics tools can gather and integrate raw data from multiple sources, find patterns and generate easy-to-understand reports.

BI and analytics platforms can transform CXM from standard and advanced reporting to a modern business-led analytics framework with access to multiple cross-channel data sources. Many big businesses are investing in BI portals.

For example, in a contact center, speech analytics can help categorize and route incoming customer calls, as well as gauge levels of frustration based on certain cues. Speech analytics technology measures both customer interactions and agent performance. It fills in the gaps in standard business intelligence systems by measuring the information exchanged through spoken interactions, which is data that has not been measurable before.
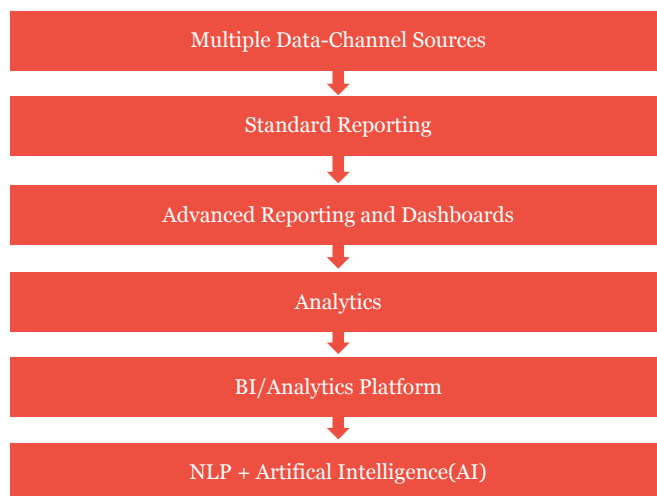

Figure 6: Technology Enablers Path

03 The Aricent Offering **for** Customer Experience

Aricent is a leader in delivering next-generation, transformational solutions and services that keep pace with advanced technology. Innovation is in our DNA. AI/ML, cloud, IoT, SDN/NFV and security services are gaining momentum in the CSP space. Aricent works with companies that are experiencing customer churn due in large part to technology migration and a lack of technical expertise.

As part of our customer-experience offering, Aricent has launched an autonomous customer experience service that provides a 360-degree view of a CSP's customer-experience performance, using machine-learning models to enhance CX autonomously through multiple touch points.

Our offering includes data mining of customer and network data from multiple sources using Big Data platforms, real-time analytics and machine-learning algorithm to extract insights for CSPs ranging from network health to real-time customer churn and NPS and provide recommendations for enhanced customer-experience management.

Aricent's customized service offerings include:

Product development, integrations and deployment

01 — Product, platform and systems development and integration for multiple domains and multiple technologies around the technology stacks areas

02 — Deployment, configuration, lifecycle management, interoperability testing, acceptance and migration of software products and solutions

Technical support

01 — 24/7 global L1, L2 and L3 services for multi-technology and multi-vendor environments

02 — Technical support and product fixes to ensure constant availability and performance of the product for end users

03 — Efficient support and maintenance of legacy product releases

04 — Service request management, defect-fixing and patch-release management

04   Reference Case Studies

Case Study 1: Global telepresence solution CEM solution

01 — Delivered a customer experience management solution for infrastructure monitoring by consolidating COTS products and building a unified tool

02 — Automatic correlation of live call sessions with the multiprotocol label switching (MPLS) network events and real-time dashboards for proactive monitoring

03 — Efficient NOC operation using unified window for fault, performance and service-level management

04 — 50% OPEX reduction from the automation of ticketing and alarm reduction

05 — Improved customer experience and achieved a 26% reduction in customer churn

Case Study 2: Integrated customer experience for a network platform solution

01 — Provided a network analytics solution that delivered an integrated view of network and customer analytics

02 — Platform capable of collecting terabytes of network data such as network performance, network usage, RAN data and customer experience data by Tektronix product stack

03 — Informatica Power Center used to integrate and transform data

04 — Data is stored in-memory SAP HANA analytics database in near real-time

05 — Spotfire is used to create network and customer-experience analysis dashboards and reports

Case Study 3: Customer experience platform with real-time analytics for supply chain optimization

01 — Delivered a multi-tenant AWS-based real-time Analytics-as-a-Service platform

02 — Multi-node Vertica analytical database cluster

03 — Talend is leveraged for data integration across the platform

04 — Microstrategy self-service analytics providing intuitive visualization and actionable insights

05 — Platform leverages usage analytics, recommendation engine and mobile alerts for a personalized experience

05   Summary

Customer experience management using business intelligence and analytics is a next-generation differentiator for businesses. These tools allow businesses to more effectively assess customer interactions, perceptions, identify early-warning indicators, drill into root-cause analysis and understand customer sentiment that may indicate future intentions and behaviors.

The integration approach utilizes multiple data sources across many touch points spanning the service experience. Combined with available operational and financial data, the Aricent solution empowers businesses to make strategic business decisions that improve the customer experience and drive business growth.

Aricent is well positioned to deliver next-generation customer experience management solutions, including accelerator solutions and customized services.

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About Aricent

Aricent is a global design and engineering company innovating for customers in the digital era. We help our clients lead into the future by solving their most complex and mission critical issues through customized solutions. For decades, we have helped companies do new things and scale with intention. We bring differentiated value and capability in focused industries to help transform products, brands and companies.