



Cognizant

Offering Overview

AI Operations Intelligence Creating Intelligent Business Processes with AI

Enterprises are awash in data from processes like workforce management, IT operations, procurement, supply chain, customer interactions and finance. Still more data lives in various systems and applications. What if you could correlate and analyze data from all of these sources in real-time to predict the action with the best outcome at this very moment?

Picture having answers to questions like, which high-value employees are at risk for quitting? What payment terms will save money without harming a vendor relationship? How can we speed up ticket resolution? What should contact center agents say to soothe an irate caller under different circumstances?

Traditional analytics and reporting tools don't deliver these insights because they can't deal with the complexity of interlinked processes and a constantly changing business environment. As a result, most businesses still base their decisions on dated, offline data. Artificial intelligence (AI) and machine learning are changing the game.

Embedding AI Into Existing Processes

Cognizant AI Operations Intelligence leverages AI and machine learning to make your day-to-day business processes smarter. Our offerings optimize decisions in today's fast-paced, digital world by continuously ingesting, correlating and analyzing multiple data streams in different formats to identify patterns and trends, predict outcomes and take the action with the best predicted outcome. Put our AI Operations Intelligence to work in your business to streamline processes and improve operational efficiency.

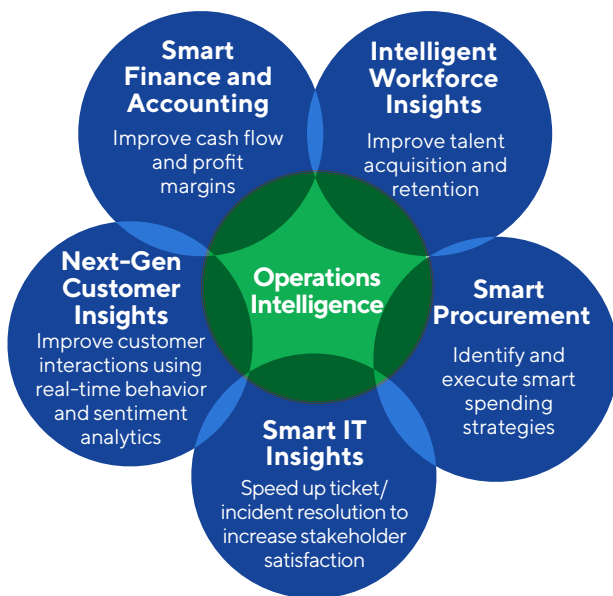


Figure 1. Cognizant AI Operations Intelligence modules



41% of businesses surveyed estimate the cost of a bad hire is more than \$25,000. 24% percent put the figure at \$50,000.¹

Intelligent Workforce Insights

- More quickly identify people with the right skills for the job
- Evaluate real-time employee sentiment
- Identify employees at risk for attrition

Cognizant Intelligent Workforce Insights applies AI throughout your employees' career with your company.

Identify the best candidates, faster. Manually searching and matching resumes is time-consuming. What's more, resume scoring is highly subjective: less-qualified candidates may be invited for interviews while highly qualified candidates are overlooked. Our search-and-match algorithm uses natural language processing (NLP) to quickly comb through millions of resumes to scientifically identify the best candidates based on your criteria.

Predict and prevent attrition. Internal survey responses alone do not accurately measure employee sentiment that can predict attrition. A truer picture emerges when you also factor in external data such as employees' social media posts, competitors' compensation packages and so on. Our offerings analyze data from internal

Intelligence Workforce Insights
A major global recruitment agency increased its job fill rate by more than 8%.
The agency uses our search-and-match algorithm to score resumes based on more than 100 variables. Accurate selection of top candidates as measured by experienced recruiters more than doubled—from 35% to 73%.

Cognizant applied intelligent workforce insights internally and saved nearly \$500K annually by identifying high-value employees at risk for leaving the company. The savings come from avoiding the costs of recruiting, onboarding and training replacements.

and external sources to spot behaviors and sentiment associated with attrition—and then identify employees at risk so that you can take corrective action.

Smart Procurement: Cognizant Smart Spend

- Identify and execute smarter spend strategies
- Optimize procurement processes
- Proactively monitor and manage compliance to avoid spend leakage

Indirect spend is notoriously difficult to track. We apply AI techniques such as neural networks to forecast indirect spend and identify opportunities for savings (Table 1). Picture it: Intelligently negotiate payment terms and discounts by creating a persona for each vendor. Create more accurate records for vendors listed under different names using NLP. Discover missed discounts and price deviations by using image capture, OCR and deep learning to find pricing agreements

Smart Spend Insights
A health sciences company used Smart Spend to discover \$1 billion USD in savings opportunities—10% of total spend. The company also identified organizations that were out of compliance with travel-and-entertainment expense policies.

scattered across documents like spreadsheets, PDFs and emails.

TYPE OF EXPENSE	VALUE OF AI
Travel and Entertainment	<ul style="list-style-type: none">• Identify travel spend outside of preferred booking channels• Identify best mode of travel; suggest video/web conference when appropriate• Identify suspicious out-of-pocket expenses that don't require a receipt
Marketing and Advertising	<ul style="list-style-type: none">• Optimally allocate budget across all marketing channels and estimate the impact of each channel• Predict minimum promotional spend needed to reach a sales target and recommend allocation
Facility Management and Real Estate	<ul style="list-style-type: none">• Recommend buy or lease; analyze occupancy-to-operating income ratios• Determine which services to perform in-house or with a partner• Avoid overpaying for lease renewals using automated tracking, dates notification and invoice validation against contract terms
IT Expenses	<ul style="list-style-type: none">• Identify software contracts for features you don't use—so that you can renegotiate• Eliminate duplicate licensing by identifying software included in licenses• Avoid paying for unnecessary features on new laptops

Table 1. AI Uncovers Savings Opportunities for Selling, General and Administrative (SG&A) Expenses



AI solutions are streamlining processes and improving business operational efficiency.

SMART Insights

- Streamline processes and improve operational efficiency
- Accelerate mean time to resolution for trouble tickets
- Reduce downtime by predicting device and application failures
- Improve stakeholder satisfaction as measured by net promoter score

IT organizations are measured by mean time to resolution for tickets. Even better: reducing the number of tickets by predicting and preventing impending problems. Cognizant Smart IT Insights meets both goals. It uses machine learning to predict asset failure so that you can take action to minimize disruption. When problems do occur, Smart IT Insights identifies the root causes, predicts ticket volume so that you can assign the right resources, and routes tickets to the optimum channel for fast, cost-effective resolution—for example, IVR for easy-to-resolve tickets and agents for complex tickets.

Smart IT Insights

A healthcare insurer needed to accelerate ticket resolution during its busy 60-day open enrollment period.

People who couldn't enroll during the window had to wait a full year, hurting the insurer's revenue and reputation. Smart IT Insights reduced turnaround time for approximately 200,000 tickets by 2%, for about \$100,000 USD in annual savings.

A leading communications service provider was experiencing software failures that led to service disruption.

Smart IT Insights identified key causes for failures using multiple AI techniques, such as Markov Models and NLP. Revenue loss declined by ~4% in the first year.



Next-Gen Customer Insights

- Automate repetitive human actions such as interpreting written documents and describing the context
- Improve call planning, forecasting and monitoring
- Give agents the guidance to engage customers and provide a great brand experience

The contact center experience affects customer satisfaction scores, churn, social media ratings and brand reputation. Even in contact centers with scripting solutions, harried agents bear much of the responsibility for the customer experience, deciding whether to escalate a call or cross-sell to an irate caller, for instance. The difficulty of defusing callers' negative emotions takes a toll on agents: The average work span of a customer service representative is just 3.3 years, leading to high recruitment and training costs.²

Cognizant Next-gen Customer Insights embeds AI in the contact center to improve operational efficiency. Supervisors can use self-service analytics for call volume forecasting, first-call resolution analytics, optimal routing and capacity planning. Sentiment analytics recognize callers' content and emotion by

Next-gen Customer Insights

A global insurance provider uses our real-time speech-sentiment analytics to improve the contact center experience.

The solution prompts agents to respond in ways appropriate to the caller's situation and emotion. Now 70% of calls remain positive from the outset, and agents are able to reverse 10% of calls with a negative sentiment to a positive sentiment.

combining audio-to-text conversion, NLP and auditory signatures. Based on these inputs, the service identifies the caller's emotional state and alerts the agent whether the sentiment is negative, neutral or positive. At the same time, the service presents a script that's had a high success rate for similar callers.



Smart Finance and Accounting

- Maximize working capital utilization
- Optimize vendor payment terms

Information in databases and documents yield insights that CFOs can parlay into smarter operations. For example, how can you maximize working capital utilization? How can you optimize payment terms with the vendor without harming the vendor relationship?

Why Cognizant?

- **AI first.** We look at your business operations through an AI lens, using AI techniques to improve business outcomes.
- **Human-centered solutions.** We build solutions with a human-first approach by combining data science and human insight. Our offerings incorporate the expertise of behavioral economists, anthropologists, sociologists and ethnographers from our partner ReD Associates. We apply AI to help you understand what your customers and workforce are likely to feel and do, the kinds of interactions they seek and the information they need.

Smart Finance Insights

A leading global automobile parts manufacturer increased annual cash flow by \$10 million after reducing the number of days to pay by 3-5%. The company had sought to optimize vendor payment terms without harming the business relationship. We used AI to re-evaluate payment terms, reducing delays and cash outflow to increase working capital utilization. Compliance monitoring reduced leakage.

- **Rapid value.** We deliver business value in a matter of months. The reason: we start with pre-built frameworks and algorithms. We've already developed solutions for the business challenges described in this overview and continually design new solutions for emerging enterprise needs.

To learn more, visit: cognizant.com/ai.



Endnotes

- ¹ "Nearly Seven in Ten Businesses Affected by a Bad Hire in the Past Year," CareerBuilder, December 13, 2012, http://www.careerbuilder.com/share/aboutus/pressreleasesdetail.aspx?sd=12/13/2012&sc_cmp1=cb_pr730_&siteid=cbpr&id=pr730&ed=12/31/2012.
- ² "Trends 2016: The Future of Customer Service," Forrester, January 5, 2016, <https://d26a57ydsghvgx.cloudfront.net/content/blog/Forrester%20Trends%202016%20The%20Future%20of%20Customer%20Service.pdf>.
- ³ "How to Protect Your Call Center Agents from Burnout," Focus, April 2017, <http://www.focusga.com/2017/04/12/protect-call-center-agents-burnout/>.

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

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.

Cognizant

World Headquarters

500 Frank W. Burr Blvd.
Teaneck, NJ 07666 USA
Phone: +1 201 801 0233
Fax: +1 201 801 0243
Toll Free: +1 888 937 3277

European Headquarters

1 Kingdom Street
Paddington Central
London W2 6BD England
Phone: +44 (0) 20 7297 7600
Fax: +44 (0) 20 7121 0102

India Operations Headquarters

#5/535 Old Mahabalipuram Road
Okkiyam Pettai, Thoraipakkam
Chennai, 600 096 India
Phone: +91 (0) 44 4209 6000
Fax: +91 (0) 44 4209 6060