



INTERNATIONAL  
INSTITUTE FOR  
ANALYTICS™

DISCUSSION SUMMARY  
RESEARCH & ADVISORY NETWORK



CLIENT ONLY

# Will Your Evolving Business Intelligence Strategy Make It or Break It?

RICK STYLL

Senior Manager, Visual Analytics Product Management, SAS

TAPAN PATEL

Principal Product Marketing Manager, SAS

APRIL 2017

---



## DISCUSSION OVERVIEW

Business intelligence has come a long way – from assistance with report generation to self-service platforms for discovery and analytical insight. As technological capabilities and business aptitude with information continue to advance, the next generation of BI will be even more capable and valuable to the enterprise. To discuss today’s success factors and tomorrow’s opportunities, IIA spoke with Rick Styll, Senior Manager, Visual Analytics Product Management at SAS, and Tapan Patel, Principal Product Marketing Manager at SAS.

### How do you define business intelligence and distinguish it from other forms of information analysis and use?

**Tapan Patel (TP):** The scope of the term “business intelligence” can vary with the individual’s and organization’s perspective. Traditionally BI has centered on reporting, query, and analysis to find out what is going on in the business. Most dashboards also fit here because they are primarily reporting the current status. But then, if something is wrong, you want to understand why, and that leads to finding correlations and other relevant relationships and sometimes discovering what the data have to say independent of specific queries. And then when you ask what’s likely to happen and what to do next, you’re into the realm of predictive and prescriptive analytics.

So BI and various forms of analytics form a continuum. And at each stage of that continuum, different skills, different roles, and different processes are needed within an organization. There are differences in how content is created, integrated, and shared at the two ends of the continuum.

**Rick Styll (RS):** In terms of functionality, BI centers on what business people can learn by themselves, while more advanced analytics often require specialists to build algorithms and models. You can also think about BI technologically in terms of a “stack.” Below the

reporting or dashboarding user interface, it can include data integration and quality, data warehouses and data lakes, metadata and master data management, and affiliated infrastructure. It’s also important to think about and approach BI as a business program with strategy, architecture, organizational structures, use cases, and a lot of other non-technical aspects.

As Tapan suggested, there is a gray zone, not a sharp distinction, between BI and analytics. Where people draw the line can be pretty arbitrary. One term or the other may be in or out of favor in an organization, and people sometimes rename what they’re already doing. But the naming doesn’t matter. What really matters is being able to ask questions along that entire continuum and receive answers that enable the user to take impactful actions.

### How is BI evolving, and how does that impact business decision making?

**RS:** The technologies and tools keep getting better on both the user interface and data management sides. That enables more self-service by business people in meeting their information needs, better data visualization and exploration, a more interactive information environment overall. I’m looking forward to BI platforms with more of a “Siri-type” interface,



where the business person can query the system verbally: “Show me shoe sales of the last quarter by channel.” That’s certainly technologically possible today, and some early-stage companies have built that kind of capability, but vendors haven’t included voice technologies into their BI products, and organizations probably are not yet ready to adopt it.

My concern is that the technology can be far ahead of its effective use. Too many organizations are still stuck in reporting mode instead of looking ahead to the decisions that have to be made and the business impact they have. Reducing a risk, or finding an outlier and reacting to it, or finding an opportunity, or increasing a margin, or something that drives an outcome – it’s called “business intelligence” for a reason. It’s about making the business better in some way, not just reporting what happened, and I think many organizations still need to cross that bridge.

**TP:** Let me expand on the importance of data management. The objective is to generate new insights and then close the gap from insight to action. That will greatly depend on the organization’s data integration capability and maturity. Can it gather and prepare all the data needed to make an informed decision or ask a question in a new way? Can it bring together data from systems that engage with customers, then augment it with data from core transaction processing systems? Can it marry real-time and historical data and notice more quickly what’s changing? Spot what’s changed, what’s gone wrong, where the next opportunity is – and then act on the insight to yield a positive outcome – that’s where BI should be headed in the future.

## Can you please share some innovative examples and use cases?

**TP:** There are so many to choose from. Here are a few examples from organizations SAS has worked with recently. They give you a sense of the variety of decision-focused use cases.

- A large university uses BI and data visualization to look across enrollment, financial aid, revenue, and strategic planning data to make better management decisions. It also models student success and attrition, right down to questions like, “Do certain courses correlate with students changing their major or leaving the university?”
- Using BI and visual analytics, a regional health service is focused on community outreach and patient outcomes, particularly in underserved communities. It identifies high-need and high-risk patients early on to help them better manage existing conditions and avoid contracting new and complicated illnesses.
- A European utility is able to visualize the enormous volumes of data about its electricity and natural gas grids. Short-term, that makes for a smarter grid. Longer-term, the company gains insight, largely through simulation capabilities, into how to modernize the grid to incorporate the use of more renewable energy resources.
- Finally, a professional sports team uses a combination of BI, data mining, and analytics to understand the resale ticket market and price tickets better, to predict and minimize season ticket holder defection, and to optimize concession and product merchandise sales. Though in a relatively small market, the team is one of the top revenue earners in its league.

**RS:** I’m very interested in the cases where BI and advanced analytics work together, and the BI platform and interface can serve up very sophisticated analysis

and visualizations, and support very complex decisions.

For example, if you are running an oil rig, one of the worst things that can happen is having to shut down for an emergency. The revenue loss due to unscheduled maintenance can be enormous, millions of dollars a day. You need to be able to look across all the sensor data being generated by the valves, pumps, and other equipment and notice what's important. You want to understand the circumstances that indicate the potential need to shut down, then turn that data into an early warning system that the rig operators and managers can understand, act upon, and ultimately avoid the outage and revenue loss.

Still in the energy space, a wind turbine operator wants to locate the turbines optimally where the wind will be stable as well as adequate. That requires looking at meteorological data, geological data, transmission data, turbine operations and maintenance data, and the associated revenue and cost projections. A wide variety of data has to come together and become interpretable. Both these examples involve traditional BI plus analytical data mining and forecasting technologies.

## If the movement is towards self-service, is there less need for traditional centralized reporting?

**TP:** With an interactive and self-service BI platform, there's certainly less need for business people to turn to IT for help with queries and reports and analyses. But centralized reporting is far from dead. It definitely meets the needs of financial and regulatory reporting requirements, and as compliance requirements increase, organizations will need more of it. This official reporting requires the kinds of data management and report creation discipline that IT or a specialized BI team can provide.

Meanwhile, the demand for flexible, self-service, interactive reporting and analysis will continue to grow much faster. Business conditions are changing, competitors are changing, customer scenarios are changing, digital channels are evolving, and business people need to keep up and look ahead. They need self-service BI and discovery environments. And IT's role shifts to enabling the environment and the business users. That includes avoiding the confusion, even chaos, when there are too many versions of content and too many interpretations of data.

**RS:** That last point is extremely important. Self-service is a double-edged sword. Self-service has gained momentum not only because of technologies that make it easier, but more fundamentally because business people weren't satisfied with the turnaround times when they had to ask IT to generate their reports. But I could argue that we've had self-service all along in the form of spreadsheets. That's the ultimate self-service because everybody could do whatever they wanted – including generating competing versions of data and what it means.

The key to success here is not just the user interface and tools, but the underlying data integration, consistency, and quality. IT needs to provide that discipline and well-architected governance processes. And again we have a continuum, not just two extremes. Different business people have different needs and privileges and freedoms when it comes to doing things for themselves. Many may need little more than regular everyday reports. Others are doing business analysis for a living, whether or not they call it that. True information workers should be able to meet most of their information needs, and they should have the freedom to be creative in how they look at their information.



## How can organizations address those challenges around data provisioning when there is so much more self-service?

**RS:** It's not enough to provide data and manage who can access it. We also have to provide context for the data – definition, explanation around what it means, expectations about its use. That way, “customer” or “revenue” will mean the same thing to people across different parts of the business. That's another way of saying that BI needs to draw from a very clear data model. Data provisioning isn't just about getting the data itself in shape in terms of completeness, accuracy, and other dimensions of quality. It's also about promoting effective use of data.

Another success factor is around governance – establishing and evolving the framework for the relative importance of data, controls on its use, and the data access and manipulation privileges that different classes of users will have. The ultimate role of governance is to ensure that data informs rather than confuses business discussions and decisions.

**TP:** Keep in mind that more data preparation is being done by business people in a self-service fashion. We need simple guidelines and processes around who can do those activities under what circumstances, and when IT and more formal data management staff need to get involved for full-featured data preparation requirements. When self-service users are generating new content, governance and data lineage become more important in order to avoid the problem of “multiple versions of the truth.”

## How are the roles of BI teams or centers of excellence changing, and what does it mean for staffing and skills?

**RS:** BI centers of excellence or competency centers have been around for a decade or more. Their fundamental role hasn't changed – to balance the “demand side” and the “supply side” of BI. But the data has changed, with so much more of it and more of it unstructured. The underlying data management technologies and methods have changed to accommodate data volume and variety. And the BI process has shifted toward more self-service, as we've discussed. All those have required a refreshing of BI team skills. But the most important thing is to have a team in the first place, and to treat BI as an ongoing and evolving program, just like security – the challenges and opportunities to improve never end. BI will never be considered “finished.” Organizations taking that attitude and approach are more successful.

We've seen one change in recent years as BI blends with advanced analytics. BI teams are working more with data scientist teams in order to provision more analytical outputs through the BI platform. Because pure data scientists are in high demand, it helps to have some people on the BI team with crossover skills.

**TP:** I'll emphasize the importance of building and maintaining skills. Organizations should be inventorying and assessing their skills regularly, filling in today's gaps and anticipating what tomorrow's gaps will be. And I'm talking about skills across the entire continuum from straightforward reporting to predictive analytics. Periodic assessment of skills, training, and staffing becomes important as you move along the BI and Analytics continuum. What skills and experience can you build in-house? Can you fill specific gaps or simply add part-time capacity by partnering



with local universities? What might you outsource, and when might you rely on help from technology and professional services firms?

### Please describe the technology platform for BI in terms of components and capabilities.

**RS:** The basic BI platform is the front end interface that business people use to generate reports and do investigation and analysis with queries and drill-downs. It also has dashboarding and visualization capabilities. Beyond that, the question becomes how much can and should be architected into a single platform versus handled through interfaces when the component technologies are quite different. As BI blends with analytics, the platform may incorporate more data mining, forecasting, and modeling capabilities. I'd draw the line at trying to include the underlying data management. That's a different platform. From the business person's perspective, however, the BI platform appears bigger than it really is. It's the gateway to a lot of data and analytics generated elsewhere.

Note that many organizations face challenges in rationalizing as well as architecting their BI platforms, especially if they've grown by acquisition and have multiple versions of tools and technologies in use.

**TP:** If we think in terms of more general capabilities, the platform should be able to scale and manage more users, more data, more workloads. Strong security is a given, especially as organizations are looking into cloud-based BI and analytics. The platform should also have the versatility to support different classes of users – casual ones occasionally seeking information, managers looking at dashboards and drilling down, power users who are generating new information and visualizations for themselves and others, and even the citizen data scientists who are using the BI platform to

explore relationships in their data for downstream analytics workflow. From the business user's standpoint, the most important criteria continue to be ease-of-use and self-service.

### How should an organization go about developing or refining a BI strategy and implementing a successful program?

**RS:** A successful BI program starts at the top with executive commitment. Business leaders demand that the enterprise capitalize on its information, and they set personal examples of being data driven and analytical. Guiding the program and maintaining the strategy require a governance or steering group. Ideally the CEO participates, but certainly the CIO and probably the CFO. Plus executives representing lines of business and a couple of key technical roles, information architect and infrastructure or platform architect. This group should have the big-picture scope to set objectives, make investments, shape the BI program, and at least advise on priorities. What reporting capabilities are required by law or otherwise critical? What businesses or functions have the greatest potential to capitalize on new information and insight? As organizations are standing up BI capabilities, finance has often been in the lead, but these days, sales and marketing aren't far behind.

The program itself needs a manager both to lead the team and to serve as an ambassador or evangelist across the organization. Key decisions are around skills, training, and technology. To what extent do you want to assemble components versus incorporate packaged solutions? Do you want to leverage the cloud or keep everything on premises? Both the BI team and the steering group should step back every few months and ask what's changed in terms of both business needs and technology capabilities. Then





make adjustments so the strategy is a living document and the team is agile and high-performing.

**TP:** Essential to the BI strategy and ongoing performance management are the metrics used to track success and measure value. There should be objectives and metrics for BI and analytics initiatives defined beforehand to determine how well the organization is leveraging insights to solve the problems on hand. Good metrics and positive results serve to continuously update the business case for advancing the BI activities and investments. It's not enough for someone to say, "I want a sales report," or "I want a management dashboard," or "I need this tool." People need to state the purpose and expected outcomes, and metrics provide the framework.

### What will be different in the BI realm two or three years from now?

**TP:** First, BI and analytics will continue to scale up, with more data, more users, and more complex problems being tackled. That raises the question of how to remain flexible and maintain good governance at greater scale. Second, organizations will be deploying more BI and analytics in the cloud. Especially when working with online or social media or marketing data or taking on customer-facing initiatives, they will follow the gravity of the data, which is increasingly in the cloud. Third, we'll see more smart capabilities built into our BI platforms. Software will automatically, for example, identify relationships or hierarchies or anomalies. Then the challenge is going to be how quickly people will be able to interpret those kinds of outputs or insights. And finally, the pendulum will swing back a bit. As more business people experience and use self-service capabilities, their organizations will have to engage IT to enable self-service with adequate controls and to minimize chaos.

**RS:** I'd add that mobility and mobile interfaces will continue to grow more important. BI can be wherever business people need it to be, and that speeds up time to information and time to insight. As I mentioned earlier, I look forward to more voice-based interfaces for both requesting and receiving information. And it will be interesting to see how cognitive computing shapes what happens with BI. Will applications automatically scan relevant data sources that we hadn't thought to consider, or perhaps didn't even know about? Will the "answers" delivered also include suggestions about what we should be asking or investigating next? Ideally, the decision maker does not have to go and search for relevant information; instead, the information finds you and delivers timely insights. This can be exciting.

### To recap, what are the top three things that business and technology leaders need to know and do to capitalize on BI?

**TP:** I'll take the technology standpoint. First, select an architecture focused on what your business really needs. Does it need a more traditional top-down reporting approach, or a great deal of flexibility for business exploration and visualization of data? What activities across the BI and analytics continuum need to be supported now and into the future? Second, look beyond your current or initial implementation. You will have to evolve your technology footprint, your processes, and your people's roles and skills as the organization's uses of BI and analytics mature. Third is clarifying and advancing IT's role as it shifts from being a technology doer to business enabler and as it tries to balance the needs around flexibility and governance.

**RS:** On the business side, get a BI strategy, and get it now. Get the pieces in place to make a difference across the enterprise. Next, be both specific and



creative about BI use cases. That helps guide the development and enhancement of BI capabilities. Finally, if you don't have a data scientist team and an environment for experimentation and exploration, establish them. They may have little to do with conventional BI work, but they will discover how the business can use data differently and create more value. So they help point where BI should be heading.

### Additional Information

To learn more about this topic, please visit [sas.com/businessintelligence](https://sas.com/businessintelligence).



## About the Interviewees



### RICK STYLL

Rick Styll is Senior Manager, Visual Analytics Product Management at SAS. He leads product direction and prioritization of enhancements for reporting, visualization, and mobile BI technologies that are part of the SAS Visual Analytics offering. Rick and his team work closely with SAS customers, R&D, industry analysts, consultants, and the sales organization to understand and communicate product requirements, market conditions, and product roadmaps. Rick has 25 years of experience in software development, business intelligence, data management, consulting, and product management.

Prior to joining SAS in 2002, Rick was the Business Intelligence Practice Lead for a regional analytics consulting firm, Mariner LLC. Earlier, he worked as a software developer, analyst, and data modeler at AT&T for account maintenance and billing systems.



### TAPAN PATEL

Tapan Patel is Principal Product Marketing Manager at SAS. With more than 15 years in the enterprise software market, he leads global marketing efforts at SAS for Business Intelligence, Predictive Analytics, and In-memory Analytics. More specifically, he leads go-to-market initiatives for Visual Analytics and Visual Statistics product lines.

He works closely with customers, analysts, press and media, and thought leaders to ensure that SAS continues to meet their requirements and deliver high-value solutions. As a content marketer and speaker, Tapan specializes in topics related to visual data discovery, self-service BI and Analytics, and data-driven decisions. Prior to SAS, Tapan worked with OpenText and Claris Lifesciences Ltd. in product management, market research and technology strategy roles.

[IIANALYTICS.COM](http://IIANALYTICS.COM)

Copyright © 2017 International Institute for Analytics. Proprietary to subscribers. IIA research is intended for IIA members only and should not be distributed without permission from IIA. All inquiries should be directed to [membership@iianalytics.com](mailto:membership@iianalytics.com).

[iianalytics.com](http://iianalytics.com)

Copyright © 2017 International Institute for Analytics