NEAT EVALUATION FOR INFOSYS:

Big Data & Analytics Services

Market Segments: Overall & Automation Focus

Introduction

This is a custom report for Infosys presenting the findings of the NelsonHall NEAT vendor evaluation for *Big Data & Analytics Services* in the *Overall* and *Automation Focus* market segments. It contains the NEAT graphs of vendor performance, a summary vendor analysis of Infosys in big data & analytics services, and the latest market analysis summary for big data & analytics services.

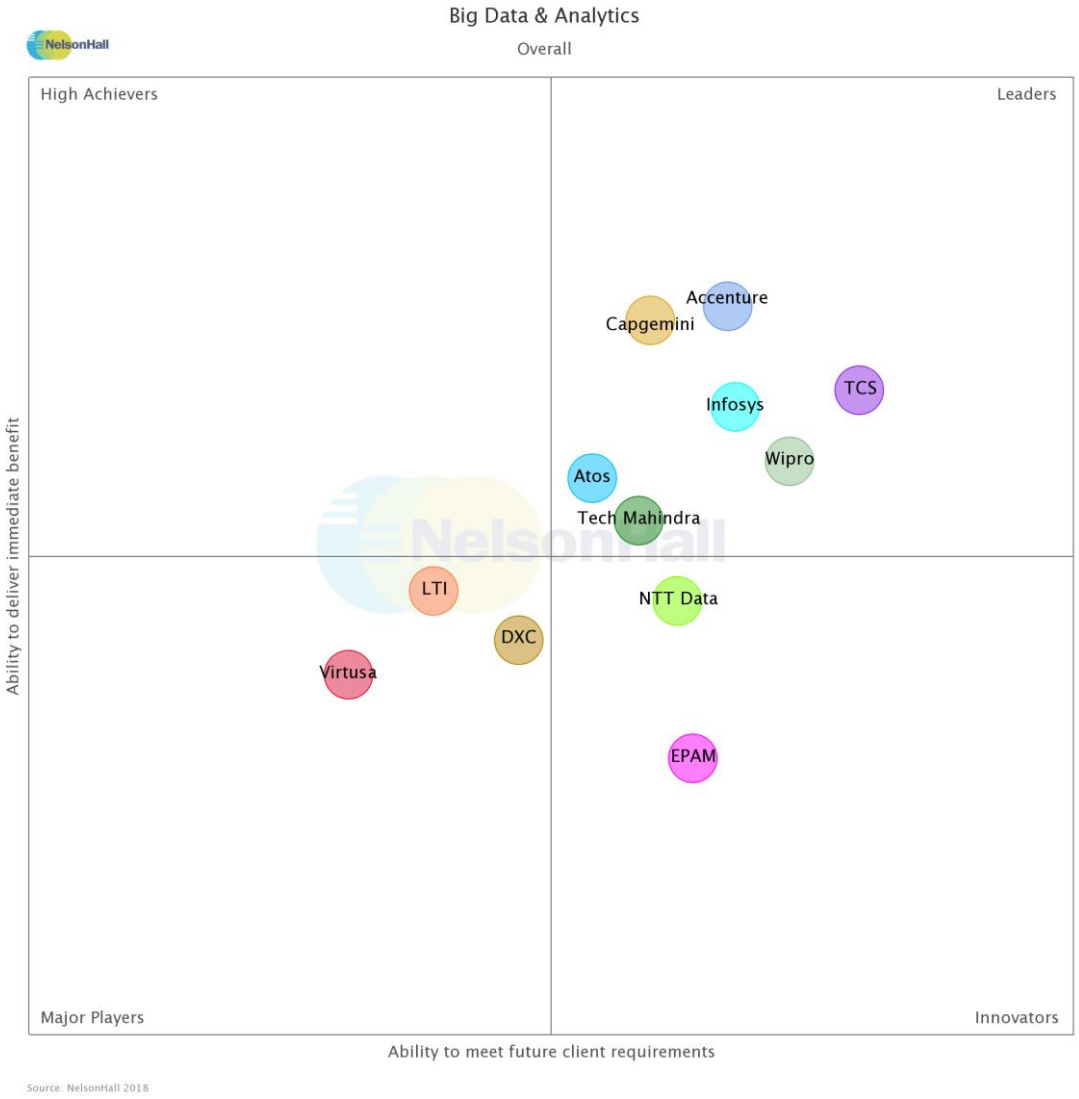
This NelsonHall Vendor Evaluation & Assessment Tool (NEAT) analyzes the performance of vendors offering big data & analytics services. The NEAT tool allows strategic sourcing managers to assess the capability of vendors across a range of criteria and business situations and identify the best performing vendors overall, and with a specific focus on automation, operational improvement, efficiency improvement, and the development of new business models.

Evaluating vendors on both their 'ability to deliver immediate benefit' and their 'ability to meet client future requirements', vendors are identified in one of four categories: Leaders, High Achievers, Innovators, and Major Players.

Vendors evaluated for this NEAT are Accenture, Atos, Capgemini, DXC Technology, EPAM Systems, Infosys, LTI, NTT Data, TCS, Tech Mahindra, Virtusa, and Wipro.

Further explanation of the NEAT methodology is included at the end of the report.

NEAT Evaluation: Big Data & Analytics Services (Overall)



NelsonHall has identified Infosys as a Leader in the *Overall* market segment, as shown in the NEAT graph. This market segment reflects Infosys' overall ability to meet future client requirements as well as delivering immediate benefits to big data & analytics services clients.

Leaders are vendors that exhibit both a high ability relative to their peers to deliver immediate benefit and a high capability relative to their peers to meet client future requirements.

Buy-side organizations can access the Big Data & Analytics Services NEAT tool (Overall) here.

NEAT Evaluation: Big Data & Analytics Services (Automation Focus)

NelsonHall has identified Infosys as a Leader in the *Automation Focus* market segment, as shown in the NEAT graph. This market segment reflects Infosys' ability to meet future client requirements as well as delivering immediate benefits to big data & analytics services clients with a specific focus on process automation.

Buy-side organizations can access the Big Data & Analytics Services NEAT tool (Automation Focus) here.

Vendor Analysis Summary for Infosys

Overview

Infosys provides big data, analytics, and information management services, mostly through its Infosys Data and Analytics (DNA) practice.

DNA is a horizontal service line with P&L and delivery responsibility. It is organized by sub-service line including analytics, data management, and support functions, e.g. training and education, talent management, and IP design and development.

DNA currently has a headcount of ~15k (as of September 2017), representing ~7.5% of Infosys' total headcount. It has ~500 clients. DNA's major clients include a U.S. CPG firm, and a large Australia based telecom service provider.

At a broad level, DNA has aligned its service portfolio around the organizational demand for:

- Modernizing data-related investment
- Monetizing data with the intention of creating new business models/complementing existing revenues.

In more detail, DNA is focusing on several key principles:

- Ensuring data quality across sources
- Operating at scale (through an industrialized approach), at high speed (through the implementation of new technologies), and focusing on real-time data
- Identifying business process blind spots
- Reducing cost, through the use of open source software and cloud hosting.

With these principles in mind, DNA is driving the creation of IP and accelerators in several areas:

- Analytics and big data
- Statistical model-based solutions
- AI: notably with its Nia for Data platform
- Adoption of open source software (OSS): DNA is using OSS in two main areas: big data (around the Apache Hadoop ecosystem), and AI tools (the Nia for Data AI platform is partly based on OSS and standalone AI OSS).

Finally, with big data & analytics and AI being pervasive, DNA is working with other Infosys units (consulting and BPS units) to cross-sell its capabilities and build new offerings.

DNA's value proposition is centered around addressing the main use cases of clients, e.g. helping B2C clients to gain customer knowledge and intimacy, save on their operational costs, and experiment with digital opportunities to find new revenue models.

DNA offers a wide set of big data & analytics services from data migration to big data, advanced analytics, and data visualization. Its service portfolio is structured around:

- Consulting and governance: services include strategy and target operating models, change management, simplification and modernization, architecture and engineering, data governance, and management
- New technologies: prescriptive modeling and optimization, analytics workbench, and ML
- Core technology services: with the intention of modernizing big data & analytics investment and achieving cost savings. This portfolio includes analytics, big data, and MDM.

At the core of DNA's services portfolio is Nia for Data, which is the new brand for Infosys' Information Platform (IIP).

Nia for Data is a big data platform based on open source software, with Apache Hadoop (Hortonworks distribution) at its core and its ecosystem (e.g. Spark). It provides:

- Data ingest and management, primarily due to:
  - Several data ingest accelerators and open source software applications, APIs, and interfaces for integration with SAP, SAP HANA, IBM DBS, and Oracle database
  - Ingest of external data, e.g. streaming data, web URLs, and file transfers
- Analytics and data visualization: end-user visualization tools such as Tableau Software.

Nia for Data has ~80 clients, of which ~45% are in the retail and manufacturing sectors, and ~20% in BFSI.

DNA has developed models and use cases under the Genome brand. The Genome series of statistical models and use cases are aligned by vertical, mostly around retail, life science, and manufacturing.

DNA highlights that several Genome models are PowerPoint based use cases and others are statistical/analytical models. DNA mentions that ~35 of the Genome models are semi-reusable algorithms.

Examples of semi-reusable models include:

- Call center analytics for call prediction
- Telecom: enquiry analysis. Based on the different enquiries, the model helps to identify which enquiries are likely to be converted into sales, and therefore helps salespeople focus on these.

Financials

NelsonHall estimates DNA's FY17 revenues to be ~$1,270m.

DNA's revenues do not include the big data & analytics-related revenues of other units such as Infosys Consulting and Enterprise Solutions.

Strengths

- Scale
- Has a big data platform, now branded Nia for Data
- Breadth of its service portfolio and of its IP and accelerators, with its strategy including the development of technological accelerators, pre-set dashboards, statistical algorithms, and vertical use cases.

Challenges

- Limited onshore and nearshore presence in its delivery network. Infosys points out that at the corporate level it has created delivery centers (the majority being client-dedicated), with strengths in China (~4.5k personnel), Poland (~2.0k), and Mexico (~1.0k). Infosys is also, at the corporate level, planning to hire an additional 10k positions in the U.S. within two years, from May 2017. It is unclear to what extent this delivery presence outside of India is related to Infosys' Data and Analytics practice
- NelsonHall has doubts about the validity of Infosys selling its IP and main accelerators as products. Many competitors with an onshore background provide these artifacts and IP as part of their services, with no fee involved.

Strategic Direction

DNA has structured its strategy around:

- Its service portfolio management, around its "modernize" and "monetize" value proposition
- Automation accelerators and IP based services offerings, e.g. HawkEye
- Acquisitions and investments (see Partnerships sub-section)
- HR, through the development of courses and hiring with top universities.

From a service portfolio perspective, in the next two years, DNA will invest and develop offerings around analytics, big data, and enterprise data cloud.

Analytics, along with RPA, AI, and a push towards software and services, is strategic at the corporate level for Infosys, and coordinated internally. An example of this internal coordination is Nia for Data, which was created by Infosys' platform unit, in coordination with DNA. Nia for Data is a platform and is therefore sold, rather than being provided as part of the service.

Another element of DNA's strategy is around open source, which has become the primary source for big data software tools and increasingly for algorithms. This is a change from previously, when EDW, BI, and advanced analytics were not built in open source but in COTS. Analytics, together with automation and AI, is strategic for Infosys.

Infosys is, therefore, driving the development of its analytics activities, not only within DNA but also across all service lines, e.g. Enterprise Solutions (e.g. SAP HANA), its product engineering services unit (e.g. IoT), its BPS unit, Infosys Consulting, its Edge branded software products, and the recently launched artificial intelligence platform, MANA.

As part of this trend, DNA has released the code for several developments (e.g. data level authorization on Spark Views and HDFS stables), complementing Apache Spark. These contributions to the open source community are technical in nature and point solutions. However, they aim to increase DNA's profile in big data, drive talent interest, and help in updating and maintaining DNA's tools. Infosys is also a sponsor of the Open Data Platform (related to Apache Hadoop).

Outlook

NelsonHall is expecting that Infosys will deliver on its two main priorities:

- AI, and in particular ML and algorithms
- Gradually transforming its vertical solutions to semi-packaged solutions, through its Genome suite of products.

Big Data & Analytics Services Market Summary

Buy-Side Dynamics

There are four buyer segments for big data & analytics services:

- *Efficiency-focused organizations*, accounting for 28% of all big data & analytics services spending
- *Operational improvement organizations* that want to improve their effectiveness, either from an IT standpoint or from a business perspective. They represent 35% of spending in 2017
- *Organizations seeking new business models* (17%)
- *Regulatory compliance-focused organizations* (20%).

By 2021, the share of efficiency focused organizations will have declined (to 24% of big data & analytics spending), as efficiency focused organizations look to reduce their spending annually, through managed analytics and BI contracts. Operational improvement organizations will represent 37% of all spending, as they invest to improve their operations.

Market Size & Growth

The big data & analytics services market is expected to grow by 8% over the 2016-2021 period, growing to $41.3bn. This is a solid growth level, corresponding to two to three times the growth of IT services spending.

Within big data & analytics services, spending is shifting: the share of spending related to mature offerings (database, EDW, and BI) represented in 2017 40% of software testing spending and will decrease to 25% by 2021.

Service spending in MDM, data quality and data preparation is solid and will grow by 9% over the 2017-2021 period. Big data services spending is growing at double digit, and so are data science, analytics, data visualization, and AI altogether. Looking ahead, growth in big data services will slow, as IT service vendor assemble their own reference architectures and vendors like AWS enrich their big data PaaS offerings. Growth in data science, data visualization will remain strong: client appetite for insights is only starting.

From a geography perspective, spending growth in North America will remain solid, in spite of the uncertainty brought by the Trump administration on the U.S. economy. In EMEA, we have assumed that:

- U.K.: macro-economic conditions resulting from Brexit would deteriorate for the next two to three years
- Western European countries are all back to growth, including the Netherlands.

Success Factors

Key vendor selection criteria for big data & analytics services, and hence the key success factors for addressing this market, are somewhat different by client segment:

- *Efficiency-focused organizations* required their vendor to provide an industrial service, with delivery in India, software tool consolidation, and process standardization at its heart
- *Operational improvement organizations* are looking to improve their IT and businesses. They expect their vendors to have:
  - Professional service skills, a big data platform, and technology accelerators (e.g. for migration projects from EDW and BI to big data/data lakes and data visualization tools)
  - Data scientists skills, repositories of reusable algorithms, domain knowledge, and growing understanding of how AI tools work and in which situations to use them
- *Organizations seeking new business models* want to explore digital business opportunities, through onsite workshops and in digital centers. These workshops require experts with different backgrounds: business consultants, business process consultants, UX designers, and data technology specialists. Delivery of MVPs is often done as part of digital centers, to favor interaction across teams
- *Regulatory compliance-focused clients* require from their vendors regulatory expertise, domain consulting capabilities, and a track record in regulatory compliance projects through client references, methodologies, and technology accelerators.

Outlook

Over the next few years, the main challenges for the big data & analytics service industry are:

- To structure offerings, based on their maturity level, between services that need to industrialized and those that are based on human interaction and require onshore presence
- To create libraries of algorithms and industry solutions that are reusable across clients, and to help the client shorten its implementation time, away from technology, to spend more time on business needs.

NEAT Methodology for Big Data & Analytics Services

NelsonHall's (vendor) Evaluation & Assessment Tool (NEAT) is a method by which strategic sourcing managers can evaluate outsourcing vendors and is part of NelsonHall's *Speed-to-Source* initiative. The NEAT tool sits at the front-end of the vendor screening process and consists of a two-axis model: assessing vendors against their 'ability to deliver immediate benefit' to buy-side organizations and their 'ability to meet client future requirements'. The latter axis is a pragmatic assessment of the vendor's ability to take clients on an innovation journey over the lifetime of their next contract.

The 'ability to deliver immediate benefit' assessment is based on the criteria shown in Exhibit 1, typically reflecting the current maturity of the vendor's offerings, delivery capability, benefits achievement on behalf of clients, and customer presence.

The 'ability to meet client future requirements' assessment is based on the criteria shown in Exhibit 2, and provides a measure of the extent to which the supplier is well-positioned to support the customer journey over the life of a contract. This includes criteria such as the level of partnership established with clients, the mechanisms in place to drive innovation, the level of investment in the service, and the financial stability of the vendor.

The vendors covered in NelsonHall NEAT projects are typically the leaders in their fields. However, within this context, the categorization of vendors within NelsonHall NEAT projects is as follows:

- **Leaders**: vendors that exhibit both a high ability relative to their peers to deliver immediate benefit and a high capability relative to their peers to meet client future requirements
- **High Achievers**: vendors that exhibit a high ability relative to their peers to deliver immediate benefit but have scope to enhance their ability to meet client future requirements
- **Innovators**: vendors that exhibit a high capability relative to their peers to meet client future requirements but have scope to enhance their ability to deliver immediate benefit
- **Major Players**: other significant vendors for this service type.

The scoring of the vendors is based on a combination of analyst assessment, principally around measurements of the ability to deliver immediate benefit; and feedback from interviewing of vendor clients, principally in support of measurements of levels of partnership and ability to meet future client requirements.

Exhibit 1

'Ability to deliver immediate benefit': Assessment criteria

Assessment Category	Assessment Criteria
Offerings	Consulting & workshop capability Implementation capability Analytics management capability Ability to create centralized BD&A factories/CoEs BD&A capabilities supporting reporting & dashboards BD&A capabilities for creating & improving horizontal use cases BD&A capabilities for creating & improving vertical use cases AI & cognitive analytics capability
Delivery	Consulting & workshops: U.S. onshore Consulting & workshops: U.K. onshore Consulting & workshops: Central Europe onshore Consulting & workshops: APAC onshore IT services: U.S. onshore IT services: U.K. onshore IT services: Central Europe onshore IT services: India offshore IT services: nearshore offshore IP & accelerators: BD&A technical accelerators IP & accelerators: BD&A platforms IP & accelerators: software products/use cases IP & accelerators: proprietary algorithms IP & accelerators: workbench IP & accelerators: training
Presence	Globally U.S. U.K. Central Europe RoW
Benefits Achieved	Level of cost savings Consolidation & standardization of BD&A services Increase in revenues Improved ability to enhance operations Improved pricing approach Increase in compliance

Exhibit 2

'Ability to meet client future requirements': Assessment criteria

Assessment Category	Assessment Criteria
Big Data & Analytics Services Investment	In BD&A overall
	In accelerators & platforms
	In centralized factories
	In digital transformation
	In horizontal & vertical use cases
	In AI & cognitive
Market Momentum	Big Data & Analytics market momentum
Ability to Deliver Improved Future Outcomes	Mechanisms in place to deliver client innovation
	Client perception of innovation delivery
	Suitability to meet future client needs
	Perceived ability to deliver future cost savings & productivity gains
	Perceived ability to support client's data-driven digital transformation
	Perceived ability to deliver internal & external visibility & insights
	Perceived ability to create new horizontal & vertical use cases
Financial Security	Financial rating

For more information on other NelsonHall NEAT evaluations, please contact the NelsonHall relationship manager listed below.

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Sales Enquiries

NelsonHall will be pleased to discuss how we can bring benefit to your organization. You can contact us via the following relationship manager:

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