



IDC MaturityScape

IDC MaturityScape: Big Data and Analytics 2.0

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IDC MATURITYSCAPE FIGURE

FIGURE 1

IDC's MaturityScape Big Data and Analytics Stage Overview



Source: IDC, 2015

IDC OPINION

As the evidence mounts for the competitive edge demonstrated by organizations embracing data-driven decision making, big data and analytics (BDA) has become top agenda items for a growing number of executives. At the same time, hype about big data technology capabilities and inflated promises of outcomes abound. These ignore real challenges faced by organizations of all sizes. Managers in many organizations believe they have what it takes to harness the power of big data for improving data-driven decision making; yet they are missing the competency or maturity to address the range of technology, staffing, process, and data requirements involved. With the opportunity to unlock the value of big data to accelerate innovation, drive optimization, and improve compliance comes the need to demonstrate value, navigate expanding technology alternatives, re-create business processes, and ensure the availability of appropriately skilled staff. The ability to manage and analyze big data and derive value from these activities, as well as to measure and improve them, will increasingly define an organization's ability to compete or service its constituents. IDC's Big Data and Analytics MaturityScape is a framework of stages, dimensions, outcomes, and actions required for organizations to effectively advance along the successive stages of BDA competency and maturity. IDC's Big Data and Analytics MaturityScape is an important tool that enables organizations to:

- Assess their BDA competency and maturity
- Enable a dialog among business and technology executives about goals and actions relative to BDA initiatives
- Use the baseline to define short- and long-term goals and plan for improvements across all the dimensions of BDA capabilities

IN THIS STUDY

This study describes IDC's Big Data and Analytics MaturityScape. It identifies the stages, dimensions, outcomes, and actions that organizations should consider to effectively develop BDA competency. This study updates the BDA maturity model presented in *IDC MaturityScape: Big Data and Analytics – A Guide to Unlocking Information Assets* (IDC #239771, March 2013).

IDC's BDA MaturityScape will enable an organization to assess its BDA competency and maturity; prioritize BDA technology, staffing, and other related investment decisions; uncover maturity gaps among business units and between business and IT groups – all in the quest to data-driven decision making and to derive desired outcomes based on organizational goals.

Organizations will use IDC's BDA MaturityScape to maximize returns on investment (ROIs) in big data, data warehousing, business intelligence, advanced analytics, and related technology, people, and processes. In addition, organizations will be able to use this IDC MaturityScape as a tool to encourage and improve intra- and intergroup collaboration in defining and executing the BDA strategy and in promoting and encouraging the use of BDA solutions.

This study will be followed by IDC's Big Data and Analytics Maturity Benchmark research that will provide quantified assessment of the current state of the market based on end-user survey data.

SITUATION OVERVIEW

IDC's Big Data and Analytics MaturityScope includes five stages. Each stage's description and expected business outcomes are described in the sections that follow. Note that each stage builds on the capabilities of the one before it.

Stages of IDC's Big Data and Analytics MaturityScope

Ad Hoc

Description

Organizations at the ad hoc stage often launch BDA projects to address a single business question in an environment lacking BDA strategy and management interest or support. These are usually unbudgeted proof-of-concept or pilot projects based on individual or small workgroup efforts. Often the business case for the BDA project is undefined and the goal is to experiment with technology. Value lies in narrow knowledge about the organization in pockets of BDA pilots with limited effect on business outcomes. The data for such BDA projects is sourced from easily accessible internal repositories that present an incomplete view into the subject matter and require substantial manual effort to transform into a usable format for analysis or end-user consumption (e.g., large volumes of structured data hitherto analyzed at various levels of aggregation or unstructured data maintained but not analyzed). At the ad hoc stage, organizations rely on existing technology or experiment with open source or cloud technologies that have low initial costs. In most cases, the technology maintenance and tuning requires substantial manual effort to achieve desired system performance. The technology lacks specialized functionality to address specific end-user requirements and is adopted by few individuals. There are an insufficient number of employees with only partial BDA skills scattered throughout the organization. BDA processes are focused primarily on creating information repositories with access only to siloed information therein, without support for such decision-making functionality as predictive analytics or scenario evaluation. IT and business pursue their own discrete projects with a lack of collaboration.

Business Outcome

The primary BDA goal of organizations at the ad hoc stage is to provide decision makers with access to information. This can involve the use of query, reporting, dashboard, and search software to simply expose a defined data set to end users.

Opportunistic

Description

Organizations at the opportunistic stage take the lessons learned from BDA pilot projects and apply them to newly identified requirements from business groups with project-specific budgets. Business value opportunities come into a department-level management view. Project management and resource allocation are inefficient because BDA strategies exist only at the departmental level. Although localized midlevel management support exists for specific BDA projects, there is no enterprise support for measurement tools or methods to gauge outcomes and effectiveness. BDA projects are based on data from multiple sources and can include combinations of structured, semistructured, and unstructured data. These data, however, lack timeliness and veracity. The data is available to a limited number of users, and BDA solution adoption is localized. New technology is acquired and deployed for a specific project. These technology components are fit for purpose but are not integrated. A team with some of the necessary technology, analytics, and management skills

exists, but there is a lack of intra-organizational coordination. The data analysis process is overemphasized at the expense of data tracking, preparation, and decision support processes. IT and business begin to collaborate on defining requirements and funding projects.

Business Outcome

The primary BDA goal of organizations at the opportunistic stage is data analysis. It will typically lack support from appropriate data preparation and management technology and will be based on incomplete historical data. The analysis typically involves the use of multidimensional analysis, query, reporting, and content analytics tools.

Repeatable

Description

Organizations at the repeatable stage are involved in recurring, budgeted, and funded BDA projects with business-unit-level stakeholder buy-in. These BDA projects are undertaken within a documented business-unit-level BDA strategy that includes project management. There is line-of-business support for BDA projects, but the cost-benefit analysis is performed in an ad hoc fashion, without common measurement tools or methods. Business value realized remains localized because of the lack of coordinated use of BDA capabilities. Data collection, monitoring, and integration processes are in place, but consistent data governance and security practices have not been established. Multiple fit-for-purpose technologies have been deployed and are integrated, but their adoption is selective. Technology and analytics skills acquisition, training, and management are governed by the stated business-unit-level BDA strategy. Internal staff, which is primarily decentralized, is augmented with external service providers. The goal is to enable cross-functional collaboration between IT and business and among different business groups. BDA processes are extended to handle multistructured data. First attempts to monitor and document decision processes and decision outcomes emerge.

Business Outcome

The primary BDA goal of organizations at the repeatable stage is to provide comprehensive insights based on data from multiple internal and external structured, semistructured, and unstructured sources. The analysis can involve the use of multidimensional analysis, query, reporting, content analytics, and predictive analytics tools and the underlying information management technology.

Managed

Description

Organizations at the managed stage experience the emergence of BDA program standards. These organizations have developed a cross-business-unit-level BDA strategy, and there is an enterprisewide budget with upper management support. Support grows as BDA is seen as enabling new product and service opportunities. Enterprisewide performance measurement tools and methods guide investment decisions. These include metrics to manage data quality, timeliness, and veracity, which govern data collection, monitoring, and management processes. A wide range of fit-for-purpose technologies have been deployed and broadly adopted. Relevant technology performance is monitored and tuned as needed. Executive management support exists for a centralized BDA technology group, but analytics skills are mostly decentralized. Metrics for evaluating BDA project and program success have been established. The BDA leadership team is responsible for process coordination. Collaboration, workflow, and rules management technologies augment core information management and analysis technology.

Business Outcome

The primary BDA goal of organizations at the managed stage is to provide actionable insight to a range of decision makers within the organization. BDA capabilities are utilized to answer what happened and why it did.

Optimized

Description

Organizations at the optimized stage ensure continuous and coordinated BDA process improvement and value realization. They have an enterprisewide, documented, and accepted BDA strategy; executive support; and budgeted as well as ad hoc funding (to address unforeseen opportunities). There are widely accepted tools and processes for business case development and ROI measurement. Trusted and comprehensive information – based on data sets combining internal and external structured, semistructured, and unstructured alphanumeric, image, audio, and video content – is delivered on time. A wide range of fit-for-purpose technologies have been deployed and pervasively adopted. Software and hardware have been optimized, and a high level of automation exists in systems management for existing workloads and for dynamic scalability. All the necessary internal and/or external human resources are in place with expertise in data collection, monitoring, management, analysis, and dissemination. Management actively encourages and promotes the use of the BDA solution, some of which is embedded in operational processes and applications. A centralized group exists with primary responsibility for BDA and for coordination of work among additional decentralized resources and external vendors. BDA processes are categorized into performance management, operational intelligence, and exploration and discovery, with appropriate support, staffing, technology, and funding for each. Decision management techniques (e.g., collaboration, rules and policy management, and knowledge retention) supplement business analytics technology, enabling continuous process improvement and integration of analytics into business processes.

Business Outcome

The primary BDA goal of organizations at the optimized stage is to provide foresight to decision makers throughout the enterprise and to relevant external stakeholders. Analytics continue to be deployed operationally through business processes, resulting in predictive capabilities to capitalize on new opportunities and to mitigate risk.

Dimensions of IDC's Big Data and Analytics MaturityScape

At each stage of IDC's Big Data and Analytics MaturityScape, organizations should consider five dimensions, each of which contributes to the ability to advance toward higher levels of BDA competency and maturity.

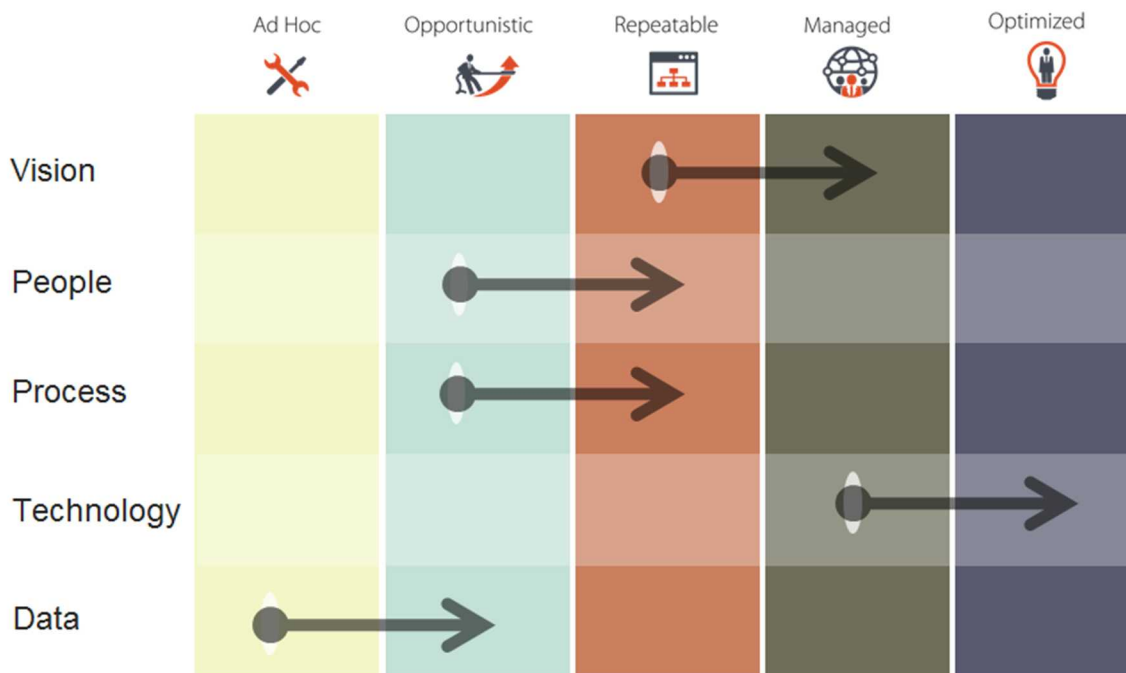
Successful deployment and use of BDA solutions depends on a multipronged approach guided by a strategy that accounts for not just technology but also human and capital resources, business and IT processes, and the data. These dimensions are vision, technology, data, people, and process (see Figure 2):

- **Vision** includes attributes such as strategy, capital and operational budgets, performance metrics, sponsorship, and project and program justification.
- **Technology** includes attributes such as the appropriateness, integration, support for standards, and performance of technology and IT architecture to all the relevant BDA workloads.

- **Data** includes attributes such as the quality, relevance, availability, reliability, governance, security, and accessibility of multistructured data.
- **People** includes attributes such as technology deployment and management, data analysis, analytic application, report, dashboard development skills, and intra- and intergroup collaboration, as well as organizational structure, leadership, training, and cultural readiness.
- **Process** includes attributes such as the processes of data collection, consolidation, integration, analysis, information dissemination and consumption, and decision making.

FIGURE 2

The Habits of Leaders



Source: IDC, 2015

Table 1 presents five dimensions of IDC's Big Data and Analytics MaturityScope that can be assessed against the maturity stages.

TABLE 1

IDC MaturityScope: Big Data and Analytics – Overview of Dimensions by Stage

Dimension/ Sub-dimension	Ad Hoc	Opportunistic	Repeatable	Managed	Optimized
Vision					
Strategy	No strategy	Department level	Business unit level	Across multiple business units	Enterprisewide
Budgeting	Localized, ad hoc funding secured for each new project	Decentralized budgets based on department's plans	A mix of business unit-level and localized budgets; no ad hoc funding	A mix of centralized and localized periodic budgets supplemented by ad hoc funding	Centralized and localized budgets governed by enterprisewide policies
Justification	No formal investment justification required	Investment requires defined business problem	Investment requires defined business problem and expected cost savings	Investment requires defined business case, expected cost savings, and benefits at the project level	Investments made only based on standard enterprisewide guidelines and processes that include specific business case, cost-benefit analysis, and cost method(s)
Culture	Lack of management interest and support; decision makers mostly rely on experience	Experimentation and innovation with new data, technology, and analytics occasionally encouraged	Management emphasizes a data-driven culture, but doesn't always provide the needed resources	Executive leadership strongly emphasizes a data-driven culture and assessment methods	Executive leadership strongly emphasizes a data-driven culture and mandates and incentivizes the use of data, analytics, and technology
Data					
Quality	No consistent data quality practices; quality managed within specific projects and individual groups	Basic data quality practices exist in department-level siloes	Data quality processes defined and documented for individual business units	Data quality governed by centralized processes, metrics, and methods	Data quality addressed enterprisewide, with ongoing monitoring, correction, measurement, and proactive issue prevention

TABLE 1

IDC MaturityScope: Big Data and Analytics – Overview of Dimensions by Stage

Dimension/ Sub-dimension	Ad Hoc	Opportunistic	Repeatable	Managed	Optimized
Completeness	Data from one or a few limited types of internal systems	Data from most internal systems and some external sources of limited types	Data from most internal systems and most relevant external sources of different types	Data from all relevant internal and most external sources of different types	All relevant internal and external data, at necessary strategic granularity
Trust	Data definitions and lineage known to a select few users	Data definitions and lineage are known within a group or for a specific project	Data definitions and lineage for multiple projects are documented	Data definitions and lineage are documented and governed	Data definitions and lineage are known, documented, governed, and well understood
Timeliness	Data rarely available on time for relevant uses	Data collected at fixed intervals and available at fixed intervals	Data collected at fixed intervals and available on demand or within relevant workflows	Continuously processed data available at fixed intervals	Continuously processed data available on demand and for relevant workflows throughout the enterprise
Technology					
Deployment	Ad hoc deployment of siloed technologies; no defined architecture	Deployments based on a rigid architecture	Deployments based on an architecture that is reviewed and modified on occasions	Deployments based on an architecture governed by a central architecture board	Deployments based on flexible, centrally governed architecture that adapts to ongoing user needs
Adoption	Low adoption of a few technologies by a few user groups	Limited adoption of some of the relevant technology by some user groups	Moderate adoption of most relevant technologies by several user groups	Broad adoption of relevant technology by most user groups	Enterprisewide acceptance and pervasive adoption of relevant technologies by all user groups
Performance	Poor performance, no monitoring and management processes and skills	Moderate performance requiring manual management; no monitoring capability	Satisfactory performance with some monitoring and management processes, skills, and tools	Optimized performance that requires substantial manual effort for processes and tools	High level of automation in systems management resulting in optimized performance and dynamic scalability
Functionality	Limited data mgmt. and analysis functionality for a specific use case	Some data mgmt. and analysis functionality for several use cases	Most data mgmt. and analysis functionality for many use cases	A broad range of data mgmt. and analysis functionality addresses most use cases	A proactively updated, comprehensive range of governed data mgmt. and analysis functionality addresses all use cases

TABLE 1

IDC MaturityScope: Big Data and Analytics – Overview of Dimensions by Stage

Dimension/ Sub-dimension	Ad Hoc	Opportunistic	Repeatable	Managed	Optimized
People					
Skills	A few specialized skills exist in the organization	Some skills exist internally; external staff occasionally augments needs	A range of skills exist in the organization and can be leveraged within business units	Enterprise's skill set is periodically reviewed centrally and enhanced or augmented as needed	Enterprisewide skill set fed by continuous processes and recruiting to maintain broad internal and external skills inventory
Organization	Location of staff with needed skills is unknown	Skilled staff reside within one group or area of the organization	Staff are distributed among IT, LoB, and analytics groups	Staff are distributed among IT, LoB, and analytics groups and their performance is measured	Staff are distributed among IT, LoB, and analytics groups based on strategic requirements and staff members' core competencies
Collaboration	Project-based collaboration on as-needed basis	Collaboration is encouraged but technology and processes to do so are lacking	Collaboration technology enable sharing of data, metrics, and best practices among internal groups, but is not widely used	Collaboration technology and processes enable sharing of relevant data, metrics and best practices among internal groups; process of collaboration is reviewed periodically	Enterprisewide collaboration universally accepted and enforced by governed processes and tools for data, metrics, analytics, and best practices
Training	No formal training on technology, data, or analytics	Training provided on specific technology as needed for specific projects	Training on technology, data, and analytics provided at regular intervals	Training needs and outcomes on data, technology, and analytics are provided and assessed periodically	Training on data, technology, and analytics incorporates world-class best practices across internal groups and external sources
Process					
Data management	Rigid undefined processes with unpredictable outcomes	Rigid processes defined within a group or project	Agile processes are well defined, standardized, and accepted	Agile processes are defined, measured, and managed based mostly on IT metrics	Agile processes are continuously improved by quantitative feedback based on IT and business metrics

TABLE 1

IDC MaturityScope: Big Data and Analytics – Overview of Dimensions by Stage

Dimension/ Sub-dimension	Ad Hoc	Opportunistic	Repeatable	Managed	Optimized
Data analysis	A few analytic methods and techniques used on experimental basis	A narrow set of analytic methods and techniques used; not all are defined and managed	A broad range of analytic methods and techniques are defined, used, and standardized	Broad range of analytic methods and techniques are defined, used, standardized, and measured	Comprehensive range of analytic methods and techniques are used, monitored, and measured; metrics-driven results drive continuous improvement
Governance	No formal governance processes exist	Governance group(s) and associated policies exist for a single domain such as data or technology or security	Governance group(s) and associated policies exist for multiple domains such as data or technology or security, but not for all of the domains	Governance group(s) and associated policies exist for most domains such as data, technology, and security, but their guidance is not necessarily followed by the organization	Governance group(s) and associated policies exist for all domains such as data, technology, and security, and they guide the organization
Measurement	KPIs are not defined	Measurements are unclear or qualitative	KPIs measure success of a technology initiative, but not impact on the organization	Metrics for evaluating process quality, results of analysis, and business outcomes success have been established	Ongoing assessment, revision, and learning built into decision making across the organization, and business benefits can be quantitatively tied to initiatives

Source: IDC, 2015

ESSENTIAL GUIDANCE

To maximize the value of IDC's Big Data and Analytics MaturityScape and to progress along the maturity stages, IDC provides the following guidance:

- **Now:** Assess the business and IT BDA "as is" situation. Identify opportunities to use existing data, technology, and analytics in new ways. As well, explore opportunities to use new low-cost public cloud and open source options as they emerge. Identify relevant technology and analytics skills among existing staff, peers, and vendors. Experiment with proof-of-concept and prototype projects.
- **In the next one to two years (next budget cycle):** Use early quantifiable wins to demonstrate potential and justify budget allocations. Evaluate existing technology and its shortcomings. Assess skill gaps and plan to hire and/or externally source professional services. Identify business sponsors and champions that will support and promote BDA projects. Expand projects and begin to define architectural standards. Merge big data into security and governance policies. Incorporate new data sources. Budget for workload-specific technology.
- **In the next three to five years:** Ensure that both performance management and experimentation and discovery use cases are supported with appropriate technology, staff, data, processes, and funding. Engage in business process reengineering in response to new insights from BDA solutions. Assess progress and adjust internal investment priorities to match evolving requirements. Ensure balanced resource allocation across all dimensions of the solutions. Maintain a closed-loop learning environment based on data-driven decision making and expert judgment.

Table 2 provides a more detailed set of steps for progressing from stage to stage, in each of the five dimensions of IDC's Big Data and Analytics MaturityScape.

TABLE 2

IDC MaturityScope: Big Data and Analytics – Progressing Through the Stages

Stage	Guidance
<p>Ad hoc</p> <p>Outcome: Proof-of-concept or pilot projects. Value through new knowledge and learning.</p>	<ul style="list-style-type: none"> ▪ Launch a proof-of-concept or pilot project using existing resources. ▪ Use existing data with the recognition that it may be incomplete and may lack the necessary quality, which will require substantial manual data preparation effort. ▪ Expect significant manual effort to tune the system to reach desired performance. Lack of all the necessary functionality will require workaround and scope control to achieve desired project outcome. ▪ Do not spend significant time and effort to try to gain executive support before establishing initial project proof points. Look for support from colleagues with specialized BDA skills. ▪ Focus on information access projects within a specific business domain.
<p>Opportunistic</p> <p>Outcome: Cross-functional deployment. Knowledge value grows, business value opportunities become visible.</p>	<ul style="list-style-type: none"> ▪ Establish a department-level BDA strategy. Although disconnected from the rest of the organization, it will guide the next round of project investments. Budget for localized projects that have midmanagement support. ▪ Begin to integrate data from multiple sources to move toward high levels of trust in the information coming from the BDA system. ▪ Deploy new technology (on-premise or in the cloud) that enables more timely access to information because of system performance improvements. ▪ Establish a BDA team with skills in existing and newly deployed technologies and that coordinates work with colleagues in business. ▪ Allow data scientists to experiment to uncover new insights.
<p>Repeatable</p> <p>Outcome: Persistent use. Business value is realized but remains localized to business units.</p>	<ul style="list-style-type: none"> ▪ Develop cross-departmental business-unit-level BDA strategies. Budget for business unit needs. Perform a localized cost-benefit analysis for BDA projects. ▪ Continue to expand the availability of and to integrate internal multistructured data sources. Be aware that data governance policies and procedures will be difficult to implement at a single business unit level. ▪ Expand the availability of fit-for-purpose technology with the understanding that initial adoption will be selective. Minimize shelfware or unutilized subscription licenses via staged rollouts. ▪ Assign, train, and hire staff based on the BDA strategy. Augment existing skills with specialized external service providers. ▪ Begin to monitor and document decision processes and decision outcomes. Ensure the BDA team has representatives from all stakeholder groups to facilitate collaboration.

TABLE 2

IDC MaturityScape: Big Data and Analytics – Progressing Through the Stages

Stage	Guidance
<p>Managed</p> <p>Outcome: Predictable outcomes. New product and service opportunities transition to business plans. IT efficiency is demonstrated.</p>	<ul style="list-style-type: none"> ▪ Assign an executive-level leader to coordinate the development of a cross-business-unit BDA strategy. ▪ Establish metrics and methodology for data governance and metrics by which BDA processes, staff, and outcomes are measured. ▪ Deploy fit-for-purpose and workload-optimized technology. Incorporate predictive analytics into technology performance monitoring and management processes. ▪ Enable broad technology adoption by ensuring that an appropriate technology pricing structure is negotiated with IT vendors. ▪ Establish executive support and develop plans for a centralized BDA team. Provide support for decentralized analytics staff within business groups.
<p>Optimized</p> <p>Outcome: Continuous learning and improvement. Previously unattainable business value is continuously produced.</p>	<ul style="list-style-type: none"> ▪ Develop an enterprisewide BDA strategy that is championed by a C-level executive. Budget for BDA projects. Make available tools and methodology for business case development and performance and outcomes measurement. ▪ Make available information about all the data sources for users with the appropriate security rights. ▪ Maximize use of the workload-optimized system, automated system performance management, and dynamic scalability features of BDA technology. ▪ Regularly provide training to all the BDA technology, analytics, and business staff. Maximize BDA staff centralization for functions such as data integration, systems management, and report and dashboard development. ▪ Ensure that both performance management and experimentation and discovery processes are supported with appropriate staffing, technology, and funding. Employ decision management techniques to enable continuous process improvement and integration of analytics into business processes.

Source: IDC, 2015

LEARN MORE

Related Research

- *Worldwide Query, Reporting, and Analysis 2015-2019 Forecast* (forthcoming)
- *Worldwide Advanced and Predictive Analytics 2015-2019 Forecast* (forthcoming)
- *Worldwide Data Integration Software 2014 Vendor Shares* (forthcoming)
- *Worldwide Data Integration Software 2015-2019 Forecast* (forthcoming)
- *Worldwide Content Analytics and Cognitive Systems Software 2015-2019 Forecast* (forthcoming)
- *Worldwide Relational Database Management Software 2015-2019 Forecast* (forthcoming)

- *Worldwide Query, Reporting, and Analysis Software Market Shares, 2014: Visual Discovery Vendors Make Gains* (IDC #256811, June 2015)
- *IDC's Worldwide Big Data Taxonomy, 2015* (IDC #254052, March 2015)
- *The Commercialization of Cognitive Systems: Transforming the Software Market* (IDC #DR2015_T2_DS, March 2015)
- *Data Monetization: From Data as a Service to Value-Added Content* (IDC #DR2015_T2_DV, March 2015)
- *IDC FutureScape: Worldwide Big Data and Analytics 2015 Predictions* (IDC #253423, December 2014)

Synopsis

This IDC study describes IDC's Big Data and Analytics (BDA) MaturityScape. It identifies the stages, dimensions, outcomes, and actions that organizations should consider to effectively develop BDA competency. With the opportunity to unlock the value held in information assets comes the need to navigate technology alternatives, reengineer business processes, and ensure the availability of appropriately skilled staff. IDC's Big Data and Analytics MaturityScape is a framework of five stages, critical measures, outcomes, and actions that organizations should consider to effectively advance along the successive stages of BDA competency.

"IDC's BDA MaturityScape is a maturity model that enables organizations to assess their BDA competency, use the baseline to define short- and long-term goals, plan for improvements, prioritize technology and make staff investment decisions, and bring business value into view," said Dan Vesset, vice president, IDC's Business Analytics and Big Data research. "This MaturityScape can help uncover gaps in current BDA competency levels among business units or between business and IT groups, thus providing a framework for all the stakeholders to collaborate to advance the organization toward a common goal."

About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

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