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Business Analytics in 2015

Shu Z. Schiller
Wright State University - Main Campus, shu.schiller@wright.edu

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By: Dr. Shu Schiller, Wright State University

A few years ago, when it seemed that everyone was riding the hype of big data, experts alerted us that big data was evolution — big data or small data, every organization needs data and the capability to manage them for business insights.

When things are evolving, changes happen. Today, "the revolution has begun" (Franks, 2014). The operational analytics that Bill detailed in his book, in my opinion, is the key to data-driven organizations and businesses. The secret to building a data-driven business is to engage everyone (technical and business) with analytics based decision-making. It will take a lot more discussion to explore this topic in depth and I certainly hope that I will be able to write a few more articles on data-driven organizations in the near future. For now, when we welcome the new year of 2015, I would like to share some quick thoughts on the things to watch about business analytics.

Business Analytics. Still the Hottest Job!

The term Data Scientists was created by D. J. Patil (former LinkedIn) and Jeff Hammerbacher (Founder and Chief Scientist of Cloudera) in 2008. In October 2012, Thomas Davenport and D. J. Patil (2012) published the famous article in Harvard Business Review, naming data scientists the sexiest job of the 21st century. Today, this "new breed" of talent is still the hottest in the market. A recent report by Accenture shows that one-third of companies are aggressively using analytics across the entire enterprise and two-thirds have appointed a senior leader of data analytics such as a Chief Data Officer (Accenture, 2013). Others predicted that by 2018, the United States alone may face a 50 to 60% gap in deep analytics talent (McKinsey Global Institute, 2014). When we turn the page to 2015, big data will need 4.4 million jobs globally, only one-third of which is expected to be filled, leaving almost 3 million positions open (Gartner, 2012).

Data Scientists? Build Your Team!

There is no doubt that you will need the next rock star business analyst. The challenge is — they are rare. In October 2014, Dr. Dave Schrader (Teradata, retired) and I gave a talk on How to Train Your Own Data Scientists. We emphasized that the needed skill sets for a successful data scientist is complex, dynamic, and often across different disciplines. For instance, Dice.com and Bigdatajobs.com collect about a dozen job roles such as business/data architect, developer, consultant, visualizer, engineer, etc. under the name of data scientist. The typical interdisciplinary domains of knowledge needed in the daily data scientists' jobs go across business, computer science, statistics, and increasingly, big data (development and applications).

In addition to hiring the right data scientists, Dave and I proposed to build your TEAM, where each has specialized areas of expertise and together, the team function effectively and seamlessly to ask questions, build theories, test hypotheses, seek patterns, discover insights, and drive business actions. It will take time to train your team (think about the Avengers) but with the right approach and a good plan, you can be successful. One thing to keep in mind is that every organization and business is different. It is the business context that is the most important element for the successful integration of data expertise and domain expertise.

Partner with Higher Education

To answer the challenge of the massive shortage of data analytics skills, academics across the globe have started to launch educational and training programs in various formats and lengths to produce professionals in analytics and big data, many of which integrate business intelligence and analytics in core business curriculum (Gillon et al. 2014; Wixom et al. 2014). In the arena of higher education and in the U.S., there are currently over a hundred graduate programs and a significant number of undergraduate concentrations offered in business and data analytics. The blossoming of these educational programs, to a great degree, will ease the sky-high demand for big data and the considerable shortage of analytics expertise worldwide.

Partnering with higher education can take many different approaches. In addition to degree seeking efforts, companies and businesses can collaborate with universities to create curricula and programs that will produce the most desirable outcomes such as practical and interdisciplinary skills needed for business analytics. Many institutions have required practicum such as internships and capstone projects, which are suitable for deep integration of education and industry practices. Furthermore, universities often can offer resources such as teaching and research labs so students can learn and experiment in a safe environment.

One model of collaboration, to use as an example here, is the DAVE (Data Analytics & Visualization Environment) lab (business.wright.edu/DAVE) to be completed in June 2015 at the Raj Soin College of Business, Wright State University (see the image). Related to the practical aspect, DAVE will become a hub for data analytics training, education, and research that engage students, business partners, and faculty. We will partner with local companies and businesses to integrate curricula with real-world practices that will benefit both partners. In reference to the education, the degree programs offered in the Department of Information

Image: DAVE (Data Analytics & Visualization Environment), business.wright.edu/DAVE

Rendering. Lab coming in Summer 2015.

Systems & Supply Chain Management are analytics driven, linking the "learning" with the "doing." Students will be able to conduct class projects and assist research projects utilizing the technical capabilities of the DAVE lab. Businesses are a key player in this model and will greatly influence what higher education deliver and achieve.

Summary

Looking forward, the landscape of business analytics will be more exciting in 2015. Business analytics are transforming organizations and businesses, in all sizes and in all industries. Companies will need to begin supporting analysts and teams with data, tools, and training to become a true data-driven organization. It is critically important for each of us to identify an effective approach to understand, experiment with, and apply analytics across the entire organization to achieve strategic advantage.

Contact:
Dr. Shu Schiller, Department Chair, shu.schiller@wright.edu

Ms. Valerie Stueland, Director of Master of Information Systems and M.S. in Logistics and Supply Chain Management programs, valerie.stueland@wright.edu

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