Building an Analytics Center of Excellence (CoE)

Optimal Pricing

Reduce Risk

Increase Efficiency

Fact-Based Decision-Making

Predict Trends

Create Actionable Insights

Boost Profits

Uncover Issues Early

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Overview

Building an analytics Centers of Excellence (CoEs) has become a necessity for leading organizations, government agencies and non-profit organizations seeking to differentiate themselves from the pack by transforming themselves to become an analytics driven organization. However, many find building a CoE is much easier said than done.

Without strategy, planning and preparation, companies are likely to find their CoE lacking sponsorship, momentum, is chronically underinvested, underfunded, underutilized, underwhelming and ultimately fails to deliver the intended business value.

In this paper, we outline some of the misconceptions about advanced analytics, and list some of the benefits of implementing an analytics CoE that you could use to build or rationalize your business case for forming a CoE. We also discuss the maturity curve that organizations should consider to establish a realistic goal for their CoE to achieve within a three-to-five year timeframe.

Also included in this paper is a framework that depicts the major components that should be considered when building a CoE infrastructure. We have also identified essential roles and skillsets that an analytics CoE should have access to, develop in-house or source externally to ensure that the CoE is set up for success.

Last, no different to building CoEs of other natures, building an effective CoE can deliver substantial benefits that outweigh the cost and investment required to build one, but it is not without its challenges. In the final section of this paper, we list the common pitfalls and challenges that companies face when building a CoE. Some of these challenges are not specific to building an analytics CoE but are common threads found in companies building any type of CoE. Others are specific to an analytics CoE. All of these challenges should be considered a risk to the program and mitigations and corrective actions should be developed to address each risk to ensure the success of the program. 75% of initiatives fail because these common challenges are underestimated and not adequately addressed.

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Myth about advanced analytics

- It's a bunch of reports
- Great insights sell themselves
- It's a new buzzword for what used to be called data warehouse and business intelligence
- It's a new catchphrase for combining a statistician's work with IT's
- Advanced analytics benefit every business equally – in reference to "Just pick any project to pilot"
- Everyone gets (big data/advanced) analytics, what it is and what it does. It's intuitive.
- Big data is only for large companies – "does not benefit small companies"
- Advanced analytics require large investments/Big data analytics are far too expensive
- We are already too far behind the big data analytics curve to be able to benefit from implementing it (now)
- Advanced analytics results/insights confirm what you already know
- All analytics platforms are the same
- Analytics only benefit certain areas like Sales, Marketing, Customer Experience, and Finance
- Analytics only impact revenue, growth, costs and consumer behavior decisions
- Need to have the perfect analytics infrastructure before we can realize benefits
- "Data lake is just a fancy buzzword for data warehouse"

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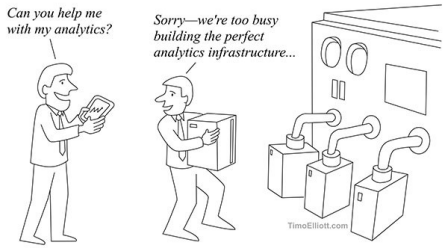
Here's what some Advanced Analytics Leaders have to say:

"Just giving reports with numbers doesn't help. We must provide information in a way that best suits our decision-makers"
- Director of HR analytics for entertainment company

"It is not a build (the analytics service) and they will come (situation). You have to go out, market and educate and show them what it can do"
- Analytics Executive

"The organization—with its constrained resources, backlog of projects, governance processes and controls, and focus on security and maintainability—can't always help or respond quickly enough. (CoEs) must have well-thought-out interaction processes so that they don't fall into this trap.".
- Mark Schwartz, Senior Executive, U.S. Citizenship and Immigration Services department



Benefits

What are the benefits of establishing an analytics CoE?

Benefits of COE

- Better Time to Market
- Cost Efficient & Effective
  (Standardized Approach, Tools & Technology)
- Yields Greater Cost Savings
  (than traditional quantitative analysis)
- Promotes Analytics-Driven Culture
- Repeatable Process
- Standards Foster Consistency
- Higher Success Rate
- Accelerates Adoption Company-Wide
- Easier to Scale
  Retain Knowledge Capital & Talent In-House

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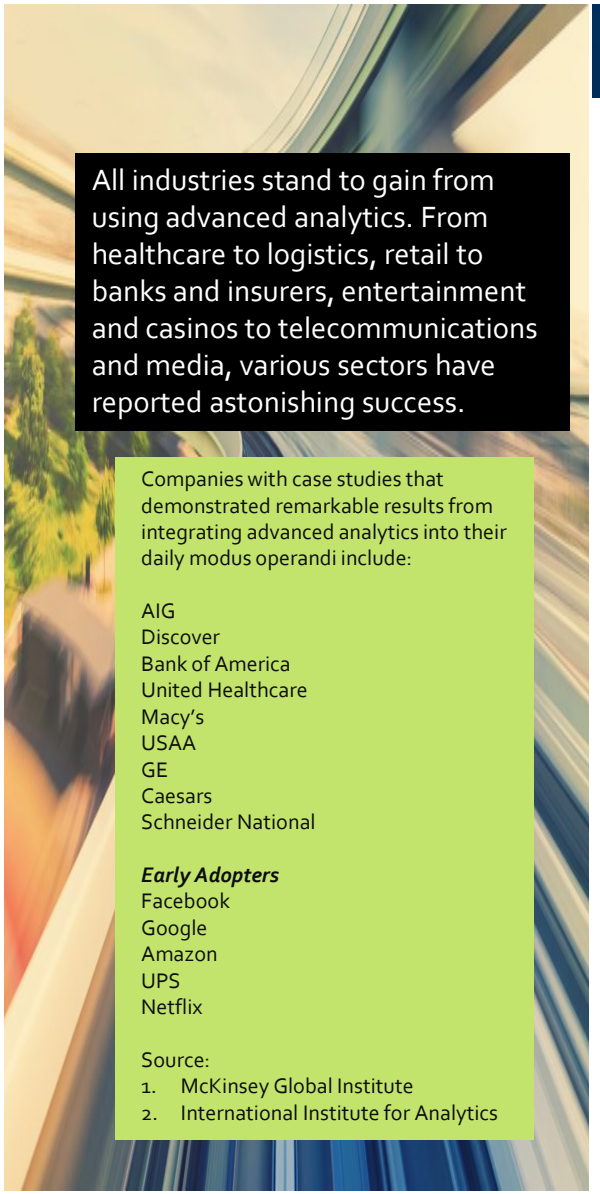

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All industries stand to gain from using advanced analytics. From healthcare to logistics, retail to banks and insurers, entertainment and casinos to telecommunications and media, various sectors have reported astonishing success.

Companies with case studies that demonstrated remarkable results from integrating advanced analytics into their daily modus operandi include:

AIG
Discover
Bank of America
United Healthcare
Macy's
USAA
GE
Caesars
Schneider National

Early Adopters
Facebook
Google
Amazon
UPS
Netflix

Source:
1. McKinsey Global Institute
2. International Institute for Analytics

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Maturity Model

Where are we on the analytics maturity curve and where do we want to be, and what can we realistically achieve in 3 to 5 years?

What is your (realistic) target maturity level in 3 to 5 years? Most companies embarking on the journey to form a *Center of Excellence* will benefit from conducting a current state assessment to determine if there are pockets of analytics practices that exist within the organization that may be leveraged. Companies should then determine a realistic target on the analytics maturity curve they plan to achieve in the future state within a 3 to 5 year time frame. By understanding your starting point, you will set a more realistic goal and develop a roadmap that will address the right gaps at the appropriate pace..

Level / Category	1 Basic - 56%	2 Developing - 30%	3 Defined 10%	4 Managed	4% ↔ 5 - Optimized (Analytics 3.0)
Degree of Intelligence	Mostly Ad-hoc Operational Reporting, Descriptive	Formalized Operational Reporting, Mostly Descriptive & Diagnostic	Advanced Reporting, Statistical Modelling & Predictive Analysis	Predictive Analysis & Modeling	Prescriptive Analytics integrated with AI and machine learning
Tools/ Technology	Manual, Excel	Manual, Excel, Batch Processing, Experimenting big data tools, Pockets of advanced uses	Early stages of adopting big data technology and tools corporate-wide	Integrated adoption of traditional and big data tools	Widespread adoption of appliances and early adopters of emerging technologies
Culture & Leadership	Reactive, C-Suite passive interest or marginal awareness	Mostly Reactive, Local or Business Unit leadership shows active interest	C-Suite shows interest and promotes proactive use at enterprise level by funding programs	Enterprise Data-Focused; strong demonstrations of advanced analytics culture and use in key decisions	Strong visible sponsorship, Institutionalized data-driven culture, advanced analytics used as a competitive advantage
Approach	"Back-room" analytics	Uncoordinated pockets and use of predictive analysis	Coordinated and contributes to some decision-making	Critical to Key Decision-Making	Integrated with Strategic Planning & Decision-Making
Talent	Few quantitative analysts, no talent visibility	Pockets of talent, uncoordinated, no visibility	Early stages of recruiting and retaining top talent in coordinated fashion	Strong talent bench strength with some development program	World-class, Formal and Strategic Development Program
Governance	None	Limited/isolated or uncoordinated	Standardized data definitions	Clear data management plans	Strong data management strategy
Architecture	No infrastructure	Siloed/uncoordinated attempts to define data patterns	Attempts to define enterprise standard for architectural patterns	Architecture mostly well-defined, data lakes	Architecture underpins strategy, addresses velocity, volume and variety

Explanation
Percentages on this page are indicative of the number of companies (per sample population polled) at a certain level of maturity with their advanced analytics use and infrastructure

Legend

4% ↔ The % of companies estimated to fall within Level 4 and 5

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Disclaimer: Percentages are not intended to be precise and are estimates based on the author's study and calibration of data sourced from various research studies and surveys conducted by numerous organizations.

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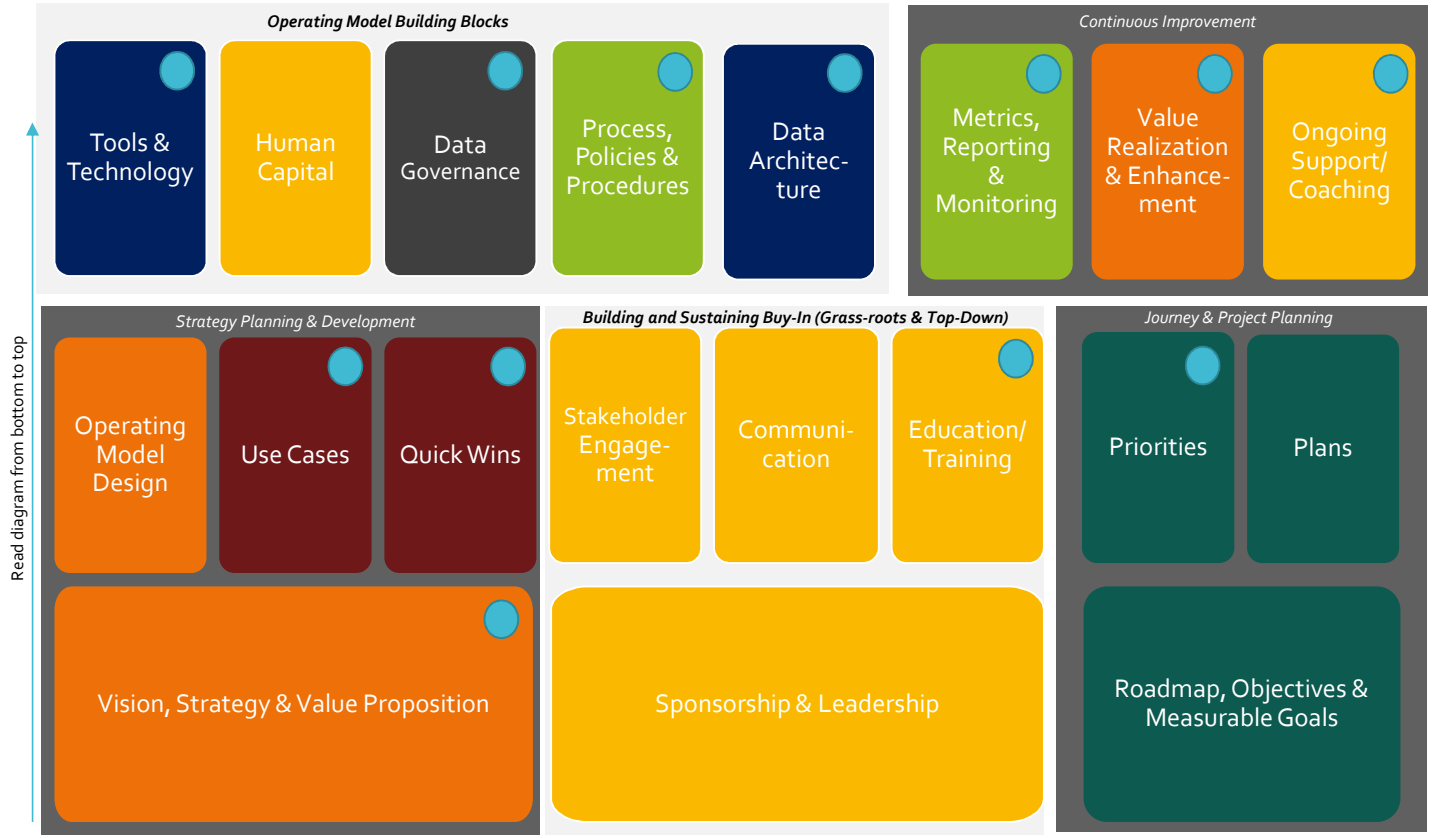
Framework

What are the critical components of building and sustaining an effective CoE?

An effective CoE can help a company move up the maturity curve at an accelerated rate provided all the components of a CoE are adequately addressed. For the CoE to function effectively and help the company address the maturity gap and realize the full benefits of its investment, several components must be addressed when building out the CoE infrastructure. These components are illustrated in the framework below.



Workstream: Strategy; People & Change; Program Management; Cross-Discipline; Technical & Technology; Governance; Process

Analytics, Industry and/or Functional SME Contribution Expected

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Essential Roles & Skills

What are the critical core and complementary skillsets a CoE must have to attain the objectives of the CoE ?

Irrespective of what level you are currently at and where you want to be in the future state - multi-disciplinary skills are required to adequately develop the maturity of a CoE and the need cannot be underestimated. Team compositions deployed to plan and execute an analytics project could vary but the essential skills that should be properly staffed in a CoE should include core and complementary domain expertise:

Complementary Domain Expertise - Assembling teams with adequate leadership and functional expertise from the following areas will substantially influence the outcome and success of CoEs and larger, complex or highly visible projects.

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Types of Services

What are the types of services an analytics CoE can provide to a company?

The types of services an analytics CoE could offer the company varies company to company depending on the company's culture, business objectives, strategy and the outcomes it expects the CoE to deliver for the investment the company makes in forming a CoE. The types of services a CoE provides also depends on its operating model and charter. The following illustrates two potential scenarios:

Scenario A: A Resource Center & Governance Body

The CoE is organized primarily as a resource center, intended to provide education/training, standards and serve as an oversight body to govern analytics projects. On a limited basis, it augments and supports analytics projects based on capacity.

Scenario B: A Service Provider

The CoE is organized primarily as a service provider to provide analytics consulting service, analytics project support, education, training, tools and standards to business units and support functions. It proactively works with business and functional leaders to evaluate, identify opportunities, prioritize and plans the yearly portfolio of analytics projects to execute and deliver targeted annual goals.

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Common Challenges

What are some common pitfalls that cause CoEs failure to deliver the intended business benefits or realize its objectives?

Strategy, Planning & Program Management

- Lack of clear mandate and measurable goals
- Inability to clearly convey or demonstrate business value and results
- Technology/IT ends up leading because of substantial technology involvement
- Lack of organizational incentives aligned to business strategy and COE
- Lack of linkage between business strategy and CoE charter
- Failure to identify the right opportunity or high value quick wins or Failure to celebrate and promote quick wins
- Viewed an initiative rather than part of the company's daily *modus operandi*
- Lack of integration between traditional tools/technology and quantitative analysis with *new operating model*
- Too long - from inception to execution
- Competing priorities, lack of focus

Change Management

- Lack of systematic and strategic approach to educating and engaging stakeholders at the right levels
- Lack of **visible** sponsorship
- Viewed a technology initiative
- Underestimated need for change management and change leadership to systematically build and sustain momentum
- Big data analysis reduces if not eliminates intuition - resulting in leaders/managers *passively* resisting analytics because it threatens their clout/influence

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Quality & Governance

- Lack of adequate governance and data management strategy

Talent:

- Highly skilled and costly talent (data scientists, visualization analysts, big data analysts) are underutilized and become mere "order takers" for business requests, defeating the purpose of a CoE
- Failure to recognize the need to develop in-house analytics talent (McKinsey estimates there will be a shortage of 140,000 to 190,000 data scientists by 2020)
- Inadequate size of expertise required
- Failure to understand the complexity of multi-skilled talent needs required to adequately develop maturity

Technology

- Rudimentary or inadequate IT infrastructure to support required technologies/tools
- Hodgepodge approach and lack of cohesive strategy to define/develop technical architecture to support implementation and integration of big-data tools/technologies/appliances

Human Capital

- Ill-defined organization structure; lack of adequate reporting structure and well-defined roles to facilitate, coordinate analytics projects, resolve issues and achieve benefits
- No single sponsor; too many chiefs
- Roles not integrated into HR plans and programs

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Achieve more with
less

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ah-ree-tay,
the Greek term for
"state of excellence
and goodness"

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About Arete Advisors
Areté (ah-ree-tay) is a boutique management and technology consultancy firm based in NJ serving Tri-State , major US cities and select international markets. We help companies address strategy, people, process, technology, analytics and risk management challenges to dramatically improve business agility, reduce risk, increase efficiency, cost savings, operational and customer service excellence. Our seasoned advisors provide expertise in building CoEs and advanced analytics capabilities, transformational and organizational change management, governance, process/continuous improvement, LEAN Six Sigma, program management and adopting next generation technologies (cloud, cybersecurity, IT infrastructure).

Our multi-disciplinary analytics team pods comprise of statisticians, decision modelers, data scientists, data analysts, business analysts, technical programmers, data architects, financial analysts and domain experts. We assist organizations in building their CoE infrastructure, shaping proof-of-concepts and executing high-value analytics projects.

Visit www.areteadvisorsltd.com/analytics

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