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EDITION

How Analytics is Transforming Financial Services

NEW RESEARCH EXPLORES THE RELATIONSHIP BETWEEN ANALYTICS PERFORMANCE
AND SUCCESS IN THE FINANCIAL SERVICES INDUSTRY

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Forging a Path to Analytics Maturity

Digital disruption is affecting all parts of the economy, but a combination of factors within the financial industry makes the demand for mature analytics capabilities in that sector especially urgent. By their very nature, such companies face a number of tough data challenges – including the need to quickly process large volumes of complex financial information from diverse sources, and a strict but fragmented regulatory environment of various state and federal statutes. All the while, Millennials and digital natives who’ve grown up with the Internet are driving customer expectations for fast self-service and omni-channel engagement.

There’s also disruption from digital native companies. Unlike traditional organizations, which must adapt long-standing infrastructure and operations to today’s data-driven environment, these Internet-based entities – such as LendingTree, Simple, PayPal and others – are founded on next generation business models and architectures designed from scratch to operate and compete in the digital age. Not surprisingly, IIA’s quantitative market analysis has found these digital natives generally surpass traditional companies in analytics capability and maturity.

The good news is that these disrupting companies’ advantage is merely strategic, not technical. Many of the tools that help digital natives thrive are open source – from big data platforms like Hadoop and Spark, to advanced machine intelligence and deep learning tools such as TensorFlow and MXNet. With the right strategic framework for implementation, measurement and analytics follow-through, a traditional company can leverage those same resources to remain powerful and highly competitive.

Indeed, established brands like Capitol One and American Express have done just that – positioning themselves strongly in the market by combining a historic and trusted brand with robust analytics and up-to-date capabilities operating at scale. Such highperforming organizations are characterized by:

- Objectively measuring their analytics maturity on a consistent basis
- Constantly improving the skills and capabilities of both top analytics professionals and the broader business user community
- Strategic piloting of capabilities, followed by steady expansion of the business areas where analytics is being applied
- Investing in “leapfrog” technologies rather than limited, incremental improvements in legacy technologies
- Consistently tracking the corporate performance gains – and demonstrating for colleagues the value generated from the investment in analytics

To clarify the path to success, the International Institute for Analytics (IIA) performed an in-depth, evidence-based market study of current capabilities among more than two dozen major organizations across the financial industry using its Analytics Maturity Assessment (AMA) methodology. Ranking Industry Performance Using the well-known 5 Stages of Analytics Maturity framework, together with the DELTA Model and its related maturity assessment scales as the underlying foundations, IIA recently conducted a quantitative analysis of over 93 market-leading organizations on 17 key competencies that differentiate high and low performing analytics. To ensure a comprehensive view into each company, the market study included more than 650 respondents – at least 5 from each company – in roles ranging from IT and data science, to finance, sales and marketing.



Using this data, IIA calculated analytics maturity indices for 14 key industries, including financial services and insurance. Financial services was the second highest scoring industry – behind digital natives. The results from this study are summarized in Chart 1.



Chart 1: Analytics Maturity Scores by Industry Segment

Indexing Financial Service Segments

To further explore the strong performance of financial services, IIA conducted a follow-on study using the same methodology. This study examined the 28 market-leading financial services companies shown below in Figure 2, and calculated maturity indices for six unique financial services segments in Chart 3.

1. US Banks (9)
2. Canadian Banks (4)
3. Insurance / Diversified Financial Services (5)
4. Wealth Management (4)
5. Credit Card Processing & Payments (3)
6. Credit Unions (3)



Figure 2: Financial Services Companies Included in this Analytics Maturity Study. Respondents from 28 leading companies across six segments participated.

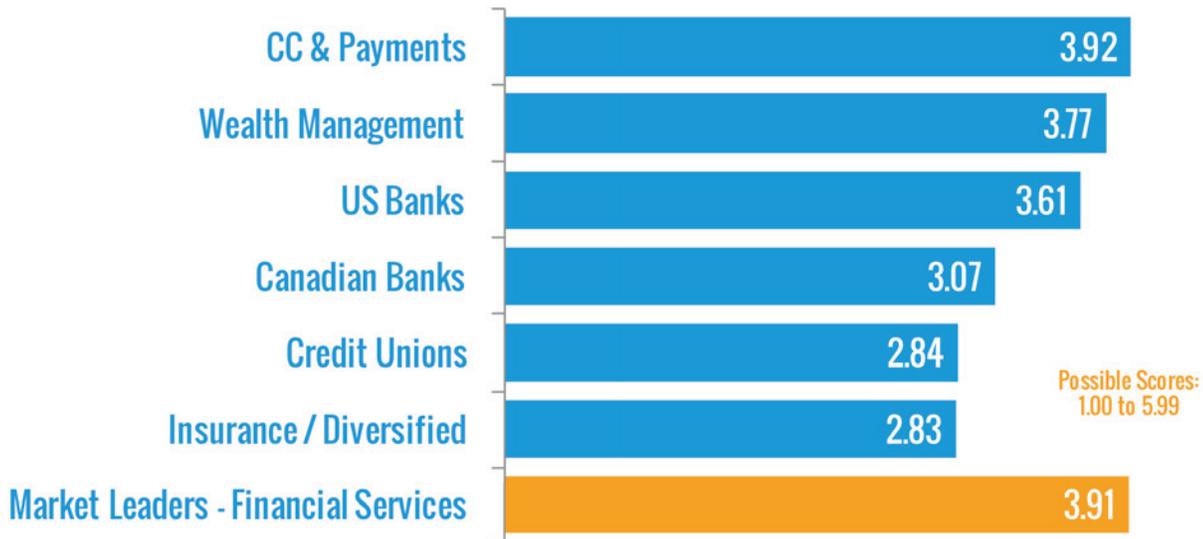


Chart 3: Analytics Maturity Scores by Financial Services Segment. The Market Leaders – Financial Services is our composite index of financial services from IIA’s original market study.

These indices represent “best in class” analytics performance for traditional companies. The majority of traditional companies in each segment would likely score somewhere in Stage 2, while digital native competitors would likely score in Stage 4.

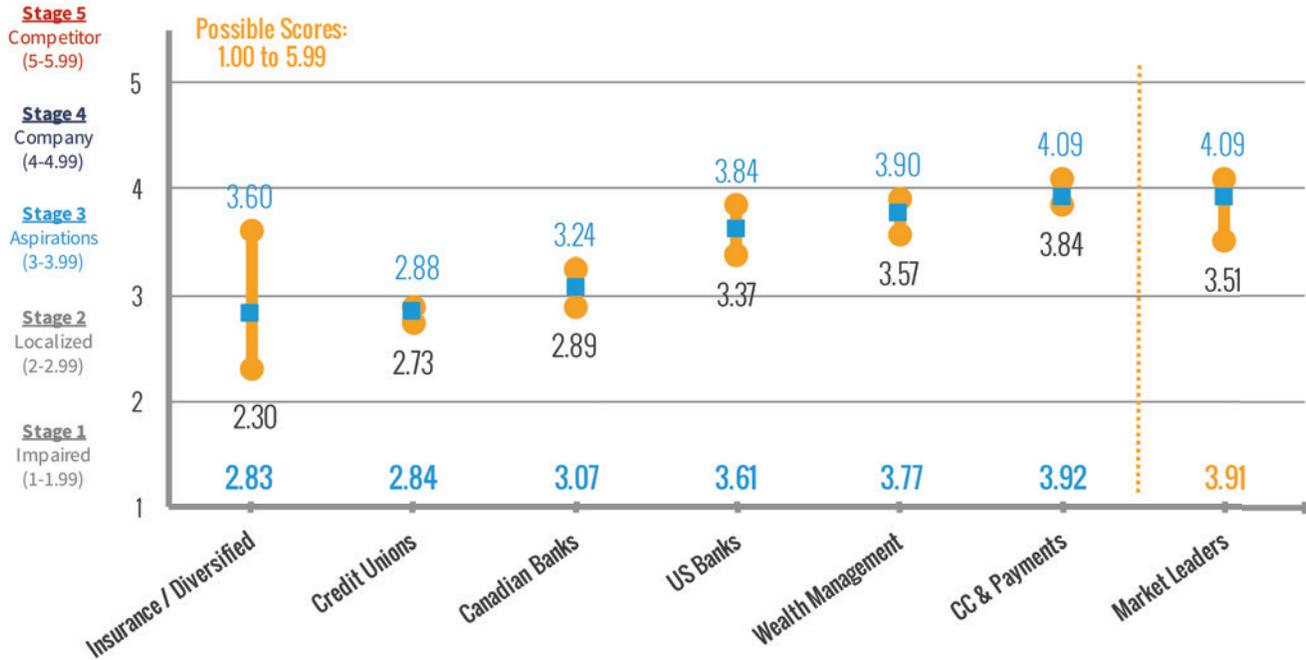


Chart 4: Analytics Maturity Scores by Financial Services Segment Including High and Low Score for Each Segment. Analytics Maturity scores range from Stage 1 – Analytically Impaired (1.00 to 1.99) to Stage 5 – Analytical Competitor (5.00 – 5.99) reflecting different levels of analytics capability. (See Addendum for more information.)

Analytics and Customer Engagement

IIA also asked survey respondents in four segments (wealth management, US banks, Canadian banks and credit unions) questions about their use of analytics in six customer engagement areas (customer experience, customer facing employees, web, mobile, social and ROI). The percentage of respondents indicating that these statements “fully describe their organization” is provided below (Figure 5) and illustrates the adoption of analytics in these areas. An analysis of the data shows a positive association between a company’s analytics maturity score and its overall adoption of analytics for marketing and customer engagement.

This data also shows why traditional financial services are vulnerable to disruption. Digital native companies universally excel at using analytics in these areas. However, even across leading financial services companies we see lagging adoption - especially in web, mobile and social analytics. This is indicative of the analytics maturity gap between digital native companies and traditional companies and illustrates why traditional financial services companies have to accelerate analytics maturity to be more competitive.

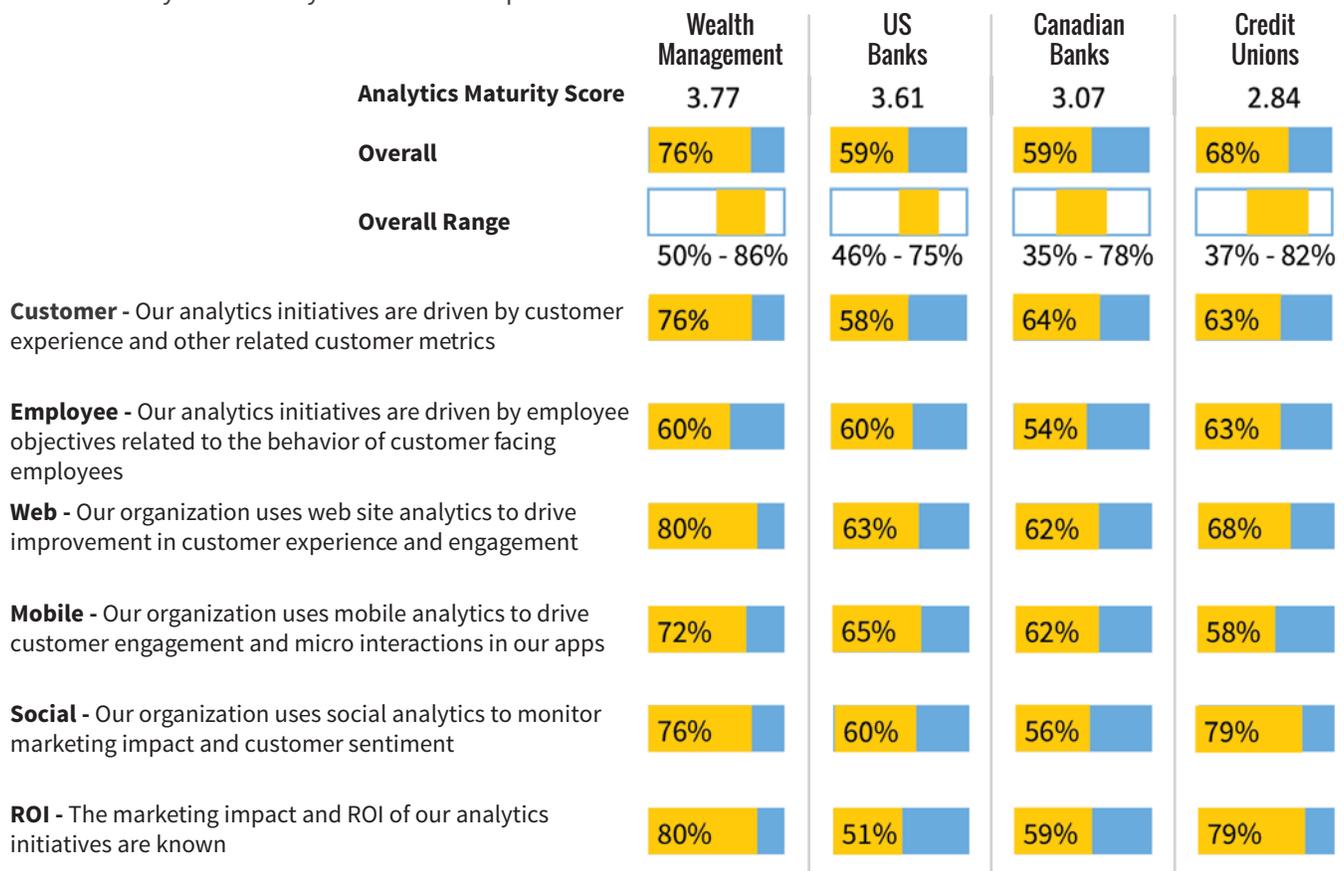


Figure 5: Analytics Adoption for Specific Customer Engagement and Marketing Use Cases. The percentages show the number of respondents indicating that these statements “fully describe their organization”. The distribution of responses among credit unions was very high – most had lower adoption rates than the segment as a whole. Even among leading financial services companies, adoption rates in these areas significantly lag their digital native counterparts where adoption of analytics in these use cases is close to universal.



Based on the study findings, IIA's faculty of top analytics practitioners and analysts then isolated key insights (or takeaways) and developed recommendations for traditional companies in the financial industry to improve the performance of their analytics in effective, sustainable and measurable ways. (See Addendum for additional information on research design and methodology.)

Key Takeaways

IIA's detailed analysis of these 28 major organizations across a range of banking, investment, insurance and other financial products and services revealed several insights that help explain the differences seen in analytics maturity and performance. Here are some key takeaways from the study:

Aside from digital natives, financial services firms are the most analytically advanced among major industry segments – although many nonetheless struggle to evolve these analytics efforts into fully realized, organization-wide and customer-facing capabilities. Within financial services, businesses devoted to wealth management, credit cards and investments showed the most analytics maturity; scoring well into Stage 3 and sometimes into Stage 4 (see Charts 3 and 4). Among the likely factors: securities, investments, credit, underwriting and related services have historically been analytically driven and therefore lend themselves more easily to new analytics processes and techniques. In addition, these financial services are especially vulnerable to fraud and cyber-attacks, heightening the mandate for companies to leverage advanced behavioral analytics capable of anticipating threats and protecting assets. Unfortunately, while these market dynamics may foster an increased appreciation for analytics, full implementation is rare – even among the “best-in-class” companies included in this study. It's important to understand that scores in the 3-4 range still reflect partial progress that must be followed-up by organizationwide implementation and development of strong customer engagement platforms; otherwise, ROI cannot be fully realized. This continued drive toward advanced Stage 5 maturity is even more critical in light of the ongoing flood of VC investment the digital native companies themselves are pouring into their own financial services offerings.

The insurance industry is struggling with analytics performance, with an overall maturity score hovering at 2.83 (see Charts 3 and 4). A more detailed analysis of individual organizations revealed that companies with a primary focus on traditional insurance - home, auto, life - scored in the lower portion of this segment's range. This means that analytics are valued, though not implemented fully enough to significantly alter operations and decision-making. Much of this is due to the fact that – in contrast to financial services involving regulations standardized at the federal level – compliance reporting for insurance still happens mostly at the state level, resulting in a regulatory patchwork that makes it difficult for a large company operating in multiple states to integrate and manage data efficiently. An irony is that these barriers to insight stand in contrast to most insurance companies' value proposition of intimately knowing their customers and their needs. Many brands promote responsive, personalized service and customized insurance products specifically tailored to a subscriber's needs. The result is a perfect storm in which insurance companies must – at the same time – address especially difficult data challenges and especially high customer expectations. Unfortunately, no amount of organizational or regulatory hurdles will excuse poor performance amid such high consumer demands for value and service.



Credit Unions are also at a distinct disadvantage in the financial services industry: Charts 3 and 4 show an overall score of 2.84 for credit unions, meaning their architectures are still plagued by silos and localized analytics. This is not surprising, given that credit unions have traditionally operated amid less competitive pressure. They often have a predefined customer base – Boeing employees or military personnel, for example – and they also tend to operate as relatively small non-profits, and may not see the value in pursuing enterprise grade analytics architectures. However, as more financial organizations of all sizes mount digital transformations over time, failure to pursue analytics will become an increasingly costly mistake. All consumers today are demanding faster and more convenient service; increasing job instability is shrinking the credit unions’ traditionally pre-defined customer base; and even within that base, there’s heightened competition for the same customers. USAA and Navy Federal Credit Union, for instance, are strong rivals for the business of military personnel and their families.

Recommendations

Preserve an integrated view of data...at scale

Regardless of sub-specialty within the industry, financial organizations must design and implement analytics for unfettered insight on all data across the organization. Whether you use the DELTA Model and the Five Stages of Analytics Maturity or any other implementation framework, your priority should be to preserve the transparency, usefulness and seamless integration of data – even as more and more complicated analytics processes get applied to that data, and as it gets shared more broadly across the enterprise. Silos or other impediments that remain unaddressed in Stage 1, for example, will hobble all subsequent efforts to build out the remaining four stages of the maturity model as you scale your analytics.

Evolve analytics culture beyond just basic technology and transactions

Analytics maturity is about more than just buying technology or counting transactions. It’s about implementing analytics as a strategic transformation involving people, processes and technology working in tandem for advanced analytics capabilities across the organization. This requires getting leadership on board to cultivate a data-literate workforce that knows to trust data over gut instincts and rely on it for decision support. And it

involves the capacity to handle huge volumes of behavioral data to expand insights beyond simple transactions – along with the elevation of the Net Promotor Score and other KPIs that prioritize behavioral insights for a more integrated, nuanced view of customers and operations. This intentional shift toward customercentric indices and analytics, however, must be backed up by fully-realized capabilities to provide customers and other stakeholders with fast, efficient platforms for interaction and commerce.

Ensure analytics follow-through with a framework to implement and measure progress

It’s crucial to support these efforts at data integration and data-driven culture with analytics follow-through: the actual implementation of advanced systems and capabilities, fully matured throughout the organization. Although many of the market leaders in the IIA study have demonstrated strong vision and taken significant steps toward advanced analytics maturity, no effort is complete until you have a solid framework to implement strategy, measure the impact of your activities and leverage those learnings to further build out your architectures and processes. In the absence of such a framework, efforts will be unaligned and progress will remain elusive and uneven. The Five Stages and the DELTA Model are designed to address this, but whatever your approach, it must be focused on measurable indices on how your efforts at analytics maturity are paying off.

ADDENDUM

THE DELTA MODEL AND THE FIVE STAGES OF ANALYTICS MATURITY

The Five Stages of Analytics Maturity, developed in 2007 by Tom Davenport and Jeanne Harris in their book, *Competing on Analytics* and the DELTA Model, developed in 2010 by Tom Davenport, Jeanne Harris, and Bob Morison in their book, *Analytics at Work: Smarter Decisions, Better Results*, provide the underlying foundation for IIA’s Analytics Maturity Assessment (AMA), which was used to generate the results in this market study.

The DELTA Model (Figure 6) defines five elements that must be in alignment for organizations to succeed with their analytics initiatives. Organizations run the risk of poor or limited results without alignment. The capabilities and assets of these elements must evolve and mature in order for an organization to make real progress and become a data-driven business. The five elements of a successful analytics initiative or program as captured in IIA’s AMA are:

1. **D** for accessible, high quality **data**. For meaningful analytics, data must be organized, unique, integrated, accessible, and useful.
2. **E** for an **enterprise** orientation. Analytical competitors take an enterprise approach that advocates an integrated and coordinated perspective to managing systems, data, and people.
3. **L** for analytical **leadership**. Analytical organizations have leaders who fully embrace analytics and lead company culture towards data driven decision-making.
4. **T** for strategic **targets**. Analytics efforts must be aligned with specific, strategic targets that are also aligned with corporate objectives.
5. **A** for **analysts**. Organizations need analytical talent that covers a range of skills from employees capable of using basic spreadsheets to accomplished data scientists.

DELTA = CHANGE

D	DATA	BREADTH, INTEGRATION, QUALITY
E	ENTERPRISE	APPROACH TO MANAGING ANALYTICS
L	LEADERSHIP	PASSION AND COMMITMENT
T	TARGETS	FIRST DEEP THEN BROAD
A	ANALYSTS	PROFESSIONALS AND AMATEURS

Figure 6: *The DELTA Model. Originally published in Analytics at Work, Davenport, Harris, and Morison ”*

Organizations advance and improve their analytical capabilities by developing and investing in the five areas of DELTA. The five-stage maturity model (Figure “7”) used by the AMA helps companies measure their growth across the five DELTA elements. This model enables an organization to assess which elements are strengths and which are weaknesses. This assessment identifies opportunities for improvement and enables targeted investment to mature analytics weaknesses based on the DELTA Model.

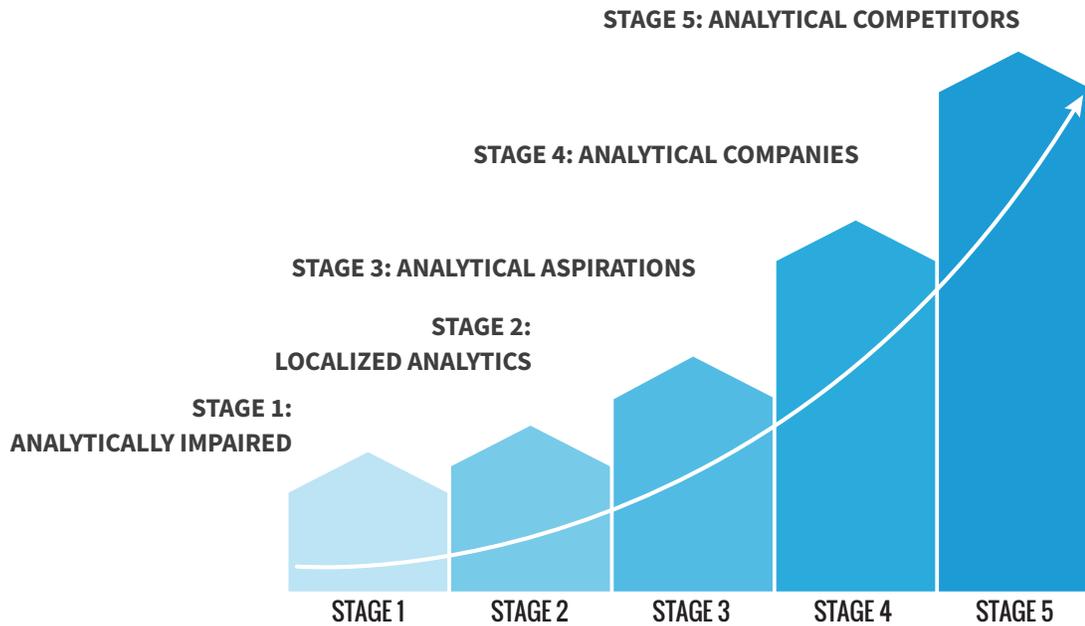


Figure 7: Five Stages of Analytics Maturity. Originally published in *Competing on Analytics*, Davenport and Morison

The five stages and corresponding scores are:

Stage 1: Analytically Impaired (1.00 – 1.99)

“Not data-driven.” These companies rely on gut feel to make decisions, and they plan to keep doing so. They aren’t asking analytics questions and/or they lack the data to answer them.”

Stage 2: Localized Analytics (2.00 – 2.99). “Use reporting.” Analytics or reporting at these companies exist within silos.

Stage 3: Analytical Aspirations (3.00 – 3.99). “See the value of analytics.” These companies struggle to mobilize the organization around analytics, and as a result have difficulty becoming more analytical in their operations and decision-making.”

Stage 4: Analytical Companies (4.00 – 4.99). “Good at analytics.” These companies are highly data- oriented, have analytical tools, and make wide use of analytics. However, there remains a lack of commitment to fully compete on analytics or use it strategically.”

Stage 5: Analytical Competitors (5.00 – 5.99). “Analytical nirvana.” These companies use analytics across the entire enterprise, both as a competitive differentiator and in strategy.



Financial Services Study Approach And Methodology

This market study was conducted using a version of IIA's Analytics Maturity Assessment (AMA), which surveys organizations using a series of specialized questions and processes; these surveys use a proprietary, software driven model to calculate an enterprise's analytics maturity score. In total, 241 surveys were completed from 28 Financial Services companies for this study. An additional 665 surveys were completed from 93 other companies to create the other industry indexes. Respondents represented three distinct functional areas within each company: "IT/Systems/Analytics", "Finance", and "Sales/Marketing". In order to be included in the study, the criteria for each company was a minimum of five (5) surveys with at least one interview completed in each of the three functional areas. The number of surveys per company ranged from a low of five (5) to a high of eleven (11).

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