



## **Business Intelligence and Business Analytics Education in Universities**

By Steven Crofts, Director of Marketing, StatSlice Systems

A good friend and associate over my years in this business has been Barbara Wixom. Barbara is an associate professor of IT in the McIntire School of Commerce at the University of Virginia and a research affiliate at the Center for Information Systems Research at MIT's Sloan School of Management.

She, along with several other academic leaders, and with sponsorship from the Teradata University Network (TUN [www.teradatauniversitynetwork.com](http://www.teradatauniversitynetwork.com)) and the Special Interest Group on Decision Support, Knowledge and Data Management Systems (SIGDSS <http://sigs.aisnet.org/sigdss>), have just released a new research project entitled ***The State of Business Intelligence and Business Analytics in Academia 2012***. The project also received additional corporate sponsorship from IBM, SAS, Deloitte Analytics, MicroStrategy, NetApp and Tableau Software.

The entire report is not yet available except through those sponsors, but Dr. Wixom forwarded me a copy and I would like to summarize what I think are some interesting findings. We will post the entire report on our website ([www.statslice.com](http://www.statslice.com)) when it is generally available. The report was based on an extensive survey of universities, students and employers during 2012. The early results were presented at the BI Congress in Orlando, Florida, last December.

The full report is 78 pages long and includes interesting survey results plus pages of anecdotal quotes from those who participated in the survey. There were professors from 43 countries who responded, but nearly 2/3 of all survey respondents were from the U.S. Below are a few of my favorite takeaways from the report.

- 47 universities now offer concentrations/majors in BI/BA at the undergraduate level; 74 at the graduate level.
- 18 universities offer degrees in BI/BA at the undergraduate level; 42 at the graduate level.
- Over 41% surveyed reported an increase in the size of their BI/BA course portfolio compared with the 2010 survey. 46% of the university respondents offered Data Mining/Predictive Analytics courses. This was the #1 most reported course offering category.

- 45% offered introductory BI/BA courses.
- Other top course offerings included Statistics (44%), Quantitative Analysis/Modeling (41%), Data Warehousing (39%), Data Management (37%).
- 76% of the BI/BA courses are taught by the MIS/IS/IT discipline, followed by Statistics (28%), Decision Sciences (23%), Marketing (19%), and other disciplines that go down from there.

One interesting survey topic was for the respondents to characterize the types of jobs that the university's BI/BA classes were preparing the students for. 68% indicated "General Business Analyst." 59% was reported for "IT Professional who can work with data or analytics" and 55% for "Data-savvy businessperson." Those were clearly the three largest categories. Other lesser categorization of workers included Specialized Marketing Analyst, Data Scientist, Other Specialized Business Analyst, and Specialized Financial Analyst.

As practitioners at StatSlice, we found one of the most interesting results of the survey turned up in a question that asked, "What are the greatest challenges you face in delivering BI/BA within your curriculum?" The #1 challenge was access to data sets. This was initially a bit shocking, but the more you think about it, the more understandable that issues becomes. If you are so inclined, you might consider doing some things to help universities near you that are struggling with this issue. Other top challenges included finding qualified faculty and finding suitable textbooks.

Some of the materials that were part of the student survey were less interesting to me, but it is clear that the students realize that job opportunities in the BI/BA space exist and that the opportunities are growing.

Some of the employer survey results were interesting. One that caught my eye in particular was in response to the question, "When I recruit for BI/BA roles, it is important that the students have the following coursework/knowledge." The #1 most important response was "Communication Skills." It was followed by "SQL and Query Skills" and "Basic Analytics." From those three skills, the results dropped off dramatically. In this world of increasing complexity in systems and tools, it continues to be vitally important to be able to communicate what you have learned and what you know.

When the question asked was, "When I recruit for BI/BA roles, it is important that students have the following BI/BA experiences," the #1 response was "Internship/Job." The second response was "Report/Dashboard Development." Other responses dropped quickly from there.

It appears from the survey that most of the BI/BA jobs do appear in the IT/MIS, Programmer/Developer, and Data Management areas. This will likely change substantially in the coming years. The large majority of employers indicated that the availability and need for employees and interns with BI/BA skills in the future will increase.

As you would suspect, the employers indicated the following challenges when hiring university students (the top issues in order of concern):

- Lack of experience
- Insufficient business skills
- Insufficient technical skills
- Lack of candidates
- Experience with real tools
- Insufficient communication skills
- Insufficient critical thinking
- Insufficient data skills
- Experience with real data

I wish the report included a complete list of which universities are doing what in their undergraduate and graduate programs, rather than just giving us counts. We are actually doing work to build that list and I'm sure other resources probably exist as well. We'll keep you posted.

### **Authored by Steven Crofts, Director of Marketing, StatSlice Systems**

Mr. Crofts oversees all aspects of the company's day-to-day marketing, research, media relations, and its rapidly expanding content development programs. He has a strong background in marketing and executive management, with extensive experience in the business-to-business technology industry. He has spent a significant amount of his career in the Business Intelligence and Data Warehousing marketplace. He was the owner and CEO of the Data Warehousing Institute (TDWI), which he sold to 1105media in Los Angeles several years ago. He continued with that organization for over five years with continued executive leadership over TDWI and other divisions at 1105media.

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