

Advancing the Analytics-Driven Organization

Course Summary

Description

This unique course directly addresses the cultural, environmental, team and resource issues that impact the overall analytic function in mid-sized and large organizations. This course is not academic or theoretical. Rather, it is designed and facilitated by seasoned strategic consultants who directly encounter the challenges of implementing analytics in today's organizations.

Advancing the Analytics-Driven Organization presents a strategic framework required to arrive at analytic results that are purposeful, measurable, understandable, actionable, residual and adopted by stakeholders. Those who attend this course will develop analytic leadership traits that are in high demand. Participants will enhance rare soft skills to significantly enrich their professional profile and stand out in the competitive analytics marketplace.

The ability to make effective and timely decisions driven by valuable information hidden within a rapidly increasing mass of data is critical to the success of modern organizations and managers. The proliferation of big data and IOT platforms, as well as the advancement of reporting and analytic software suites, has created a complex environment where managers across the organization must rely heavily upon their analysts, subject matter experts and IT staff for critical insight. The strategic actions of interpreting, adopting and acting upon this insight has proven to be a far greater challenge than the technical tasks of leveraging the technology, tools, and algorithms themselves.

The vast majority of organizations approach analytics in a tactical and disjointed fashion. They start with data, software and an overpopulated team of data scientists tasked with finding patterns in data. This is akin to isolating a large team of mechanics to optimize an engine. They huddle under the hood without regard to the nature of the track, rules of the race and what it takes to win. And in business, the product of data analysis is not the analysis, but the actions taken and the impact measured.

It is typically not the responsibility of data scientists and analytic practitioners to focus strategically. Yet, analytics will fall short of its potential without adequate context, clear problem definition, effective results translation, targeted reporting for leadership, actionable deployment, and ongoing process monitoring. At the same time, analytic practitioners are often misguided by leaders who lack a basic analytic awareness to effectively communicate their needs or fully understand the results. The gap between these roles leaves the manager to subjectively interpret results from analytical models that convey artificial accuracy metrics instead of objective, goal-driven solutions.

Organizations that continue to operate without a strategic framework, a common analytic platform and purpose, or a fully-formed collaborative team for analytics will fail to capitalize on expensive upstream investments in data acquisition, storage, structure, quality, and Big Data implementations. But even more impactful are the competitive gains left on the table by most organizations that remain untrained, nonstrategic, and analytically impaired.

There is truly no other training in the marketplace that presents a structured framework to specifically teach how to solve the complex analytic resource, environmental and cultural issues that exist in larger organizations. Learn how to synchronize all essential roles of the analytic team and bridge the critical translation gap between them that causes most projects to fall short of their potential.

Advancing the Analytics-Driven Organization

Course Summary (cont'd)

Advancing the Analytics-Driven Organization is the only known visionary course that lays out critical strategic considerations to effectively qualify analytic projects and lead implementation teams. These are truly the key issues that prevent most organizations from being effective and competitive in today's analytic landscape. Those who are truly intentional about leveraging analytics for measured gain and residual impact are perfect candidates for this course.

Objectives

After taking this course, students will be able to:

- Build critical analytic leadership traits required to establish a sustainable internal analytic practice
- Evaluate and address cultural, environmental and talent issues that frequently derail analytic deployments
- Unify project teams to establish a common strategy, implementation framework and monitoring process for greater coordination, efficiency, clarity and impact:
 - For leadership to better understand and trust what the analyst delivers
 - For analysts to obtain clear direction on analytic goals and delivery requirements
 - For integrators to qualify and prepare for deployment in advance of modeling
 - For subject matter experts to be leveraged for domain context and results translation without adding bias to otherwise objective models
- Make right-sized and properly-timed investments in analytic talent, software and supporting resources
- Identify analytic opportunities; then validate, organize and prioritize projects for lowest risk and highest gain
- Leave ad hoc and esoteric statistical exercises behind in lieu of targeted, insightful and understandable analytic outcomes that drive organizational decisioning with residual benefit
- Engage in guided peer discussion driven by actual case examples to experience realistic analytic project leadership and implementation issues
- Leave with the resources, contacts, and actionable plans to substantially increase targeted analytic outcomes while minimizing dead ends

Topics

- Core Concepts
- How to Think Like a Data Scientist
- The CAO'S Roadmap
- Building the Goal-Centered Analytics Operation

Audience

Advancing the Analytics-Driven Organization is intended for the following roles:

- Organizational Leadership – who desire a greater understanding of analytics' true capabilities, limitations, risks, rewards and high-level function from an unbiased, vendor-neutral perspective. Participants will learn to confidently set expectations, define goals, establish mindset and sell the vision.

Advancing the Analytics-Driven Organization

Course Summary (cont'd)

- Functional Managers – who are seeking clarity on how to assemble a fully-formed and right-sized analytic team. Participants will learn how to confidently oversee the implementation of a low-risk / high-impact analytic function that provides measurable data-driven decisioning.
- Data Scientists and Analytic Practitioners – who are motivated to enhance their tactical quantitative experience with a pragmatic strategic layer. Participants will learn how to align with organizational project goals and will broaden their capability and value on the analytic team.
- Experienced Statisticians – who wish to increase their value to the organization by applying their classical training to a more goal-driven mindset for prescriptive analytics.
- IT Specialists, Data Enrichment Vendors and Integrators – who wish to gain a better appreciation of the overall analytic process to more effectively prepare resources for data analysis and integrate resulting decision models within today's sophisticated data and deployment environments.
- Big Data and BI Team Members – who seek a strategic orientation to organizational analytics before drilling down into advanced analytics methods such as data mining, predictive modeling, machine learning, knowledge discovery and unstructured text analysis.

Prerequisites

While the density of material establishes an aggressive pace in the presentation of content, no preparation is required for this course. Content is presented in nontechnical terms. Exercises are conveyed through demonstrations and guided discussion.

Duration

Two days
18 PDUs

Advancing the Analytics-Driven Organization

Course Outline

I. Core Concepts

- A. Orientation to data science and organizational analytics
- B. Trends within the analytically competitive organization
- C. The advent of data science
 - 1. The Arena: From business unit-based to IT department-based
 - 2. The Professionals: From analyst to data scientist
 - 3. The Analyses: From descriptive analyses / business intelligence to predictive analyses / data mining / machine learning
- D. What is predictive analytics' role in Big Data?
 - 1. Big data needs advanced analytics ...but does analytics need big data?
 - 2. You will never have a perfect model
 - 3. Market perceptions of big data
- E. ROI of big data and associated analytics
 - 1. Retail use case
 - 2. Guerrilla marketing use case
 - 3. Medical or government use case
- F. The future of big data and advanced analytics

II. How to Think Like a Data Scientist

- A. Stats 101 in ten minutes
- B. A / B testing and experiments
- C. BI vs predictive analytics
- D. IT's role in predictive analytics
- E. Statistics and machine learning: complementary or competitive?
- F. Primary project types
 - 1. Predicting a value given specific conditions
 - 2. Identifying a category given specific conditions
 - 3. Predicting the next step in a sequence
 - 4. Identifying groups

G. Common analytic algorithms

- 1. Regression
- 2. Decision Trees
- 3. Neural Networks
- 4. Genetic Algorithms
- 5. Ensemble Modeling
- H. Popular tools to manage large-scale analytics complexity
 - 1. R and Python
 - 2. Hadoop, MapReduce and Spark
 - 3. Data Mining "workbenches"
- I. Performing a data reconnaissance
- J. Building the analytic sandbox
- K. Preparing train / test / validation data
- L. Defining data sufficiency and scope

III. The CAO's Roadmap

- A. The Modeling Practice Framework
- B. The elements of an organizational analytics assessment
- C. Project Definition: the blueprint for prescriptive analytics
- D. The critical combination: predictive insights & strategy
- E. Establishing a supportive culture for goal-driven analytics
- F. Defining performance metrics to evaluate the decision process
- G. What is the behavior that impacts performance?
- H. Do resources support stated objectives?
- I. Leverage what you already have
- J. Developing and approving the Modeling Plan
- K. Selecting the most strategic option
- L. Planning for deployment
 - 1. What will the operational environment be?
 - 2. Who or what is the end consumer?
 - 3. How do results need to be purposed or presented?
- M. Measuring finalist models against established benchmarks

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Course Outline (cont'd)

- N. Preparing a final Rollout Plan
- O. Monitoring model performance for residual benefit
- IV. Building the Goal-Centered Analytics Operation**
 - A. Attracting and hiring the right analytic talent
 - B. The roles and functions of the fully-formed analytic project team
 - C. Specialization in analytic project teams
 - D. Analytic opportunity identification, qualification and prioritization
 - E. Organizational resistance and developing a culture for change
 - F. Project failure is not the worst outcome
 - G. Staging the organizational mind shift to data-driven decisioning
 - H. Motivating adoption by domain experts, end users and leadership
 - I. Recording ongoing organizational changes
 - J. Monitoring and advancing organizational analytic performance
 - K. "Democratizing" analytics: Advantages and risks of "self-service"
 - 1. Tableau
 - 2. Watson Analytics
 - 3. Establishing performance dashboards
 - L. Standing up an agile analytic modeling factory
 - M. Knowledge retention and skill reinforcement