Accelerate Business Growth and Outcomes with Data and AI

How 33 organizations are accelerating decision making, improving business processes, enhancing user engagement, reducing costs and driving remarkable growth and profitability.

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Businesses in every industry are facing extraordinary circumstances due to COVID-19. They’re looking for better ways to respond to market changes with both short- and long-term actions to increase resilience against future disruptions, and prepare for rebound and growth.

For our clients, leading through such uncertainty and change demands strong actions around cost, strategy and talent. It is about applying tactical, intelligent decisions, enabled and informed by data, to achieve immediate objectives, for example cost takeout, enabling remote workforce, handling customer service, and longer term strategy goals such as migration to cloud, migration off legacy systems and operational improvements.

The following 33 case studies present a range of real-world examples that illustrate how we’re help our clients solve their most critical business issues. These cases show how modern data and intelligence can enhance an existing application, workflow or process and reduce friction; solve complex business problems by stitching together multiple parts of an experience; and offer up entirely new channels of revenue and service in ways not possible using traditional techniques.

Let these case studies inspire your journey and inform how data modernization and artificial intelligence are applied within your company and across industries.
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The Challenge
A global financial services organization wanted to automate and streamline its fraud detection process. At many large banks, millions of checks are still hand-written each month. While part of this process is truly automatic, including scanning paper checks, large banks still employ hundreds of people to sit every day at computer screens trying to spot signs of fraud in those scans. This process is time-consuming and inaccurate, and banks lose millions annually to counterfeiters.

Our objective was twofold: to spot fraudulent checks in real time at the time of deposit, and to reduce the number of checks requiring manual review. Such a solution would stem the outflow of disbursements on counterfeits, reduce tedious work and lower processing costs.

We helped the financial services organization build a machine-learning solution that teaches itself to identify counterfeit checks, thus reducing fraud risk and lowering costs.

Our Approach
When we tested our model on a historical portfolio of past transactions, it demonstrated 50% savings on fraud losses. It processed up to 20 million checks per day, with end-to-end response times of less than 70 milliseconds and the ability to process up to 1,200 checks per second.

The Solution
We developed an artificial intelligence-driven machine-learning solution to flag potential fraud by analyzing scanned images of handwritten checks. The technology is designed to automatically compare a variety of factors on scans of deposited checks against a growing database of checks previously identified as fraudulent, and then flag potential counterfeits in near real-time while deposit transactions are in process.

RESULTS
50% savings in check fraud losses was demonstrated.
70 millisecond real-time check confidence score generated.
A $20 million reduction in losses to fraud annually, based on current models is forecast.
Reduced manual effort while keeping initial and ongoing costs low.

► Read the full case study here.
The Challenge
A large banking enterprise was looking for an intelligent solution to reduce the high call and request volume routed to its finance department by internal employees. The company wanted an intelligent virtual assistant capable of responding to queries related to financial claims status, payments and approval workflow.

Leaving repetitive tasks to the chatbot would free up the finance department to focus on areas where people add the most value, such as conflict resolution, problem solving, defining policies and strategic decision making.

Our Approach
They chose Cognizant because of our strong Microsoft AI competency for consulting, implementation and employee adaptation. We introduced an employee virtual assistant (EVA) for finance inquiries. Employees engage with the EVA using both voice and text to resolve common financial claims questions.

The intelligent assistant leverages the enterprise’s single sign-on capabilities to authenticate users and retrieve relevant details from the related SAP module using prebuilt data connectors. EVA identifies the queries it cannot answer and escalates them.

It then collects all pending issues, uploads them to the finance document repository and assigns them to a particular user for follow-up and closure.

The Solution
This Microsoft Azure AI solution uses custom speech and cognitive linguistic models to respond appropriately to user inquiries. Conversation transcripts and user feedback are stored and regularly analyzed to recalibrate cognitive models to continuously improve the accuracy and performance of the EVA over time.

Because it’s available 24x7 and scales to handle increasing workloads on demand, the intelligent assistant boosts accessibility, efficiency and employee satisfaction for our client’s business. At the same time, the conversational assistant has cut the demand on its finance department by 50%.

RESULTS
35% drop in emails and calls to the finance department in the first month of operation

50% reduction in emails and calls after two months of operation

43% decrease in ticket resolution time

► Read the full case study here.
The Challenge
A large U.S.-based issuer of branded credit cards was writing off nearly $1 billion in consumer credit debt every year. It employs thousands of agents to recover a portion of amounts owed by consumers in default. Collections cost more than $30 million annually, and agent turnover was running at more than 40%.

The company needed more sophisticated predictive technology to improve its debt-collection efforts. Debt collection is an intensive process, with significant effort and overhead expended on people in default, many of whom never repay their debts. To improve debt collection strategies and maximize debt collection revenue, the company turned to us for help.

Our Approach
Using a “white-box” artificial intelligence engine, we helped the credit issuer more fully understand the behavior of consumers defaulting on credit card debt and the likelihood of collections. Our causality solution (derived from information theory) determined which variables are the most relevant to the given outcome.

We showed that certain consumers will never pay no matter how much effort is expended, while others will pay over time, before the debt must be written off. Moreover, the solution identified a third category of debtor — one who will generate revenue if encouraged to pay down their outstanding debt.

The Solution
After analyzing monthly data on creditors already in default, we made a surprising discovery: the factors the company thought were the highest determinants of collections success were not relevant to payment outcomes. Rather than conduct analysis based on the company’s pre-conceived knowledge and assumptions about the debt collection process, we applied an AI-based causality engine to the problem.

The AI-based causality engine showed that directing collections activity toward the subgroup of clients more likely to repay their debts would result in $5 million to $7 million in increased revenue, and as much as $10 million in annual savings. Furthermore, these higher collections are expected to increase employee commission compensation, which could lead to a significant decrease in turnover rates, hiring expenses and training costs.

Causality AI Informs Credit Card Collections

RESULTS
$10 million in expected call center savings.

Designed model to review voluminous data on slow- and no-paying credit customers.

Identified factors that determine consumers’ payment behavior.

► Read the full case study here.
The Challenge
A leading global professional services organization wanted to improve its laborious and time-consuming risk management due diligence process. International due diligence involves exhaustive research, with more than 40,000 global sources tracking not only media but also corporate records, financial transactions and legal cases at the company. Results based on analysts’ text strings needed to be painstakingly reviewed for each entity before a report could be finalized.

We worked with the organization to more quickly and accurately research businesses for ties to potentially illegal behavior, such as money laundering, insider trading, corruption and terrorism.

Our Approach
In a global environment where risk and regulation are on the rise, having tools to screen partners, vendors, counter-parties and acquisition targets for potentially criminal activity is vitally important. Our AI and analytics solution provides the global professional services organization with the means to automate risk detection across the broad range of its business relationships, improving its ability to comply with a complex array of international laws and compliance regimes.

The Solution
We developed an application programming interface (API) to connect the company’s due diligence software to a machine-learning model. In less than five weeks, we developed cognitive APIs powered by deep-learning algorithms and governed by predefined rules using semantic language processing.

Conventional search technology relies on Boolean word strings and returns results ordered by the appearance of individual words that meet search criteria, irrespective of their context. Searches on our newly developed platform narrow results by indexing them against discrete parameters, including a custom dictionary of keywords for specific industry sectors.

Results
14% of reports completed in one hour. Sharply decreased researchers’ time.

30% more due diligence reports generated per year.

Over 40,000 global sources tapped in exhaustive research.

Enabled real-time analysis of compliance and financial risk in real time.

▶ Read the full case study here.
Wealth Manager Reduces Costs With Conversational AI

The Challenge
A large U.S.-based wealth management company was under pressure to reduce its contact center operating costs. Its existing operations had agents spending much of their day focused on responding to high-frequency, low-complexity requests, which was a drain on employee productivity and morale.

In addition to the cost pressure, the financial services industry was also undergoing a shift in customer expectations. Customers wanted to get answers to questions quickly and efficiently online—avoiding a phone call whenever possible.

Our Approach
Our client asked us to leverage conversational AI to improve responses to common questions, reduce workload and to personalize service where possible. We began by analyzing streams of data on high-volume call center inquiries to map flows for the most frequently asked questions. Next, we analyzed the various natural language processing platforms in the marketplace that would meet all the client’s requirements.

Our goal was to automate responses using keyword and pattern recognition driven by AI. Progressively accurate algorithms recognize words and phrases to identify a caller’s objective from a range of possible conversation flows.

The Solution
This customer-facing virtual assistant automated over 400 of the client’s more common customer inquiries. This data-driven intelligent system responds to both general questions and user-specific inquiries with continuous improvement based on AI analytics and customer feedback.

RESULTS
50% savings in check fraud losses was demonstrated.
$6.7 million reduction in operating costs.
166,000 fewer calls.
5% improvement in customer experience index score.

Intelligent text- and voice-based chatbots are helping thousands of customers.

► Read the full case study here.
The Challenge
A digital advertising agency wanted to improve the click-through rate of the ad extensions it created for its customers. With ad extensions, brands can pinpoint the targeted audience and further increase campaign performance.

The agency’s existing process to identify relevant ad extensions, however, was manual and tedious. The entire process of creating the ad extension was so focused on platform compliance that the core objective of driving ROI through the best click-through rate was lost.

Our Approach
The solution incorporates five key components: Website scraping collected real-time insights on the company’s brand offerings. The relevant text was clustered and converted to ad extension format and checked for quality in real-time. Text was processed through a recurrent neural network model to predict selection probability of new words or sets of words. Terms with the highest probability of selection were used for recommendation. Text mining gave the online ad agency a scalable way to collect and organize the critical data aggregated for each site.

The Solution
We designed an automation tool to create ad extensions that feature deep learning-based natural language processing (NLP). The automation tool was able to recommend the best ad extensions for each website, based on research of customers’ sites to identify the right value propositions and also conform to compliance needs.

RESULTS
50% efficiency gains.
85% accuracy of the deep-learning algorithm.
10% increase in click-through rates.
Scalable and reusable methodology and algorithms for multiple NLP use cases.

Read the full case study here.
The Challenge

Our client is a global advertising analytics firm that provides insights to advertisers on the reach and effectiveness of their campaigns worldwide. The company needed to identify when duplicate copies of its client’s advertisements ran on sites in different geographies to classify the type of duplication, including if content had been altered.

The company’s associates performed this tedious process manually, searching for keywords and scanning images in over a million ad-clips each month.

Our Approach

The volume of clips to be reviewed demanded significant personnel time—more than 2,000 person-hours each month—with corresponding costs. Cognizant designed a solution that leverages artificial intelligence to automate the labor-intensive process of duplicate detection and classification. Our AI solution runs on Microsoft Azure in multiple geographies and incorporates a machine-based deep learning model that becomes more effective over time. It easily scales to handle the client’s progressively larger volumes of data.

There are two steps in the operation. First, it extracts low-level data from digital assets, such as video frames, audio and text, using various conversion models. This includes audio-to-text conversion, optical character recognition and image comparison, to process that data. Second, the solution compares and analyzes data from the original “reference” ad-clip with that of other videos suspected of being duplicates.

If it flags a duplicate, the solution provides additional information to help establish if it is an exact copy or an edited version. This information is fed into AI models to provide insights on how these clips are being used and how the media landscape is changing. The intelligence acquired enables advertisers, agencies and media owners to identify, target and reach key consumer audiences.

The Solution

Our solution helps our client reduce manual effort and human error while accelerating decision-making and lowering costs. It also decreases the company’s dependence on third-party systems to assess data and metadata by breaking down file data into formats for other uses, such as understanding the brand strategy of competitors and assessing market reputation.

RESULTS

- 62% time-savings over manual process
- 40% labor cost-savings through automation
- ~1 million videos processed each month

▶ Read the full case study here.
The Challenge
This client’s key source of revenue—selling parts to large telecom providers—requires that it be in regular contact with its customer base to discuss product availability. As part of that contact, the support team handled a large number of repetitive inquiries related to product part numbers and submitted through numerous entry points, including the company webpage, email and phone calls.

The existing process required the support team to manually check multiple separate databases to retrieve the necessary information. This caused a significant lag in responses and an increase in customer wait times.

Our Approach
We began by mapping the customer journey to identify the pain points in the existing process. The team then agreed that a conversational bot could replace much of the company’s website functionality and significantly reduce call volume.

The team built a conversational chatbot leveraging Microsoft LUIS to enable search capabilities on comprehensive parts information and availability. Using natural language processing, users now receive real-time product information, part availability and lead time required on unavailable parts.

The Solution
Cognizant’s communication technology experts built and deployed multiple intelligent, automated assistants to automate wait times, check multiple databases for parts availability and relay that information back to the customer. In addition to easing the process for customers, we also developed a virtual agent that reduced manual processes such as ticket creation for contact center employees.

RESULTS
- 16% reduction in contact center call volume
- 90% chatbot accuracy
- 50,000 parts details available in real time

Read the full case study here.
The Challenge

Point-of-sale information is key for our client, a global advertising analytics firm, to understand sales trends and customer preferences. Its brand managers use this valuable data to make decisions about promotions and new sales initiatives.

However, reports on the firm’s sales data were often compiled manually, which required personnel to enter information into forms and spreadsheets. This led to errors, inefficiencies and high costs—including auditing expenses. The company asked us for a better way to extract information from sales receipts using AI to automate the analysis and generate insights.

Our Approach

As a first step, Cognizant compared the performance of different optical character recognition tools available in the market to identify the best one for this application. We chose the Microsoft Computer Vision API for its ability to extract consumer purchase information and recognize familiar subjects like brands and moderate content from sales receipts.

Collaborating with our client’s technical team, we designed and implemented a solution driven by artificial intelligence (AI) that enables this worldwide company to process sales receipts automatically and glean key information more quickly.

The solution uses text analytics and natural language processing to categorize data. The cognitive engine on Microsoft Azure scans and identifies merchant and transaction information—including products, retailers, vendors, promotional offers and brand logos—from retail receipts using natural language processing. Additionally, it stores the extracted information in our client’s Cosmos sales-tracking database for multiple reports. We also implemented different machine learning algorithms to classify the retailers and identify sales patterns.

The Solution

We improved our client’s processes without disrupting them and significantly increased their operational efficiency. By using AI to extract customer purchase information from each sales receipt and compilation of useable information, sales executives can now better understand consumers’ buying patterns. Using machine learning algorithms provides better, more accurate information for their future-looking marketing strategies and overall business decisions.

RESULTS

- 95% accuracy in identifying retailer logo and name
- 70% reduction in manual effort due to machine learning
- 30% increase in operational processing capacity while maintaining accuracy

Read the full case study here.
Consumer Goods & Retail
The Challenge
A global consumer goods business wanted a way to syndicate accurate product information to its 500 e-commerce partners and distributors quickly—and confirm that existing listings were correct and up-to-date. However, product information was scattered across many systems. Attributes such as product titles, features, descriptions, dimensions and package counts were inconsistent across countries. Additionally, the systems could not store product images, documents and videos, which were spread across still more systems.

A lack of a single source of truth for product information was created cascading problems. New product listings had to wait until marketing and brand teams could hunt through multiple systems to find the right information and images. Different descriptions for the same product produced inaccurate sales reports and forecasts. The full auditing process one-commerce sites for out-of-date information took six to eight months, exposing the company to legal and compliance risks. These challenges would multiply as the company introduced more products in more countries through more channels and in more languages.

Our Approach
We designed and implemented a centralized product information management and digital asset management system that ensures the company’s e-commerce sites and distributors are publishing the latest product information and images. Data-driven intelligence informs business systems and decisions that drive sales and strengthen its brand.

The Solution
We built an intelligent digital shelf solution that serves as a single source of truth for tens of thousands of products and hundreds of thousands of images for business segments operating in 40 countries. We worked in two-week sprints to roll it out across North America, Latin America, EMEA and Asia Pacific.

Today, more than 3,500 employees and agencies use the digital shelf solution, which country teams can customize to accommodate their needs. The company now has an easier, more automated way to syndicate product data to retailers and other channels.

RESULTS
$3 million annual savings in operational expenses.
60% improvement in time to market via digital channels.
68% time saved on creating product listings.
Six months of time saved on auditing images on partner websites.

Read the full case study here.
The Challenge
A large automobile manufacturer plans to drive digital transformation globally over the next 5 years. Its goal is to provide a seamless, personalized omnichannel customer experience to increase satisfaction and loyalty.

This included creating a best-in-class chatbot assistant to guide the customer journey. It involved researching the types of vehicles that would suit their needs and moving them through the purchase process.

Our Approach
The Cognizant consumer goods technology team started by looking at the automobile manufacturer’s 2025 digital transformation goals, and then devised a roadmap with specific details on what it would take to create these capabilities and successfully roll them out to multiple countries globally.

We applied our six-dimensional framework to provide a strong backbone for executing this end-to-end omnichannel solution.

This framework includes the following key elements: strategy, opportunity analysis, architecture and technology, people and skills, governance and organizational change management.

The Solution
Our team partnered with the client to make further enhancements and provide additional use cases to the chat experience to support and guide customers throughout the car purchase process. Capabilities were implemented, piloted and tested in one country, and then the refined conversational agent went into live production.

Next is the rollout to 16 additional countries in 13 different languages.

RESULTS
13% Increase in Car Configurator users
5% Increase in interaction success
~3% increase in conversion rate in the first few months

Read the full case study here.
The Challenge
A retailer’s 68,000 convenience stores around the globe are a model of order. But the company’s legacy IT infrastructure struggled to keep up. With an unstable IT environment, the stores’ outdated infrastructure and technologies were leading to higher expenses and maintenance costs. The company sought to move its operations to a cloud-first strategy.

Our Approach
Our team has partnered with the retailer on its digital transformation since the company began modernizing its legacy systems 5 years ago. Most recently, we implemented our Data Modernization Platform, a scalable cloud-based infrastructure hosted on Microsoft Azure.

We also created a streamlined, intelligent data model with dimensional modeling and MPP architecture. The platform’s advanced analytics provide business users with more self-service capabilities for planning and merchandising.

With the new system, the retail chain now has on-demand processing capability and lower costs. The flexible platform made its acquisition of another retail chain a non-event by extending analytics to the new stores instantly.

The Solution
Comparative analysis of current and historical data simplifies business decision-making, and implementing new business initiatives on the platform is now simple and fast. Infrastructure costs are also significantly lower because data redundancy has been removed.

A 360-degree view of store attributes lets franchisees and business users view performance details, such as sales and orders, eliminating reporting manual efforts. Streamlined report rationalization and maintenance has also enhanced reporting and analytics capability.

RESULTS

- 40% savings in merchandising and planning infrastructure costs.
- 20% increased merchandise sales via better insights.
- 3 years of data analysis and trend analytics available.

An intelligent data infrastructure grows merchandising sales.
Energy and Utilities
AI Speeds Repairs, Cuts Costs for Electric Utility

The Challenge
A U.S. utility needs to monitor the condition of thousands of different components across tens of thousands of square miles of service area, much of it in remote locations. Such monitoring is essential because in order to maintain service levels and prevent system outages, it’s crucial to identify and fix failing or damaged components, such as the insulators that connect transmission lines to poles.

While the utility used images taken by drones to identify equipment that needed repair in its far-flung distribution network, it was time-consuming and inefficient to manually examine the photos and open a repair ticket, making it impossible to generate actionable real-time intelligence.

Our Approach
We used our AI Data Modernization Platform to create an AI-driven image analytics application that assesses drone-captured photos in real time to identify problems such as broken or chipped insulators. This self-service solution provides immediate insights to detect issues and an alerting engine to notify the maintenance team about needed repairs.

The utility’s deep-learning library is now hosted on a cluster of computing containers to reduce the cost and effort of implementation and management. An optimal cognitive computer vision model has been employed to provide the highest accuracy and ease of implementation to seamlessly scale and accommodate the alerting pipeline.

The Solution
The utility now has a fully managed data and analytic platform that enables data scientists to build, train and deploy AI models on-site or in the cloud, greatly reducing the cost and time required for image analysis and performing needed repairs.

To compensate for a lack of properly labeled images, we used image augmentation to create as many as 12 new labeled images from each original by changing lighting or angles or adding new objects to the images. This greatly increased the raw data on which the application could learn, and thus its accuracy. We also automated critical activities such as data labeling, the building of AI models, training and deployment.

RESULTS

60% reduction in the effort required for image scanning.

Faster and less costly repairs through automated identification of problems and triggering of work orders.

Increased service levels, reduced outages and improved the customer experience.

Read the full case study here.
Intelligent Conversational AI Agents Improves Sales and Customer Satisfaction

The Challenge
A leading regional U.S. power utility sought to differentiate itself through customer service and customer satisfaction. With millions of customers in its geographic area, including thousands of businesses — from heavy industry and hospitals, to professional offices and restaurants — power consumption for its customers varies greatly. With such a varied customer base, no single account manager or service representative could possibly understand all the businesses and industries served.

The utility was committed to ensuring its field service personnel could be more customer-centric by equipping them to quickly answer questions and find ways to better serve customer needs. We focused on giving executives, account managers and field service technicians better tools to prepare for meetings with a range of customers.

Our Approach
We combined voice-activated, AI-driven search technology with an application programming interface (API) that presents the user with an organized, detailed response to questions from information found online, helping salespeople better understand their customers’ industries and energy needs.

The Solution
We developed use cases and solutions for an AI-driven conversational subject matter expert. This intelligent assistant keeps sales reps better informed of their customers’ industry and energy needs. This natural language processing virtual assistant informs sales personnel about factors that affect utility usage within a particular industry.

The intelligent personal assistant also allows executives, account managers and customer service representatives to conduct research using voice commands or by typing queries.

RESULTS
Enabled sales personnel to be informed on key factors related to specific industries.

Automated the research process for the sales team.

Provided instantaneous access to needed research materials through a voice or keyboard interface.

▶ Read the full case study here.
The Challenge
A leading healthcare services provider wanted to reduce the incidence of drug addiction among its patients and lower healthcare costs by proactively identifying potential drug-seeking behavior. Treating addiction is very expensive — U.S. healthcare organizations spend more than $500 billion annually caring for patients suffering from opioid addiction alone. Drug addiction also interferes with positive health outcomes for patients being treated for other conditions, and diverts much-needed resources from other patients. Across a large healthcare organization, however, it’s challenging to consistently identify patients at risk of becoming addicted and alert physicians to that risk.

Our Approach
We sought to identify common characteristics of typical drug-seekers by examining three sources of information: the patient’s diseases and conditions as recorded in the EMR, the types of drugs that historically had been prescribed to the patient, and the behaviors and symptoms exhibited due to each type of drug. Our solution learns continuously from its own results to verify the accuracy of its models and improve searches.

The Solution
People seeking opioids or other addictive drugs tend to behave in predictable ways and have common characteristics. We developed an artificial intelligence-driven machine-learning solution for the healthcare provider’s compliance function that parses doctors’ notes entered into the organization’s electronic medical records (EMR) to identify potential drug-seeking behavior.

Our AI-based solution links text analytics performed on physicians’ notes from patient visits — including their impressions of a patient’s behavior, appearance and diagnoses — with data in the organization’s confidential third-party EMR system. It then uses that text analytics and advanced machine learning to generate system alerts for doctors during patient visits when a pattern of at-risk behavior is identified. This enables caregivers to intercede with patients in real time and take corrective actions.

RESULTS
$60 million identified in organizational savings.
Identified 85,000 at-risk patients.
Captures behavior and symptoms as patients interact with a physician.
Identifies at-risk patients in real time.

Read the full case study here.
Using Data Science to Improve Patient Care and Satisfaction

The Challenge
In healthcare, one of the most important measures of success is patient satisfaction. Every hospital patient in the U.S. is asked to complete a Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey. In 2017, a large health network asked us to analyze its CAHPS data using advanced artificial intelligence and computer science techniques.

The healthcare provider’s goal was to fully understand patients’ needs so it could improve its CAHPS ratings and develop better, more customized care. The challenge was to deliver specific, actionable recommendations and advice, using a combination of patient feedback and clinical background data.

Our Approach
We delivered a detailed set of patient satisfaction analytics, along with observations and specific recommendations that would have the highest impact on patient satisfaction levels and resulting CAHPS scores. We made a number of suggestions regarding patient communications, such as older patients needing to be carefully briefed on their medications and new mothers requiring extra attention on discharge day. We advised the client on resource planning to ensure proper staffing for these special circumstances.

The Solution
We investigated data from 60,000 patients who visited the organization’s health centers over the course of six months. Our team evaluated key patient-care issues such as communication, responsiveness and pain management, and then compiled a holistic set of analytics correlating the patients’ clinical and social backgrounds, along with their satisfaction feedback.

We were able to identify and target very specific patient care issues, and show the healthcare provider where it ranked on these issues in relation to national averages. More importantly, we were able to recommend specific actions the organization could take to improve patient care delivery, health outcomes and business operations.

RESULTS
- Analyzed 60,000 CAHPS records.
- Identified factors leading to lower patient satisfaction.
- Recommended specific improvements for increasing patient satisfaction, which is expected to significantly improve the organization’s CAHPS scores.

▶ Read the full case study here.
The Challenge

Every enterprise is challenged to use organizational data effectively and apply intelligent analytics to execute their business processes optimally. A U.S.-based healthcare company provides revenue cycle management solutions designed and developed to engage patients, as well as assist physicians and hospitals to improve its financial results.

Over a period of time, the organization had generated thousands of reports, aggregates and metrics compiled in multiple formats and stored in diversified locations with varied entitlements. It needed an automated way to discover insights, search relevant reports and visually represent trends so team leaders could take the next best action. The company also needed a way to field requests for relevant metrics, measures and dimensions in real time.

Our Approach

We developed an intelligent data-driven system capable of “conversing” with users and providing not only specific information but also relevant synopses from underlying analytics in the moment. Using Microsoft’s Azure AI platform, Cognizant built a smart business operational assistant that answers business analytical queries in real time using natural language processing.

Stakeholders now have a better understanding of business processes to inform decision-making using the most relevant metrics, generated by the latest insights from on-premises or cloud-based enterprise data—including information from CRM software, precompiled reports and statements.

The system learns and understands acronyms, and supports smart integration with multiple communication channels in a variety of languages.

The Solution

The virtual assistant enables 24/7 interaction in multiple languages through enterprise instant messaging applications such as Skype for Business and Microsoft Teams. It auto-generates reports, saving 88% of manual efforts.

It quickly responds to queries on patient responsibility, coding and billing. It informs decision-making in real time with intelligent reports on claim rejection reasons, physician productivity, collection performance, modality analysis, coding profiles and back-office operations, as well as payer and payee transactions for deeper insights.

RESULTS

88% reduction in manual effort spent searching for reports and creating narratives.

45% faster decision-making based on real-time insights.

~30% increase in operational processing with sustained information accuracy.

Read the full case study here.
The Challenge
In the healthcare industry, social determinants of health — including economic stability, education, healthcare system and physical environment — are considered to be important factors in addressing patients’ holistic healthcare needs and outcomes.

A large healthcare provider was looking for a resource with expertise in natural language processing (NLP) that could mine physician notes to identify these important determinants. The goal was to create a cohesive, holistic patient health history — and better serve patient needs with regular, targeted and localized care — by establishing interoperability across thousands of healthcare provider electronic medical records (EMR) systems.

The provider wanted to capture all caregiver notes to analyze social determinants of health in a structured format, and then ascertain whether these factors had a significant impact on patients’ health outcomes.

Our Approach
We built a text mining engine that efficiently analyzes physician notes to not just extract specific words and relevant information but also find meaningful insights and context. We implemented an algorithm to analyze 900,000 records from approximately 200,000 patients. The anonymized records comprise caregiver notes taken during patient encounters. This includes multiple notes from the same visit, such as operative, clinical, post-operative and discharge notes. Our solution helps identify people in need of care for a particular disease and points them to specific outreach programs in their local area.

The Solution
We developed an AI and ML solution that identifies and analyzes which social determinants of health have a significant impact on a patient’s health by mining the unstructured data found in physicians’ notes.

By supporting patients with proper care in their local communities, the system helps the provider more closely monitor and control patients’ overall health and illnesses. This has resulted in fewer acute medical issues requiring emergency room visits, which has lowered healthcare costs overall.

RESULTS
Identified 11% of encounters with homelessness and food insecurity-related social determinants.

Identified 34% of additional encounters that lacked Z codes through text mining.

Analyzed 900,000 patient records for patient insights.

Improved quality of care and health outcomes.

Reduced cost of care.

Read the full case study here.
The Challenge
Complex factors drive insurance in flood zones across the U.S., and a major global insurance company wanted to better understand the financial risks and opportunities involved in the flood insurance market. This meant understanding the size, scope and regional nuances of this market. We partnered with the company, with the goal of providing an integrated view of the flood insurance landscape in the U.S. — not just who has coverage and where, but what factors are driving the market, including behavioral patterns.

Our Approach
We analyzed flood hazard maps developed by the National Flood Insurance Program, as well as publicly available census data and housing information. We identified an overall financial opportunity worth $3.3 billion, with 83% accuracy and a potential market of $34 million in New Jersey alone. The company is now well-equipped to fully develop its flood insurance business in the U.S.

The Solution
We developed a solution illustrating the behavioral patterns and key drivers of flood insurance in the U.S. This involved analyzing flood hazard maps developed by the National Flood Insurance Program, as well as U.S. Census data and housing information available through Google Maps and Zillow. We then employed geospatial analysis — data science that examines people's geographic location and then derives understanding from that knowledge — and utilized a machine-learning framework to interpret the analysis. Using application program interfaces (APIs), the data and intelligence were integrated into a user-friendly analytics application, providing a single view of data from multiple sources.

RESULTS
83% accuracy in modeling potential markets.

A 10-fold reduction in underwriting cycle time.

25% improvement in case acceptance rate.

Models risk across portfolio by combining flood hazard maps, GIS data and the frequency and cost of historical claims.

➤ Read the full case study here.
The Challenge
Customer satisfaction is paramount in handling claims and renewing policies. An industry-leading P&C insurer, however, was experiencing high call-handling times at its call center and lacked the ability to transcribe these calls to analyze the quality. Of an approximately 8,000 calls per month, only 40 received review. But auditing calls isn’t enough: It doesn’t proactively address how to best serve an upset, stressed caller facing a loss. The goal was to equip customer service representatives (CSRs) with the tools to quickly answer customer questions, provide key information and resolve their issues.

Our Approach
We taught the call center system how to recognize 40 individual steps for each call and created a dashboard that lets CSRs monitor call progress on their displays. By performing speech analytics on calls as they take place, the checklist is automatically updated to show which tasks have been performed and which remain outstanding. Using language analytics, including diction, word choice and tone, the system improves CSR insight into each customer’s attitude.

The Solution
We provided an analytics platform informed by artificial intelligence to improve the insurer’s customer service, enable supervisors to monitor call quality and help CSRs understand customer sentiment during insurance claim calls. We worked closely with the insurer’s internal innovation team to improve the customer experience in various scenarios. Use cases included streamlining how insurance quotes are provided, automating and simplifying underwriting, and improving the claims process.

We extended the insurer’s analytics capability to analyze customer sentiment during calls, provide CSRs with appropriate information to respond with empathy, and offer questions and information relevant to each caller’s situation.

RESULTS
85% to 90% call dialog accuracy achieved.
35% to 40% reduction in supervisors’ review time.
All 8,000 calls now reviewed monthly.
Provided personality profiling and conversation cues for deeper insights.

Read the full case study here.
The Challenge

There are four classic ways to manage insurance risk: assume it, lessen it, avoid it altogether or transfer it. The last is the most difficult, since it entails accurately pricing what is essentially unknowable. But advances in data science can now inform risk analysis in a whole new way.

A global reinsurance company needed help developing a data-driven information management solution that could determine the best cases for underwriting, and assist underwriters in assessing case files to decide which cases must be underwritten. The company asked us to help build an intelligent underwriting tool, driven by artificial intelligence, to aid the underwriting process and boost efficiency while predicting and prioritizing the cases that should and should not be accepted.

Our Approach

We combined geospatial information with demographic and social data, as well as data on the incidence of accidents, to understand where losses differed in certain areas. Our solution provides a holistic, end-to-end view of insureds at the individual level, resulting in a probability signaling the likelihood of a customer’s risk of being involved in an accident.

This provided the insurer with a more detailed and reliable picture of the individuals whose automobile policies they were reinsuring, including behavioral and environmental factors.

The Solution

We established an internal data science center of excellence that allows the insurer to examine underwriting processes across the ecosystem, developing use cases and demonstrating proofs-of-concept for applying data collection, analytics and predictive modeling to address the range of risks in the company’s portfolio. Using optical character recognition and image processing, the system processes complex and varied stacks of documents and assembles them as a single, consistently formatted document.

We used natural language processing to aid the organization and extraction of data from the source documents, as well as AI-based machine learning to make sense of the data and assign scores to the most promising cases.

The insurer can now model premiums for different and more nuanced profiles of risk.

RESULTS

Improved underwriting efficiency.
Reduced total underwriting time.
Increased case acceptance percentage and revenue.

Read the full case study here.
The Challenge

Industries in India have been disrupted recently by the 2019 Aadhaar Act privacy amendment. Aadhaar numbers are unique identification numbers issued to every resident of India by the government. This new law requires all organizations in India to comply with provisions to mask each individual’s Aadhaar number for security purposes.

Seeking to comply with this new mandate—and avoid a stiff penalty—one large Indian insurance company enlisted Cognizant to cloak the numbers using an automated process driven by artificial intelligence (AI). As the law prohibits intermediate storage of data, the company wanted an efficient masking technique without disrupting its existing processes.

Our Approach

Cognizant created an AI-enabled smudging solution for the insurer’s historical heterogeneous data, storage devices and future real-time Aadhaar image processing.

This process was carried out by taking the image input and providing a masked image as the output. A cognitive service-based machine learning model, running on the Microsoft Azure platform, masks the images in the background.

Our solution facilitates identification of long or short format Aadhaar cards and masks bar codes, QR codes and identification numbers.

Azure Computer Vision technology identifies the Aadhaar numbers in the image. A machine learning model, based on Azure Cognitive Services and trained using sample data provided by the client, identifies QR codes and bar codes.

The Solution

This automated, secure and maintenance-free solution is much faster than the insurer’s previous manual image masking technique while remaining fully compliant with process requirements. There is no risk of data leakage because the API does not store images during processing. The new system is also scalable to support large changes in workload and throughput.

RESULTS

- 99% reduction in operational costs over manual masking
- 100% image masking accuracy
- 24x7 card image system availability

Read the full case study here.
New Life for 150 Terabytes of Data

Applying AI to open up access to insights and generate business value

The Challenge
Over its 100 years, a global life sciences company has accumulated a vast repository of health data totaling 150 terabytes. From this data, the company is able to address questions and concerns, respond to legal inquiries and incorporate the data in ongoing research. But its legacy mainframe environment was expensive to maintain and access to the data was slow. The company needed smart open access to its data.

Our Approach
Examining the company’s IT architecture, we developed use cases to support its vision and then designed and managed the successful migration of all its data. Our solution is based on Amazon Web Services (AWS) and the Cognizant AI Data Modernization Method reference model.

The cloud-enabled architecture is a highly responsive data ecosystem. With it, the company can leverage AI and advanced analytics to source, transform and consume data. It provides the flexible data structure, tools and accelerators the company needs to generate maximum business value.

The Solution
The new repository reduces the IT department’s reliance on an internal team and the once exhaustive process to produce custom reports.

RESULTS
50% improvement in data access and retrieval speeds
95% reduction in external mainframe data-hosting costs
$3.6 million annual savings
Fast, open access to analytics and insights

▶ Read the full case study here.
Fast-Tracking Cancer Drug Development Using Data Science

**The Challenge**
The stakes are high in oncology drug development: The process is costly, the competition is fierce, and the mission — saving lives — is critical. A major pharmaceuticals company wanted to improve its highly manual process for conducting clinical trials for its cancer drugs. The company wanted to reduce the time it takes to conduct clinical trials for cancer drugs while increasing the effectiveness and safety of the drug development process.

The organization chose us as a partner for this ongoing initiative because of our skills in data science and artificial intelligence, as well as our deep experience in life sciences and the pharmaceutical industry.

**Our Approach**
The project is part of an ongoing research and development initiative, with each phase producing assets that can be reused as case studies for future research problems. This knowledge provides recommendations for improving the process of capturing data in other trials. Using AI and data science helps shorten preclinical trial times by three to four years and cut per-patient costs while improving safety and producing reusable assets and technical knowledge that can be utilized in future initiatives.

**The Solution**
Our overall goal was to use AI to enhance decision-making in the clinical trials phases of oncology drug development. AI improves the process of selecting candidates for specific drugs by collecting evidence of drug effectiveness based on chemical structure and how the targeted body tissue responds.

We are working closely with the company’s Pharmaceutical Development & Commercialization organization to build an automated process for data analysis in preclinical trials. The power of AI helps us predict adverse drug reactions, which results not only in a safer and faster process but also a more streamlined regulatory approval process.

**RESULTS**

- A 3 to 4 year reduction in clinical oncology trials.
- 8% to 10% cost savings per patient.
- Created a reusable, automated data analysis pipeline for drug candidates.
- AI-enabled deployment of next-generation candidate drug evaluation methods.
- Saved time and money by streamlining the drug development process.

Read the full case study here.
Modern Decision-Making Speeds Data to Pharma Sales Reps

The Challenge
A specialty pharmaceuticals company faced rising costs and delays in gathering, analyzing and transmitting the information its sales representatives needed to plan their physician calls and meet their sales targets. Sales reps struggled with incomplete, conflicting and hard-to-use information, and the company lacked a single, integrated source of marketing and financial data to improve its decision making.

Our Approach
In addition to reducing costs and speeding data access, the new platform also provides advanced analytics to each representative on a daily basis and a customized plan of accounts to target the optimal plan for meeting sales goals.

Pre-built analytics and our industry-aligned data model reduced the time required to deploy the platform by one-third, and our change management capabilities ensured rapid adoption, user satisfaction and timely retirement of older platforms.

The Solution
Using our AI Data Modernization Platform, we helped the company reduce the time and cost of collecting and normalizing data from 20 internal and external systems. Now, sales reps receive customized recommendation on a daily basis on their laptop or mobile devices, based on their location and the current state of their accounts. This includes intelligent decisioning on which accounts are the most worthwhile to visit, which physicians and administrators to see at each account and which products or promotions they should spend the most time discussing.

These reports also warn of any danger signs, such as stagnating sales of a specific product at an otherwise well-performing customer. For the first time, the company now has a “single source of truth” for all its financial and marketing data, helping sales reps maximize revenue and profits.

RESULTS

$450,000 in annual savings for gathering and distributing account data to sales reps.

35% reduction in the time required to produce reports for the sales force.

30% reduction in implementation time through the use of our pre-built analytics and industry-aligned data model.

Maximized revenue and profits with improved, real-time data.

▶ Read the full case study here.
The Challenge
Over its 100 years, a global life sciences company has acquired multiple complementary businesses, including major pharmaceutical research companies. The company has accumulated a vast repository of global human health data that it uses to address questions and concerns, respond to legal inquiries and incorporate in ongoing research.

While the organization had critical information on its substantial range of drugs and compounds, the data wasn’t readily accessible. Faced with an expensive, legacy mainframe environment that inhibited free and fast access to its own data, the company chose to migrate more than 150 terabytes of data to a new, globally accessible cloud platform, increasing information flexibility and lowering costs.

Our Approach
We examined the current state of the company’s IT architecture, developed use cases to support the blueprint for its desired future state, and then designed and managed the successful migration of all its historical data. Our solution, based on Amazon Web Services (AWS), offered the company a global repository.

This cloud-enabled architecture is a modernized, highly responsive data ecosystem that helps the company source, transform and consume data through the cloud, leveraging artificial intelligence and advanced analytical techniques.

The Solution
The model provides the flexible data structure, tools and accelerators needed to generate maximum business value.

Healthy Data? That Means Reliable, Defensible and Accessible

The Challenge
Over its 100 years, a global life sciences company has acquired multiple complementary businesses, including major pharmaceutical research companies. The company has accumulated a vast repository of global human health data that it uses to address questions and concerns, respond to legal inquiries and incorporate in ongoing research.

While the organization had critical information on its substantial range of drugs and compounds, the data wasn’t readily accessible. Faced with an expensive, legacy mainframe environment that inhibited free and fast access to its own data, the company chose to migrate more than 150 terabytes of data to a new, globally accessible cloud platform, increasing information flexibility and lowering costs.

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This cloud-enabled architecture is a modernized, highly responsive data ecosystem that helps the company source, transform and consume data through the cloud, leveraging artificial intelligence and advanced analytical techniques.

The Solution
The model provides the flexible data structure, tools and accelerators needed to generate maximum business value.

RESULTS
95% reduction in external mainframe data-hosting costs.

$3.6 million annual savings through cloud migration.

50% improvement in data access and retrieval speeds

Read the full case study here.
The Challenge
For any company dealing with personal health information, privacy and compliance are of the utmost importance. One of the largest pharmaceutical companies needed to securely share statement of work files that include critical and confidential internal information outside the company, with board members, consultants and its network of subcontractors. To achieve this, the sensitive information needed to be redacted from the documents before sharing.

Prior to this engagement, a group of people manually redacted sensitive information and verified that process. Our client was looking for an automated way to reduce manual work and speed this process.

Our Approach
The purpose of redaction is to mask trade secrets, research and development information, contract amounts, project status data, and client or patient records. For this client, we selected the Microsoft Azure AI/ML platform to build an intelligent business solution to provide real-time redaction of PDF documents using optical character recognition.

Additionally, the system removes critical data completely using rule-based automation. It then generates a concise and meaningful summary of text from multiple documents using natural language processing. This complete process flow eliminates most of the manual intervention and reduces the risk of human error by verifying the document.

The Solution
This life sciences company now has end-to-end automation using Azure ML, improved confidentiality, stronger compliance and business oversight, as well as mitigation of regulatory, legal and commercial risk.

RESULTS
80% reduction in manual effort evaluating and validating masked entities
50% faster processing through automation
~30% decrease in cost with the reduction in manual effort and human error

Read the full case study here.
How Unstructured Data Analysis Can Lead to Healthier Patient Behavior

The Challenge
Taking medications as prescribed can improve not only patient health but also the success of the companies producing pharmaceuticals and other treatments.

A biotechnology company wanted to use its case notes to understand why patients did or didn’t follow their medication regimens. But the descriptions of patient interactions were often inaccurate, incomplete or inconsistently formatted, which made it difficult or impossible to derive valuable insights that the company could capture and act upon.

Our Approach
Working with the biotech company to understand its products, patients and business needs, we identified the words and phrases of greatest interest within its case notes and built the ontologies and taxonomies required to train an artificial intelligence application to recognize this content. Our life sciences technology experts applied machine learning and NLP to years of unstructured, free-text notes. To more effectively share the findings with client stakeholders and senior leadership, we created a 40-page narrative that presented our results in an understandable and actionable format.

The Solution
We worked with the biotech company to apply AI, machine learning and natural language processing to gain insight into factors that motivate patients to start, discontinue and switch use of medications. Using these insights, the company was able to increase treatment compliance by identifying roadblocks and improving patient support.

The company created new key performance indicators for its customer service processes, workflow improvements and coaching for improved patient engagement. Next steps include more complete documentation of the insights, training in documentation techniques and exploring how this approach could improve other functions, such as sales and marketing.

The company’s connection of the pilot project to its overall strategic goals helped ensure the project’s overall success. The company is now implementing the project’s recommendations throughout the organization and showcasing the value of new techniques to enhance patient engagement.

RESULTS
Uncovered 30 meaningful insights and nine key recommendations.

Developed KPIs to monitor and encourage actions that maximize patient wellness and drug sales.

Improved training for patient services staff by creating better documentation and increasing the focus on patient interactions.

Read the full case study here.
Oil and Gas
For TGS, the Right Data at the Right Time

The Challenge
TGS, one of the world’s largest providers of 2-D, 3-D and other forms of sub-surface data to oil and gas companies, was facing a challenge. Its customers had no direct visibility into sub-surface, geological or meta data, and it took too long to deliver insights. The process was cumbersome. Raw data needed to be segmented and cut onto physical tapes that were shipped to customers—an expensive manual process.

TGS needed a better way for customers to access the 2-D and 3-D seismic data from which to make accurate decisions on where to drill, both onshore and offshore.

The Solution
TGS now speeds access to insights via an online information ecosystem powered by a cloud-based big data analytics solution. This data modernization project has helped elevate TGS from being a data provider to a source of real sub-surface insights that oil and gas customers are using to inform their own innovations and make more informed drilling decisions.

Our Approach
To power a new data-as-a-service (DaaS) offering, TGS selected the Cognizant BigDecisions® data analytics platform running on the Amazon Web Services (AWS) public cloud.

The team began by migrating 200TB of tape-based data to the cloud. TGS implemented an AWS-based data lake solution to process petabyte-scale sub-surface data and enable searching of specific data points. BigDecisions® ingests seismic data directly to the cloud, speeding meta data extraction by 75%. It also enables an end-to-end searchable repository of metadata for easy search and cataloging.

As a result, customers can now access personalized geospatial mapping data to pinpoint the insights they need, reducing data delivery time from five days down to five hours. This helps customers greatly reduce time spent deciding where to drill and eliminates the chance of coming up empty. Customers can preview data online, drill down and examine data from various perspectives before making a purchase decision.

RESULTS
95% less time spent pinpointing optimal locations to drill.

5 hours to deliver information to customers, down from 5 days.

4.5 billion records migrated to the public cloud via AWS.

Read the full case study here.
Mining Data to Optimize Mining Worker Accommodations

The Challenge
A major mining company needed to improve the efficiency of how it managed housing for its onsite workers. Erratic housing needs and patterns, inaccurate daily occupancy reporting, price differences, and varying rules for employees and contractors made this a complex undertaking for the logistics team. The team also struggled with transportation planning. The company asked us for a technology-based solution to address these challenges and lower process costs.

Our Approach
Our team optimized the company’s accommodation management process at the lowest cost, automating room assignments by analyzing a complex set of variables. We partnered with the company to design and build a cloud-based data analytics platform that not only provides cost-effective solutions to the challenges of managing housing and transportation but could potentially optimize the logistics operations of the entire organization.

The Solution
Our AI and analytics team worked with the company to develop a proof of concept for a secure data analytics solution that automates basic reporting, manages ad hoc schedule changes, predicts no-shows, and flags noncompliance and reporting anomalies that impact costs. We built an “optimization engine” that processes current occupancy data and recommends space allocations based on a back-to-back optimization approach. Our team consolidated these features into a digital analytics platform and shifted the platform to a cloud environment.

In subsequent stages, we expanded the platform’s capabilities to analyze data on the company’s fleet of trucks, as well as a range of plant and equipment productivity metrics.

RESULTS

- **$4 million** U.S. savings in year one.
- **$20 million** in savings is expected from optimized room utilization.
- A **50% reduction** in costs due to no-shows or records and reporting errors is anticipated.

▶ Read the full case study here.
The Challenge
A global mining company with more than a dozen mines on three continents faced financial hurdles caused by the delays in transporting ore, among other inefficiencies. The massive transportation equipment used by this company and the complex operations involved in the process were difficult to track in real time. To avoid further interruptions and to reduce the financial loss caused by the delay, the company asked us for help.

Our Approach
Cognizant Digital Business established a center of excellence to collaborate with the client’s management team to design and deliver a solution that would gather sensor data on its global installed base of mobile equipment, monitor that equipment’s performance and apply algorithmic analysis to improve the efficiency of its use. Our machine learning solution provides a dashboard for real-time monitoring and benchmarking at various stages of the transportation cycle. The solution captures data on equipment location, movement, load, use, speed and efficiency to ensure optimal use of equipment.

Our cloud-based analytics solution also helped mine operators to monitor throughput and efficiency by viewing the root cause of lower yields on a near real time basis.

The Solution
To address efficiency improvements worldwide, our team gathered sensor data on the client’s global installed base of mobile equipment, monitored that equipment’s performance and applied algorithmic analysis to improve the efficiency of its use. The goals being to reduce queuing and idle time for heavy haul trucks, and to help ensure a steady stream of ore to refining facilities and transportation hubs at each mine.

Our machine learning solution monitors equipment in the field to isolate the major causes of wait times. Then, our model breaks down the transportation cycle into eight steps — from queuing to load, to unloading and returning — and captures data on equipment location, movement, load, use, speed and efficiency to ensure the right equipment is in the right place as frequently as possible. A dashboard provides real-time monitoring and benchmarking during the eight predetermined stages of the transportation cycle.

Our analytics application enables mine operators to monitor throughput, efficiency and tonnage, viewing the root cause of lower yields on a near real-time basis.

RESULTS
A $30 million reduction in capital cost due to higher equipment availability.
8% increase in annual throughput at initial location, by identifying bottlenecks.
Saved 24 hours of manual equipment management time per site per week.

▶ Read the full case study here.
Travel & Hospitality
Large Airliner Takes Off with Conversational AI

The Challenge
Lots of people spend time daydreaming about a vacation, but when vacation dreaming gives way to planning an actual trip, they have a lot of questions. For one large airline, all those questions were going straight to its call center. Call center agents were getting bombarded with calls from flyers asking the same questions over and over. The airline decided to create a conversational AI agent for members of its frequent flyer program to answer their most common questions. The goal was to reduce costs and improve customer satisfaction by providing 24x7 assistance to valued frequent flyers.

Specifically, the airline wanted to reduce its operating expenses associated with live agent inquiries via chat and telephone.

Our Approach
Built in three months using the Google Dialogflow natural language understanding platform, the conversational AI agent answers 50 of the most common customer queries. Guests simply type their question in a text window, and the virtual assistant responds with the answer in seconds.

The virtual assistant is integrated with LivePerson, enabling it to quickly and easily transfer conversations to a live agent when it is unable to field the request or there’s a need for human intervention.

The Solution
We helped the airline develop a text-based conversational AI agent solution to automate frequently asked questions (FAQ) related to its loyalty program. The conversational AI agent has significantly reduced call center costs by answering guest questions 80% of the time.

On average, 1,200 members are using the conversational AI agent for support every week. Building on top of its virtual assistant success, the airliner has mapped out plans that include voice activation and support for Japanese, Korean and Chinese languages in addition to English. The company is also planning to connect the virtual agent to its back-end systems so guests can ask questions specific to their own profiles and travel situations. So far, the virtual assistant is moving the needle on cutting down on live support calls for the airline.

RESULTS
80% of inquiries are now handled by the conversational AI agent.

Top 50 inquiries are now answered by the chatbot agent.

Conversations are seamlessly transferred to a live agent to resolve more complex issues.

Increased omnichannel reach and expanded customer touchpoints.

▶ Read the full case study here.
Unlocking Fast-Food Insights with Intelligence

The Challenge
One of the largest U.S.-based fast-food companies wanted to improve its decision-making, provide more self-service data analysis for franchisees and expand its loyalty offerings. To accomplish these goals, the company needed better insights into franchise performance and improved visibility into its inventory and staffing.

The company knew this meant migrating from its on-premises legacy data warehouse because it couldn’t produce the necessary information in a timely fashion, and it was costly and burdensome to maintain.

Our Approach
We created a plan for the company to move from IT-driven business intelligence to analytics-driven insights, supplying executives with immediate information to help them make the best possible decisions.

Our solution featured Cognizant’s cloud-based AI-driven intelligent platform to enable faster reporting, better data accuracy and lower maintenance costs. Increased flexibility, scalability and customer engagement reporting informed decisions related to personalized customer experiences and market intelligence.

The Solution
The restaurant chain now has 4,000 stores in North America that are uploading data to the warehouse in real time. Leveraging data on a cloud-based intelligent platform has enabled the business to gain insights, build customer relationships and improve operations, achieving its overall goals of increasing revenue and reducing costs.

Newly delivered insights allow the business to find and resolve real-time operational challenges, track sales of specific menu items to drive insights into customer preferences and manage labor efficiency and inventory. The solution also provides quick insights into sales, product mix and the performance of promotions and discounts, as well as a single view of data consolidated from multiple locations.

RESULTS
10% reduction in average order time for drive-through customers.

4,000 North American stores access the data warehouse, greatly improving data accuracy.

Significant cost reduction due to the near elimination of software licenses.

Up-to-the-minute sales, product and regional insights and performance metrics.

▶ Read the full case study here.
About Cognizant Artificial Intelligence Practice

As part of Cognizant Digital Business, Cognizant’s Artificial Intelligence Practice provides advanced data collection and management expertise, as well as artificial intelligence and analytics capabilities that help clients create highly-personalized digital experiences, products and services at every touchpoint of the customer journey. Our AI solutions glean insights from data to inform decision-making, improve operations efficiencies and reduce costs. We apply Evolutionary AI, Conversational AI and decision support solutions built on machine learning, deep learning and advanced analytics techniques to help our clients optimize their business/IT strategy, identify new growth areas and outperform the competition. To learn more, visit us at cognizant.com/ai.

About Cognizant Digital Business

Cognizant Digital Business helps our clients imagine and build the Digital Economy. We do this by bringing together human insight, digital strategy, industry knowledge, design, and new technologies to create new experiences and launch new business models. For more information, please visit www.cognizant.com/digital or join the conversation on LinkedIn.

About Cognizant

Cognizant (Nasdaq-100: CTSH) is one of the world’s leading professional services companies, transforming clients’ business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S, Cognizant is ranked 193 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at www.cognizant.com or follow us @Cognizant.

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