Business Analytics and Data Science Services

OVERVIEW

Organizations that are deploying or have already deployed data warehousing and/or big data solutions such as Hadoop face a bigger challenge – they need to demonstrate the return on investment (ROI) as quickly as possible. Having set up the required infrastructure to land and handle all that valuable data is a significant effort, but unfortunately when it comes to generating immediate value, there is no obvious "EASY" button for big data. The challenge is really in establishing a process to turn "your big data" into "big insights" and "big business value". Companies need people who can put their hands into the data, manipulate it and find the valuable insights. This is the realm of data science.

Big data and advanced analytics are creating profound new opportunities for businesses. However researchers found that only 4% of companies are able to combine the right people, tools, data and organizational focus to take advantage of this trend. To realize the value of big data, organizations need strategic—and not merely technological—solutions. OnX's experience and analytical expertise helps ensure that businesses build the right capabilities to mine data for insights that can enable better decisions and create value.

BACKGROUND

Businesses in all industries are increasing the use of online and mobile digital services to engage with customers, sell and promote products, and support partners among other activities. The combination of multiple data sources results not only in increased data volume, but also increased data variety and velocity that businesses must learn to handle and utilize. In other words, deal with big data. The typical enterprise will need to analyze, correlate, and make business decisions based on this big data. This is where employing proven data science processes becomes essential in order to generate returns from the infrastructure investments.

Success in an increasingly competitive marketplace depends upon who has the best data strategy. Everyone has heard stories about tech companies that were "purpose-built" as data companies: Amazon, Google, Facebook. All three have one thing in common: they are all D3 companies, i.e., Data Driven Decision (D3) making enterprises. Many of the so-called "traditional" companies today are embracing D3.

> *The CEO of a global automotive company believes that they are poised to become a "transportation analytics" company going forward.*

> *John Deere is intentionally seeking to broaden and redefine its industry to become a "farming analytics" company in addition to its traditional product line. They beginning to connect not only farm machinery but irrigation systems and soil and nutrient sources with information on weather, crop prices, and commodity futures to optimize overall farm performance.*

Others may find themselves threatened by this development, which creates new competitors, new bases for competition, and the need for entirely new and broader capabilities. Companies that fail to adapt may find their traditional products becoming commoditized or may themselves be relegated to the role of OEM supplier, with system integrators in control.

Clearly the ability to apply big data processing capabilities to disparate data and develop predictive and prescriptive analytics, i.e. data science, is becoming vital to business today.

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USE CASES AND BENEFITS

The success of emerging business strategies depends on how well an organization can manage and implement state-of-the-art analytics, successfully automate, provision supporting infrastructure, optimize third-party services, respond to rapid changes in usage, and extract value from increasingly diverse data sources. Data science can help your organization to solve a variety of business problems which impact profitability – these can be either revenue focused or expenditure focused or both. Here are a few examples:

- Revenue focused
  - Customer segmentation and profiling
  - Forecast sales trends
  - Understand customer purchase habits
  - Developing rapid and data driven responses to RFQs
- Expenditure focused
  - Customer churn identification
  - Asset tracking and supply chain optimization
  - Correlating raw material costs to product POS data
  - Fraud detection

A Data Science Solution brings a wide range of benefits depending on what data is analyzed. From an ROI point of view, the benefits will help reduce business costs or help increase revenue or both. Such benefits may include:

- Identifying (and ranking) factors that drive up costs
- Identifying (and scoring) potential revenue generation opportunities
- Ability to anticipate customer needs and develop products or services to address them
- Identifying key drivers of successes and root causes of failures

Enterprise executive teams will need to invest in data science solutions while at the same time preparing to deploy big data infrastructure. The end game is to generate a positive ROI from big data investment and the sooner executives and IT staff begin to think data science, the faster this return will present itself.

ONX APPROACH

You know your business. We know data.

OnX offers a full range of assistance from strategy, architecture & design, and implementation services to ensure you achieve successful business outcomes and a positive return on your investment in data warehousing, big data and analytics.

OnX can assist you after your business analytics project is deployed with on-demand services to ensure your analytics environment and models keep running.

Data Strategy – You understand that there's opportunity in your business for product development, efficiency, or growth—but aren't sure what that means in terms of data. We'll work with both your business and technical stakeholders to create a data strategy that ties your technology efforts directly to your business goals.

Architecture & Design – You thoroughly understand your technical goals, and want the best path to achieving them—we'll work with you to plan and create a technical architecture that meets your current needs while providing a platform for future growth. The end result of these processes is an architectural plan designed to deliver value early.

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Agile Build – You're ready to build out an architecture, based on your roadmap, with our experienced teams of engineers and data scientists. Our agile methods ensure that we are accountable and responsive, working together with you to achieve your goals and minimize risk.

Analytic Process Transformation – You're agile analytic environment is being built out, you understand that success depends on making your analytic and model development processes agile. Today, many business analytic teams are challenged with the end to end modeling life cycle including work intake and prioritization, build, validation, deployment, and retirement management. We can help you to build a holistic understanding of your analytic processes, provide insights for improvement as well as help you implement those changes. Additionally, we can build a model catalog which will provide you an understanding of exactly where each model is in its life cycle, how old the model is, who developed the model, and who is using the model for what application.

DATA STRATEGY

Data Strategy is a process that starts with your strategic business objectives and views them together with an analysis of your workflows, data requirements, and technical capabilities. The result is a custom development roadmap for your organization, focused on achieving near-term business benefits and creating a platform for future innovation.

Key Activities:

- Identify business goals and current capabilities
- Determine future data and capability requirements
    - Ideation – Facilitative sessions to help uncover business opportunities for applying business analytics to drive revenue, new products / services, and cost savings
    - Business Case Development
- Deliver a prioritized effort roadmap to achieve value early
- Align business and technology stakeholders around technology investment

Deliverables:

- Data Strategy Report – Strategic recommendations based on your business goals, organizational structure, and technical capabilities
- Prioritized Roadmap – Starting from your current capabilities, the roadmap lists the projects, resources and workloads that will drive results. Prioritization is the result of rationalizing the top-down objectives against bottom-up data collection, analysis and scientific projects. Roadmap elements are typically a mix of data science, data engineering and organizational deliverables.
- Identify a training plan that aligns with resources needs and cost constraints
- Results Presentation – We'll lead your executive and technical stakeholders through the results, with the benefit of aligning everyone with the data strategy, roadmap and timeline.

At the end of the project, many clients continue working with us to execute against the roadmap.

ARCHITECTURE AND DESIGN

Data architecture is a business-critical activity, because of the modern importance of data to remaining competitive. Our extensive experience with tools and implementation allows us to create technical architecture plans that deliver both near-term value and a platform for continuing development.

We work closely with your business and technical teams to plan a platform for your data, interfaces, and applications, while expanding your capabilities to support new products, services, and key business objectives. Plus, we're vendor-agnostic, meaning we always make the right choices for your needs.

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Key Activities:

- Proof of Value – fast paced delivery and testing of ideas to help prove their business value prior to making large investments
- Identify required and future technical capabilities
  - Business analytics assessment – perform assessment of tooling, skills, organization, process and data
  - Technology assessment - evaluating existing and planned systems environment
- Identify fit with architecture ensuring technology and business strategies are complimentary
- Deliver a plan for a technical architecture
- Makes appropriate tool and technology selections

Deliverables:

- Documented proof of value and comparison of analytic outcomes to expectations
- A technical plan that makes technology and implementation recommendations, including:
  - Acquisition and ingestion of multiple types of data
  - A reliable and scalable storage and management platform
  - Support for analytical tools used by business professionals
  - Interfaces to current applications and data
  - Conformance with IT governance policies and practices

Architecture and Design investments pay for themselves, providing reliability, scalability, and agility. At the end of the Architecture and Design project, many clients continue working with us to implement the resulting plan through our Agile Build services.

AGILE BUILD

Every company is unique, and creating a genuine market advantage requires both skill and flexibility. We deploy holistic teams of engineers and data scientists, highly skilled practitioners with experience at the forefront of data technology. Work with us on your data projects, and gain access to world-class talent that works closely with your business. Our agile methods ensure we're accountable, responsive, and focused on results.

The best way to drive data projects is to deploy skilled, multi-talented teams. You can't have good data science without good data, and you can't get good data without good engineering. Our team brings knowledge of R, Python, Hadoop and many other tools.

Data Science is an iterative process and the supporting analytic environment should be built in well-defined steps, each delivering incremental business value.

Key Activities:

- We bring engineering and data science talent to build your data projects.
- Cross-functional teams are focused and effective.
- The agile approach delivers results rapidly and responsively.

Deliverables:

- Analytic environment build
- Analytic application build
  - Model burn-in and optimization
  - Model performance tuning
- Operationalize analytic application for production execution and maintenance
- Complete build and operational runbook documents
- User documentation
- Knowledge transfer on activities performed
  - Analytic environment architecture and installation
  - Analytic application and application installation

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- Administration and operations of analytic environment and application
- Documentation review

Services:

OnX Services can assist you after your Business Analytics effort is complete with administration, performance tuning, integration, and much more. We can:

> Provide on-premise staffing or managed services to help you run the analytics environment
> Provide administration, developer and data science training to help you grow your internal skill sets

Work Examples:

> Ingestion of Internet of Everything (IoE) data and social data
> Data profiling to help customers understand their data
> Data quality services to help customer improve the value of their data
> Data Preparation to remove data integration complexity from the data science team's workflow
> Data dictionary / glossary to help customer's document and better leverage their data assets

In parallel to agile build, many of our customers also take the opportunity to improve their analytic business processes and become more agile through our Analytic Process Transformation services.

ANALYTIC PROCESS TRANSFORMATION

Your analytical assets which are mission critical to the business. Many companies often have more than 100 predictive model assets developed over time and face the important issue of how to effectively build, validate, deploy, manage, store, share or archive these assets. The next breakthrough in data analysis may not be in individual algorithms, but in the ability to rapidly build, combine, deploy, and maintain existing algorithms.

Key challenges being tackled by analytic teams include:

> Prioritizing the endless stream of ideas so maximize investments and resource utilization
> Building models using a 'Fail Fast' strategy
> The ability to version-control a model over time
> How to understand system, application and data dependencies on a model
> How to manage decay and determine when a model needs to be refreshed or replaced
> When and how to retire models and archive them
> Better management of the score repositories to ensure quality
> Propagating learning across the analytics team
> Ensuring management understands the value of advanced analytics
> Understanding where your models are in their lifecycle

Deliverables:

> Current state documented
> Process issues and change recommendations
> Model Catalog

RELATED SERVICES

> OnX HDP Administration Training
> Onx HDP Developer: Pig & Hive Training
> OnX HDP Data Science Training
> OnX Hadoop Appliance
> OnX Hadoop Development
> OnX Big Data Ideation & Use Case Development
> OnX Hadoop Quick Start
> OnX Hadoop Administration

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PROJECT MANAGEMENT

OnX includes project management leadership to manage the overall project team, create and maintain the project plan, communicate status on a recurring basis and facilitate escalations as needed. This helps to minimize risks and ensure timely and successful service delivery. The OnX project engagement activity consists of a four phase project lifecycle specifically tailored to deliver comprehensive, quality capabilities. OnX maintains a knowledgebase of "lessons learned" comprised of feedback from all service deliveries to help prevent unforeseen delays and other impact on the project. We also leverage world-class knowledge centers to ensure our past successes translate into a consistent process contributing to your project's success.

WHY ONX?

- OnX has experience working with large fortune 500 Service Provider and Financial Service companies deploying their 1000+ node Hadoop clusters
- OnX has a seasoned and knowledgeable engineering team that can help you successfully deploy your Hadoop cluster
- OnX can provide Staff Augmentation and Project Delivery services to assist you after your cluster is deployed
- OnX provides our customers world-class Industry, Architecture and Project Management expertise in designing and integrating enterprise solutions
- OnX has a proven track record of successfully delivering approximately 1,100 projects annually to our clients
    - OnX project management methodology is applied to all our projects
    - OnX has Project Managers on staff certified in ITIL, Agile and PMP
    - OnX can deliver projects using the approach which the customer or project warrants whether waterfall, agile, scrum
- OnX applies Industry, OEM, and OnX Best Practices and lessons learned to reduce project risk and improve outcomes
- OnX is a leader in ITSM and ITIL best practices with numerous practitioners certified
- OnX's maintains certifications across a broad selection of best-in-class technology which allow OnX to provide a unbiased view point across technology vendors
- OnX's relationship with market and technology leading vendors and their solutions allow us to maintain a high exposure to a wide varied of technology innovation across information, technology, process, organization, and enablement beyond our competitors

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