



# Insight to Artificial Intelligence (AI)

## AI Design and development

G-Cloud Service Definition Document



Insight to AI gleans meaningful behavioral context and insights from big data – revealing the motivations and influences that drive human decision-making.

### MAKING BIG THINGS POSSIBLE, BY PUTTING PEOPLE AT THE CENTER

Cognizant's Insight to AI offering leverages human science and artificial intelligence (AI) to better understand the needs, aspirations and motives that underlie customer behavior. Our approach offers a proven path to realizing ROI sooner, by adding contextual intelligence to data analytics.

How will a shopper react to an offer? What determines their choices to proceed, and buy? How do online customers behave when selecting banking products or buying insurance? What ensures patients receive correct information and make the right choices for care? What's the right way to develop a new digital product—and successfully promote its adoption?

Answering these types of questions comes down to rapidly understanding consumer behavior and preferences. Against the backdrop of big data, companies can glean actions of individuals or subsegments of users and guide their actions based on what they're looking for, how they're looking and what they need.

It's not just about connectivity or processing power, it's about data-mining and inputs across channels. It takes machine learning to generate human insights that can in turn be fed back into the loop of decision-making and refining algorithmic processing to allow for personalized

responses. While cloud connectivity and analytics are scalable, using AI to gain insights and respond accordingly requires a carefully focused approach to each discrete application. That requires different tools and algorithms.

This capability is within reach. In conjunction with our strategic partner, ReD Associates, Cognizant is

### Customer Stories – Innovative Credit Card Solutions

**We examined how credit card fraud is perpetrated—from the eyes of the perpetrator.** Once we understood how the fraud actually worked, we identified ways to make it harder for fraudsters to succeed by disrupting their business model. This allowed our client to predict fraudulent purchases of items that are often resold, and added requirements to validate purchasers' identity to thwart illicit behavior.

**Cognizant also improved the acquisition of new credit card customers in the small and medium business segments for a major financial institution** by analyzing the business owners' financial goals, tax planning strategies, employee relationships and the nuances of the business.

Advertisers will spend \$40 billion more on Internet ads than on TV ads this year.<sup>1</sup> Cognizant's Insight to AI shows them how and where to maximize their returns.

leveraging research in social sciences to improve the accuracy and reliability of insights—so companies can act on those insights, frequently in real time. By observing people, rather than collecting data, we can mine *the why behind the what*—using so-called “thick data” from social sciences and behavioral research.

### BEYOND BIG DATA ANALYTICS

Data analytics uses algorithms to generate insight and combine that information with market research. But classic market research surveys fall short in predicting human behavior, because most people answer based on their aspirations rather than on how they really behave in their lives. Additionally, surveys suggest the majority of data analytics projects are stuck at the starting gate.

So, businesses become frustrated. The gap between investments and actual results in enhancing predictability and improving decision-making is huge.

The fundamental premise of our Insight to AI solution is that companies can use qualitative data based on the human sciences—anthropology, ethnography, sociology—to understand what drives customer decision-making. Insights from such research—“thick data”—helps organizations to better meet their customers' needs and fulfill them.

Insights can be screened against quantitative big

data that's already available, resulting in a clearer, more predictable and accurate view of the future. This helps companies run their businesses develop better algorithms and create a competitive advantage by changing how they do business. Cognizant's Insight to AI partnership with ReD Associates, can help our clients across the spectrum of AI:

- **AI Strategy and Roadmap Creation** Our human-centric approach recommends a design strategy and roadmap for setting up an AI and Analytics organization.
- **Insights Definition and Experimentation** Driving improved, measurable outcomes for a definitive business problem by combining big data & thick data for contextual insights.
- **AI and Insights Organization Definition** Helps establish the client's insights organization to identify, prioritize and implement high value business opportunities.

Our customers, whether enterprise-level executives like Chief Digital Officers or heads of lines-of-business, have achieved results in customer intelligence, product intelligence, risk intelligence and operations intelligence, all supported by our implementation accelerators like Vantage Point, our AI Center of Excellence and Augmented Analytics.

## REALIZING DATA'S POTENTIAL

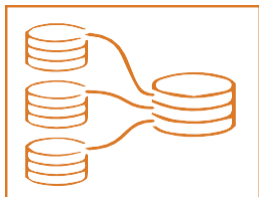
How to unleash the full potential of data? First, identify its status, then plan to address its deficiencies.



**Overcoming Data Overload** – The sheer abundance and heterogeneity of data sources is often baffling, and managing them is time-consuming. Cognizant helps organizations make decisions about what data is useful, how it can be processed and how to turn massive amounts of data into meaningful insights.



**Providing Necessary Context** – Numbers alone don't tell the story: it's easy to confuse correlation with causation. We help organizations correctly identify emerging issues in data, by developing appropriate algorithms that generate insights to inform decision-making.



**Bridging Organizational Silos** – Cultural and organizational gaps between IT and business teams can impede the automation of day-to-day activities. We help companies bridge those gaps and migrate all their assets into one ecosystem.



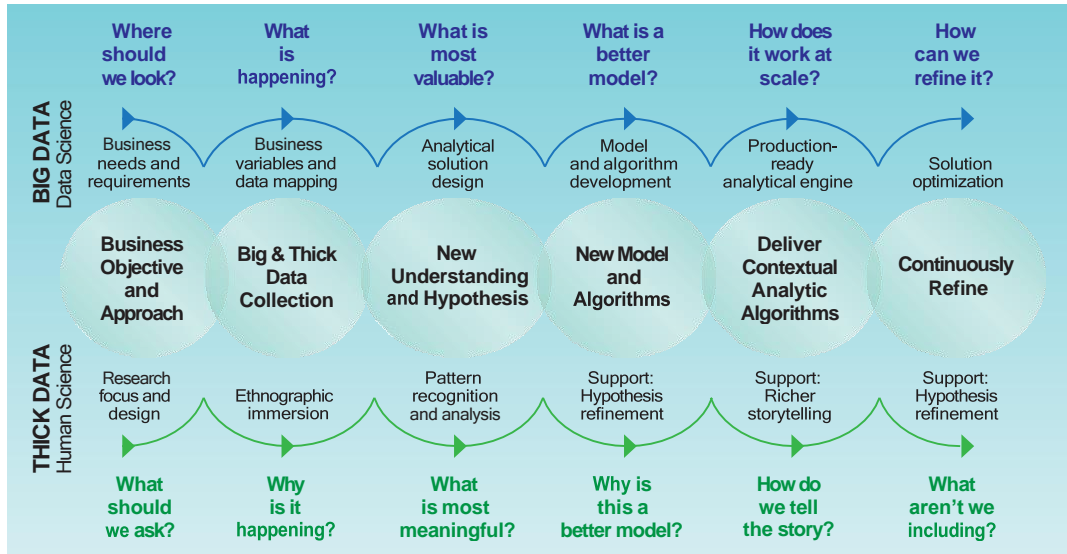


Figure 3. Six Steps to Better Insight to AI Intelligence

## COMBINING DATA SCIENCE WITH HUMAN SCIENCE

To address gaps in our client's analytics, we collaborate with internal teams in a six-phase progression:

- Define Objectives and Approach** – Using data science and human science methods, we address two critical questions: “What questions are we looking to answer?” and “Where should we look for important data?”
- Collect Big and Thick Data** – We gather relevant data to answer the question, “What is happening with our customers?” and “Do we know why?”
- Develop an Understanding** – We perform analytical solution design, coupled with pattern recognition and analysis, to gain insights into “What products/solutions are most valuable?” and “What are most meaningful?”
- Develop an Hypothesis, Then Generate New Models and Algorithms** – We next seek to develop hypotheses, design and test models and associated algorithms, then refine the hypothesis to address the question, “What is the better model - and why?”
- Deliver Contextual Analytic Algorithms** – Provide an improved production-ready analytical engine, which includes richer storytelling for actionable and saleable insights, enabling continued algorithm innovation to meet evolving market needs.
- Continuously Refine** – Iterate the resulting algorithms to optimize the solution and refine hypotheses. This ensures an ongoing process of answering not only “How can we improve the solution?” but also “What are we missing that needs to be added?”

### PROVEN STRATEGY. UNPARALLELED EXPERTISE.

Cognizant's Insight to AI offering helps businesses engage and interact more effectively with customers—promoting insightful, personalized user interactions that drive loyalty, revenue and growth. We provide solutions based on the world's leading data analytics techniques and methodologies.

Our work is complemented by the proven expertise of our exclusive partner ReD Associates, a global leader in applying human sciences to the challenges of developing meaningful products and solutions. Together, we design and create advanced algorithms capable of merging big data and “thick data”. We provide:

- **Advanced AI and Analytics** – Our unified, mature approach integrates best-of-breed data science and human science methodologies.
- **World-Leading Expertise** – Cognizant and ReD Associates provide the most experienced, best-in-class analytics and AI experts.

- **From Strategy to Execution** – Our Insight to AI solution focuses on obtaining actionable information with greater accuracy and reliability, moving from data to insight.
- **Informed Decision-Making** – We focus on gaining richer, more detailed perspectives on why people do what they do, moving from data to insights, then from insights to decisions.

### LET'S GET STARTED

Most analytics platforms present only half of the picture. Cognizant Insight to AI approach results in significantly improved algorithms that deliver the actionable insights big data alone can't provide—and the results you want, at scale.

We help business leaders develop strategies for addressing existential challenges—and have performed Insight to AI projects for multiple Forbes Global 2000 enterprises. To learn more, please visit <https://www.cognizant.com/cognizant-digital-business/applied-ai-analytics>.



### About Cognizant

Cognizant (Nasdaq-100: CTSI) engineers modern businesses. We help our clients modernize technology, reimagine processes and transform experiences so they can stay ahead in our fast changing world. Together, we're improving everyday life. See how at [www.cognizant.com](http://www.cognizant.com) or [@Cognizant](https://twitter.com/Cognizant).

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