INTERNATIONAL INSTITUTE FOR ANALYTICS™

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EVENT SUMMARY

Atlanta 2018 Analytics Symposium: Event Summary

IIA's 10th Analytics Symposium was held in Atlanta on October 10, 2018. This Symposium brought together analytics leaders from different industries, functions, and geographies to share insights and best practices.

Experienced and innovative analytical leaders from large enterprises (Ford, Honeywell, Optum, GE, and Symantec/ID Analytics) described their organizations' analytical journeys and key lessons learned—about creating business value, building an analytics team, creating a more analytically savvy company, and dealing with the hype around AI. Also sharing insights and trends were leading academics (IIA co-founder Tom Davenport and Jennifer Priestley) and IIA leaders Bill Franks and Kathy Koontz.

Key Themes

Among key themes emerging from this symposium were:

Analytics leaders need to put points on the board in the short term . . .

Each of the symposium presenters and the ANNY finalists emphasized the importance of demonstrating clear, tangible, and compelling business value. They focused on solving major business problems, quickly monetizing analytics, and showing ROI. Examples included using analytics to save costs, streamline processes, and increase sales. It is through producing significant short-term returns that analytics teams gain credibility and business champions, which elevates the importance of analytics in organizations. Speaker after speaker reiterated the importance of "putting points on the board."

. . . while simultaneously driving business transformation over the longer term.

However, while the immediate goal is to put points on the board, several analytics leaders shared grander visions of the role that analytics can play in completely transforming companies. Analytics can lead to new ways of understanding customers and markets, new ways of making decisions, new products and services, new business models, and new ways of operating. Analytics leaders are inspired to be at the forefront of driving transformational change. This won't occur overnight. It will take time and many small wins. It will require changing the organizational culture and evolving from a support function to a strategic

function. This journey is already underway in many organizations.

Competing and winning on analytics requires C-level support, with many finding success in a centralized analytics organization, and "analytical fluency" throughout the organization.

There are many organizations, such as Optum, that have made the strategic decision to compete based on analytics. This requires focusing on the data, the tools and technologies, and the organization's analytical capabilities. Consistent themes emphasized by speakers were:

- **The need for C-level support**. Elevating analytics starts with C-level buy-in. Organizations such as Ford, Honeywell, and Optum are having success with analytics because they have foundational C-level support.
- **Enterprise analytics**. Paul Ballew made the case that a centralized analytics function is necessary for analytics to drive business transformation. Abhi Seth (Honeywell) and Alex Barclay (Optum) also see benefits in a strong centralized function.
- **Analytical fluency**. In addition to a strong core analytics function, companies that compete on analytics must have high analytics fluency throughout the organization—in all functions, at all levels. Optum is achieving this by conducting workshops among executives, publishing a weekly analytics newsletter to foster a community of support, having "analytic catalysts" who champion analytics in the business, and through Optum Data Science University to build organizational bench strength.

It is the strong analytics function with broad analytical fluency, underpinned by C-level support, that makes analytics a competitive advantage.

Don't jump in front of the AI bandwagon; you'll get crushed. Jump on and leverage AI to increase the support for analytics.

There is tremendous hype around AI and executives are asking for AI projects, even though they barely understand it. Analytics leaders have a dilemma: Either resist the AI project and explain why to start with analytics, OR accept the AI request and worry about the details later.

Most speakers were in general agreement: view AI requests as opportunities. Accept these requests, link AI and analytics, focus on solving business problems and producing business value, generate support and good will, and explain the nuances and semantics later. In reality, analytics is closely linked to machine learning and AI. Be attuned to the political winds and see such requests as opportunities.

Sessions and Speakers

Framing the Discussion

Bill Franks, Chief Analytics Officer, IIA

In kicking off the 2018 Analytics Symposium, Bill Franks shared thoughts on five topics generating considerable interest in conversations with analytics leaders:

- **Elevate analytics**. Analytics leaders want business plans to include analytics at the outset, and must push to get analytics elevated.

- **Leverage AI**. There is tremendous hype around AI and senior business leaders are asking for AI projects. Don't say no and try to explain the distinction between analytics and AI. Say yes and deliver business value. Worry about the semantics later.
- **Focus on mindset**. Distinguish between legacy skills and a legacy mindset. People with a legacy mindset don't want to change. But experienced people with foundational skills and a positive mindset can learn new skills. Don't lose them.
- **Data matters more than algorithms.** Today VCs believe all companies have access to similar algorithms and analytics. What is unique is data that others don't have.
- **Think about ethical implications.** The focus on ethics has increased dramatically. It has to be top of mind for analytics leaders. One way to navigate ethical issues is through creation of an ethics board.

Leveraging Data and Analytics to Drive Transformation

Paul Ballew, Vice President and Global Chief Data & Analytics Officer, Ford Motor Company

Industrial companies like Ford were late to the analytics dance. Having now fully embraced analytics, Ford is using data and analytics: 1) for incremental purposes—to drive greater efficiency and cost effectiveness; and 2) to fundamentally transform the business—by developing an intimate understanding of customers. Customer knowledge leads to new products and services, precision marketing, and transforming the business model.

Keys to success in Ford's analytics journey include getting senior buy-in, focusing on business needs, ramping up the analytics organization, and becoming embedded in the business. The analytics team has put points on the board through short-term wins while simultaneously driving long-term business transformation. This has meant shifting from a support function to a strategic function that drives business value. In Ford's experience, driving transformation requires a centralized analytics team and requires an engagement model where analytics leaders work with business leaders to drive change.

BI Isn't Analytics: Honeywell Aerospace Analytics Team Take Flight

Abhi Seth, Senior Director for Data Science & Analytics, Honeywell Aerospace

Honeywell Aerospace built an analytics organization from the ground up in just 18 months, going from two data scientists to a team of 75. There is strong C-suite support at Honeywell for digital transformation as the company becomes a software company with connected strategies. But, just 18 months ago, basic BI needs were not being met, there was limited awareness of predictive analytics, and there were no analytics experts or tools.

Rejecting conventional wisdom of moving slowly and sequentially, the new analytics team has moved quickly by executing multiple tasks in parallel. Key principles included prioritizing value, monetizing analytics fast, and transforming the business. The analytics team initially focused on: 1) improving the yield of manufacturing lines; 2) implementing dynamic

value pricing; and 3) uncovering new aftermarket opportunities. In one year analytics has driven more than $110 million of growth and produced an ROI of 9.5x. One key lesson: small data, BI, and descriptive analytics can produce big value and can create support for big data and predictive analytics.

Competing on Analytics is a "Team Sport," but Which Sport?

Alex Barclay, Senior Vice President, Optum

The volume of data in healthcare is exploding, yet the industry is not mature in using analytics. Optum, a large health services company, sees the opportunity to compete on analytics by making data and analytics core to everything the company does. Optum is already using analytics to improve its risk adjustment business and provider contracting. In the future AI will automatically read radiology results, and deep learning algorithms will predict the incidence of diseases.

Winning with analytics requires changing how the company operates. The company has established Optum Enterprise Analytics (OEA), a centralized group with about 2,500 people. But Optum believes that winning means viewing analytics as a team sport. This requires buy-in at the top and analytical fluency throughout the organization. To create analytics fluency Optum has conducted workshops with executives, has a weekly newsletter to build a community of knowledgeable analytics supporters, and has created Optum Data Science University to strengthen the company's bench by training employees on data science. Optum is also creating analytic catalysts who come out of the business, enhance their analytic acumen, and serve as analytic champions in the business. It is the combination of centralized enterprise analytical capabilities and broad analytical fluency that will enable Optum to win this team sport.

The AI Advantage: A Fireside Chat with Tom and Kathy

Tom Davenport, co-founder and Author, IIA

Kathy Koontz, Executive Director of Analytics Leadership Consortium, IIA

AI is getting tons of hype, leading to attention among executives and in the boardroom. About 37% of companies claim to have an AI strategy and about 25% have done substantial AI work. For organizations doing AI, the more they do, the more bullish they become. Most AI activity to date is incremental, task oriented, and focused on improving operations. Yet even this focus on improving core operations can have meaningful impact.

In reality, AI is largely (but not totally) an extension of analytics; the area of AI most like analytics is machine learning. Because of the overlap, it could be beneficial to have a combined analytics/AI strategy, though few organizations are doing so today. It doesn't make sense for analytics leaders to resist AI or fail to embrace it. An effective approach may be to use an executive's excitement for AI to pull along analytics.

Looking 5 to 10 years out, the demand for hardcore data science professionals may not grow substantially, but there is likely to be tremendous demand for business analysts who understand the business and use analytics to create business value.

2018 ANNY Award

In 2018 IIA received a record number of applications for the ANNY Excellence in Analytics Award. Selection criteria were outcomes, ambition, scale, skills, and insights. The finalists all demonstrated tremendous business impact.

2018 ANNY Award Winner: Honeywell

Honeywell's previous aftermarket sales process involved learning about bids and spending four to six weeks responding to the bid. Honeywell's analytics team changed this by consolidating various data sources, developing predictive pricing models, and integrating those models into the quoting and contracting system. As a result quotes were produced in seconds, contracts were automatically generated, and Honeywell generated $110 million in incremental sales in the first year.

Other finalists were:

- **Freddie Mac**: To reduce the time and cost of processing a loan for approval, Freddie Mac engaged in a project called "automated collateral evaluation". The analytics team pulled together data from multiple sources and developed appraisal models. This saved an average of 7 days in the typical approval process, saved $500 to $700 per loan, and improved close rates by expediting the process.
- **HDFC Bank**: This bank in India used analytics to make targeted cash loan offers to customers. The project reduced the marketing communications by 60%, improved the response rate by 7x, and produced over $8 million in incremental revenue in year one.
- **Steelcase:** The analytics team's "predictive leads" project accurately predicted the likelihood of a company purchasing office furniture in the next 18 months. This model was used to predict the purchasing patterns of current Steelcase customers as well as customers of the company's competitors. After a 30-day pilot the team transformed this initiative into a full-scale program within 60 days. In 2018, Steelcase expects to generate $50 million in incremental sales from this initiative. It is a project that combines machines plus humans.

From Blackbox to Glassbox and other AI Trends

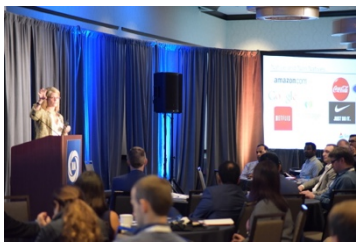
Sameer Chopra, Chief Analytics and Science Officer, ID Analytics

The AI hype train has taken off and everyone has jumped on the bandwagon. A few examples of AI at work include an AI mental health chatbot (Woebot) that helps with depression; AI for personalized weed recommendations or personalized beer; AI that finds mistakes in contracts 200x faster than humans; and AI for translation that has reached human levels of accuracy. Under the hood this is all enabled by deep learning. Key trends include: 1) transfer learning, where learning from a pre-trained network is reapplied elsewhere; 2) use of deep learning in trading; and 3) the AI race between the US and China.

As AI takes off, it is raising ethical questions around the automation of decisions, which can range from loans to health decisions, legal decisions, and even military actions. This is heightening interest in making AI more transparent and explainable, evidenced through an increasing number of universities teaching AI ethics. Factors affecting the explainability of AI are trust, fairness, understandability, compliance, and improvement. Sameer Chopra's view is, "As a community we are slowly but surely moving from black box to glass box."

How the Evolution of Data Science is Changing the Knowledge Needs of its Practitioners

Jennifer Priestley, Associate Dean of The Graduate College, Director of the Analytics and Data Science Institute, Kennesaw State University



Demand is extremely high for analytical talent, putting pressure on universities to increase the pipeline of graduates with data science capabilities. To equip data science graduates with the knowledge and skills to hit the ground running, universities are collaborating with the private sector in the development of curricula and labs. Some labs are housed at universities with input and contributions from businesses; other labs are being created within companies, with the possible assistance of universities and faculty. The goal is the same: increase the quantity of analytical talent, increase the analytical capabilities, and marry classroom learning with practical real-world experiences.

GE's Path to Emerging Analytics Technologies

Mano Mannoochahr, Chief Data & Innovation Officer, GE

As GE becomes a connected digital company with massive amounts of data, executives have asked, "How do we actually run our business effectively?" The answer is by becoming an automated "algorithmic business," which is aspirational and will take decades. The transition to becoming an algorithmic business will go through stages of: 1) operating as a scalable business with productivity and efficiency; 2) becoming an optimized business with improved outcomes and margins; and 3) ultimately becoming an algorithmic business. Today GE is a scalable business. Becoming optimized means flipping how people work; it is going from humans being guided by tools to machines that are guided by humans.

The road to becoming an algorithmic business requires foundational systems that ensure data is consistent across the value chain and supply chain. It also requires changing the culture to pursue radical change by engaging in ideation and experimentation, as well as making careful investments in new technologies. Currently GE has 78 projects in various technologies including AI and machine learning, chatbots, robotic process automation (RPA), blockchain, and augmented and virtual reality.

Please join us March 12th and 13th in Portland, OR for IIA's Spring Analytics Symposium.

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