Organizations across all industries are constantly challenged with the explosion of data and the complexities involved in processing, managing and effectively deriving valuable business insights. Most businesses are data driven and in many organizations the top priority for business and IT is to derive useful information from raw data, and eventually actionable business insights.

For example, retailers can use social media and web logs from their e-commerce Web sites to gather information that are not part of their enterprise data to gain insights on the customers who didn’t buy their products and analyze the reasons or feedback of the customers. This information can be leveraged to enable efficient micro-customer segmentation that can be used for targeted marketing campaigns.

The advent and increased usage of smartphones and other GPS devices provide an opportunity to the advertisers to target consumers, especially when they are in close proximity to the location of a store or a restaurant. This opens up new revenue for service providers and offers many businesses a chance to target new customers.

In healthcare services, use of in-home monitoring devices to measure vital signs and monitor progress demonstrates how sensor data can be used to improve patient health and reduce the costs of managing chronic or long-term conditions.

Telemetric data generated by sensors deployed in manufacturing products can reveal usage patterns, failure rates and other opportunities for product improvement that can reduce development and assembly costs.

Big data is the new source of competitive advantage for businesses. Emerging technologies in big data provide a great opportunity for organizations to tackle data management and analytics at extreme scale and complexity.

Industry Adoption

A Big data survey shows that greater emphasis will be placed on analytics projects, data-related security and privacy, and a new generation of cognitive-intelligence applications. Big data continues to permeate all facets of business. Creative industries have begun producing original TV content based on consumer viewing behavior, while production companies have employed analytics algorithms to decide which movies to make. As time passes, companies will grow increasingly data driven and willing to apply analytics-derived insights to key business operations. Intuitive decision-making will diminish somewhat as companies ‘infuse analytics into everything that can be measured’.

Cognizant Enterprise Analytics (EA) has engaged with several customers across industries such as Life Sciences, Financial Services, Insurance,
Cognizant EA Approach to Big Data

Big data is one of the strategic initiatives by the Enterprise Analytics practice and we have invested in building a strong capability on big data and developing industry solutions to deliver business value to our clients. Our expert and specialized big data consultants help customers in realizing true business value from their big data platform.

Key service offerings from the EA practice catering to customer needs

<table>
<thead>
<tr>
<th>Big Data Strategy and Roadmap Definition</th>
<th>Big Data Lab on Hire</th>
<th>Technology Evaluation and Piloting</th>
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<tbody>
<tr>
<td>• Defining business cases to demonstrate business value</td>
<td>• Ready stack of big data platforms such as NoSQL, Asterdata and multiple data integration, business intelligence and analytics software</td>
<td>• Comprehensive technology evaluation of big data platforms and selection of tools</td>
</tr>
<tr>
<td>• Comprehensive point of view on big data technologies and their suitability</td>
<td>• Enables rapid piloting of technical evaluations and business scenarios to showcase value</td>
<td>• Execute technology proof of concept and build pilots to demonstrate technology capability, business value and potential of big data</td>
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<tr>
<td>• Framework, reference architectures and best practices for implementation</td>
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<th>Solution Accelerators</th>
<th>Idea to Implementation</th>
<th>Data Visualization and Analytics</th>
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<tbody>
<tr>
<td>• Pre-built solution kits, accelerators, reference architectures and design patterns</td>
<td>• Defining business cases and piloting to demonstrate value to business</td>
<td>• Develop reporting and analytics frameworks for big data use cases</td>
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<tr>
<td>• Pre-built solutions for horizontal use cases such as social media analysis as well as specific industry point solutions</td>
<td>• Data architecture and integration for big data</td>
<td>• Implementing BI and advanced data visualization for big data</td>
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<td>• Data migration from existing applications</td>
<td>• Predictive modeling and advanced analytics</td>
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Table 1

Enterprise Analytics four-pronged approach to big data strategy

- Resolving current challenges with complex data management and analytics that are not viable using traditional technologies.
- Providing a robust data platform, architecture and tools for advanced exploratory analysis to derive newer business insights, and support business strategy and operational efficiency.
- Developing strategic partnerships with dominant and niche players to enhance solutions and services.
- Establishing on-demand labs and collaborative development, and proof of concept with customers.
Big Data Innovation

Big Data Analytics Value Assessment (BAVA) Framework

BAVA framework is a structured approach that ensures the organization has the information necessary to determine how to approach the first big data implementation and receive the business values that made it consider a big data journey.

BAVA Framework Components

6+ weeks for depending of # of use cases and their complexity

<table>
<thead>
<tr>
<th>Business Case Development (4 weeks)</th>
<th>Proof of Value (2 weeks)</th>
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<tbody>
<tr>
<td>Develop Business Case</td>
<td>Demonstrate Business Value</td>
</tr>
<tr>
<td>Business Case Approval</td>
<td>Go/No Decision</td>
</tr>
</tbody>
</table>

Deliverables
- Use Case Selection
- Business Case
- POV Definition

Deliverable
- POV Application (Cognizant Big Data Lab)

Cognizant’s focus on innovation and business processes is underscored by a host of industry solutions developed by our domain experts. Our solutions cover some of the niche concepts in big data analytics.

- **iSMART (integrated Social Media Analytics and Reporting Tool)** empowers businesses to meet all social media needs and provides real-time insight into the social media effectiveness.
- **SCOREL (stock correlation analytics)** analyzes historical and current stock trading values, coupled with social mood on the stock market, to gain insights on the correlation between different stocks across industry segments.
- **Greco**, a graph based recommendation system, for improved performance, and real time and personalized recommendations.

Some of the other solutions developed at the Enterprise Analytics big data labs solve several technical challenges, such as, **Log4H** a customizable logger for Hadoop with more advanced logging options, or **SmartNode** a framework that enables unified data access mechanism between applications, such as reporting tools/frameworks, Data Transformation tools (ETL) with unconventional or non-supported data sources (primarily New SQL or NoSQL databases).

Highlights of BAVA Framework:
- Proves the business value of big data
- Delivers faster decision-making and in the process decreases decision costs
- Provides streamlined predefined use cases that helps decrease time to decision
- Provides thought leadership in-line with the organization’s vision

Figure 1
**Big Data Experiences across Various Scenarios**

**Micro-segmentation for customer analytics using big data**
Our BFS, Retail, Telco and Healthcare clients are driving personalized offers and enhancing customer satisfaction by utilizing big data analytics for micro-segmentation.

**Mainframe (MIPS) data warehouse offloading to big data platforms**
Large clients with very large data footprint in Mainframe/EDW systems are considering offloading data to big data platforms to enable power of analytics on wealth of data which will result in high cost savings, improved performance and scalability.

**Enterprise data reservoir for enabling data science and deliver business data and insights**
Large global clients are consolidating enterprise data across their business units - (un)structured, internal and external data - to provide a holistic view enabling data science and innovation.

**Green energy analytics, sensor data management**
A world leader in technology domain has invested in big data to develop energy saving solutions to realize immediate savings on energy costs and reduce its carbon footprint.

**Cloudification**
The top news publisher in the US uses Amazon Web Services (AWS) for content usage and virality analytics. A leading provider of Online Banking Services in Europe uses AWS for its credit-risk simulation application.

**Machine learning based advanced analytics and insights discovery**
Our major clients in BFS are transforming fraud management by leveraging advanced machine learning based information discovery solutions.

**Customer interaction and experience analytics**
Leading BFS clients are trying to improve customer experience and reduce churn by analyzing unstructured data about multi-channel customer interactions (calls, text, social, web) and text analytics.

**Real-time decisions**
A leading Retailer in the US is benefiting from real-time distributed computing and analytics to take pricing decisions that have an immediate impact on the business functions.

**Product research and innovation**
One of the largest beverages manufacturers use unstructured data from social media and similar sources to understand the customer sentiment and use these insights for product innovation.

**Manage and analyze Master Data with hierarchical structures**
Master data often have many complex hierarchies, inter-relationships and hidden insights. Intuitive insights from the complex inter-relationships and dependencies on master data can be analyzed using big data technology platforms.

### About Cognizant Enterprise Analytics

Cognizant Enterprise Analytics drive tangible business benefits to every customer and shifts analytics from being cost centers to revenue centers. We future-proof visionary businesses by combining in-depth domain expertise with analytics and information management best practices that help clients optimize decisions and results. Enterprise Analytics is committed to helping clients run better through a range of integrated analytics and enterprise performance management services and solutions. We help clients run differently by grounding our services and solutions in foundational components including mobility, cloud, big data and smart data. Our end-to-end blend of business and technology solutions already reflects the future of analytics, and enables us to create transformational value through innovation and agility.

For more information please send an e-mail to our global team at inquiry@cognizant.com or visit our Web site at [http://www.cognizant.com/enterpriseanalytics](http://www.cognizant.com/enterpriseanalytics)

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